

**SHAME
MEMORIES
THAT SHAPE
WHO WE ARE**

Marcela Salomé Albuquerque Andrade de Matos

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Faculdade de Psicologia e de Ciências da Educação
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Dissertação de Doutoramento em Psicologia, na área de especialização em Psicologia Clínica apresentada à Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra, sob orientação do Professor Doutor José Augusto da Veiga Pinto de Gouveia e co-orientação do Professor Doutor Paul Gilbert

Os estudos desta dissertação foram realizados no âmbito da Bolsa de Doutoramento com a referência SFRH / BD / 36617 / 2007, financiada pela FCT



FPCEUC FACULDADE DE PSICOLOGIA
E DE CIÊNCIAS DA EDUCAÇÃO
UNIVERSIDADE DE COIMBRA

Cover: *Eve after the Fall*. Marble sculpture, Auguste Rodin, 1886

Cover design: João Matos

"Ashamed of her fault, shrinking in fear, vaguely anguished not so much by remorse for her sin but by the idea of creating other human beings who will suffer in the future, Eve is a bronze of an extraordinary aspect and all of Rodin is in it."

(Camille Mauclair, Auguste Rodin, 1918)

Graphic design and layout: Carlos Duarte

Aos meus Pais,
aos meus irmãos,
ao Eduardo.

Ao Professor Doutor José Pinto-Gouveia

*Recomeça...
Se puderes
Sem angústia
E sem pressa.
E os passos que deres,
Nesse caminho duro
Do futuro
Dá-os em liberdade.
Enquanto não alcances
Não descanses.
De nenhum fruto queiras só metade.*

*E, nunca saciado,
Vai colhendo ilusões sucessivas no pomar.
Sempre a sonhar e vendo
O logro da aventura.
És homem, não te esqueças!
Só é tua a loucura
Onde, com lucidez, te reconheças...*

Miguel Torga

Agradecimentos/Acknowledgements

O percurso que conduziu à presente dissertação de doutoramento foi repleto de desafios, de obstáculos e de recomeços, de derrotas e conquistas. Sobretudo, este foi um caminho de florescimento, científico e pessoal, e de imensa realização. A presente dissertação representa o culminar desse percurso, para o qual muito contribuíram a orientação, a ajuda, a presença, o afeto e o amparo de diversas pessoas. Sinto-me grata por, de uma forma ou de outra, estarem presentes na minha vida e as ter tido ao meu lado neste caminho. A elas desejo aqui expressar o meu reconhecido agradecimento.

Em primeiro lugar, o meu profundo agradecimento é dirigido ao Professor Doutor José Pinto-Gouveia, cujo inigualável saber, competência e criatividade científica se constituíram para mim, ao longo destes anos, inestimáveis lições. Mais do que um orientador, tem sido um mentor para mim, e a si devo a paternidade científica e a descoberta da minha vocação pela ciência. A si agradeço a sempre dedicada e cuidadosa supervisão, o interesse e apoio científico no decurso de todo este processo, a disponibilidade e o espaço fértil e generoso que sempre proporcionou para as discussões científicas, a amizade e a confiança que sempre depositou em mim, o entusiasmo incessante a cada avanço ou recuo, e as palavras sempre motivadoras e compassivas nos momentos de maior desalento e insegurança. A sua mente viva e brilhante, sempre desafiadora e insatisfeita, e a sua humanidade, têm sido uma inspiração para mim e tornaram este trabalho num estimulante e prazeroso desafio.

I would like to extend my thanks and gratitude to Professor Paul Gilbert, who I have been honoured to know and work with throughout these years. You have been present in this project from start to finish and it was your work that inspired my interest in shame in the first place. I am deeply thankful for your scientific guidance, immense wisdom and rich knowledge. I thank you for your kindness and support, enduring availability to always discuss my work, and for your constant enthusiasm and friendship. I thank you for giving me the opportunity to work in science at the highest level in the Mental Health Research Unit, where I grew as a scientist and a person, and for the warmth and care with which you have welcome me then and every time I come back. Your passion for science and immense compassion are a source of inspiration to me and I am genuinely grateful for your presence in my life.

A nível institucional, agradeço à Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra, a minha 'casa' profissional e científica, onde a minha formação foi, desde o início, não só pautada pela excelência

académica, mas também por inúmeras oportunidades de desenvolvimento pessoal. Em particular, agradeço ao Centro de Investigação do Núcleo de Estudos e Intervenção Cognitivo-Comportamental (CINEICC) da Universidade de Coimbra, por me ter acolhido e proporcionado as condições para a concretização deste trabalho. Não posso deixar ainda de manifestar a minha gratidão à Fundação para Ciência e Tecnologia, que me concedeu a bolsa de doutoramento (SFRH/BD/36617/2007) que financiou e permitiu a execução deste projeto.

Agradeço sinceramente aos colegas do CINEICC, Dr. Daniel Rijo, Dra. Cláudia Ferreira, Dra. Paula Castilho, Dra. Ana Galhardo, Dra. Maria do Céu Salvador, Dra. Teresa Carvalho, Dr. Serafim Carvalho, Sónia Gregório, Cristiana Duarte, Alexandra Dinis, Joana Costa, Bárbara Lopes, Joana Duarte, Sónia Cherpe, Carolina da Motta e Ana Xavier, pelo interesse, apoio e colaboração profissional, pelos conselhos e companheirismo, e por me fazerem sentir acompanhada neste percurso, tantas vezes solitário.

À Professora Doutora Marina Cunha, pelo interesse genuíno e apoio demonstrado ao longo da execução deste trabalho, pelos ensinamentos científicos e pela confiança profissional que sempre depositou em mim. Obrigada pelo seu carinho e preocupação, pelos sábios conselhos e pela tranquilidade que as suas palavras sempre me transmitiram.

À Professora Doutora Ana Paula Matos, professora de licenciatura, pelo saber transmitido e pelo interesse neste trabalho e encorajamento ao longo de todo o percurso.

Ao Professor Doutor Daniel Rijo, professor de licenciatura, com quem integrei o Conselho Pedagógico da Faculdade enquanto aluna, e com quem tive o prazer de trabalhar no projeto de investigação Estruturas Cognitivas Nucleares, Psicopatologia Sintomática e Perturbações da Personalidade (POCI/PSI/60954/2004) do CINEICC, que marcou o início da minha carreira científica. Agradeço-lhe o saber transmitido, o entusiasmo enérgico, a prontidão que revelou para ajudar no que fosse necessário. Obrigada pela sua amizade.

À Dra. Cláudia Ferreira, professora de licenciatura e agora colega. Obrigada pelo seu apoio e encorajamento ao longo deste trabalho, pela sua preocupação e palavras tranquilizadoras, e pela prontidão e disponibilidade que sempre demonstrou em me ajudar.

À Dra. Paula Castilho, também professora de licenciatura, supervisora clínica e agora colega, pelos ensinamentos clínicos e pelas palavras de incentivo no decorrer deste trabalho.

À Sónia Gregório, pela amizade verdadeira e com história, companheira neste percurso do doutoramento. Obrigada por acreditares em mim e pela força e apoio que sempre me deste. A tua solidariedade, alegria, presença *mindful* e palavras ternas e motivadoras foram cruciais neste processo. Muito obrigada.

À Cristiana Duarte, pela imensa disponibilidade, ajuda desprovida de interesse e preciosas críticas e sugestões na discussão e revisão deste trabalho, que claramente contribuíram para que o produto final tivesse melhor qualidade. Obrigada pela tua energia, sempre positiva e reforçadora, pela tua paciência, pelas palavras de alento nos momentos mais difíceis, e por te teres tornado uma amiga, além de colega.

À Dra. Ana Galhardo, pelo afetuoso apoio e pela discussão e partilha de experiências e saber(es). Obrigada pela sua amizade, boa disposição contagiante, e pela força que sempre me transmitiu.

À Joana Duarte, pela prontidão e disponibilidade com que, na reta final desta dissertação, ajudou na revisão do inglês, e pelas palavras de incentivo.

Uma palavra especial à D. Rosário Silva, pela sua presença, simpatia e solidariedade. Agradeço o seu encorajamento ao longo de todos estes anos e a prontidão com que respondeu aos meus pedidos de auxílio.

A todos os meus professores da Faculdade de Psicologia e Ciências da Educação da Universidade de Coimbra, e aos que não o tendo sido, estiveram de alguma forma presentes no meu percurso académico. O seu saber e entusiasmo cultivaram em mim a ânsia de aprender sempre mais e, ainda que indiretamente, contribuíram para a concretização deste doutoramento. Uma palavra de apreço ao Professor Doutor António Gomes Ferreira, Professora Doutora Isabel

Festas, Professor Doutor José Tomás da Silva, Professora Doutora Albertina Oliveira, Professora Doutora Paula Paixão, Professora Doutora Cristina Vieira, e Professor Doutor Luís Alcoforado, pelo encorajamento constante e pela prontidão com que disponibilizaram tempo das suas aulas para a recolha da amostra.

À Professora Doutora Margarida Pedrosa Lima, pelo(s) saber(es) transmitidos, pela simpatia e por ser um modelo de positividade, vitalidade e compaixão. Estou-lhe profundamente grata pelas palavras luminosas que ajudaram a suavizar os momentos de maior desânimo, e pela força que me transmitiu.

I am mostly grateful to my colleagues at the Mental Health Research Unit, of the University of Derby, for their support and friendship. You made me feel at home when I was there, and every time I come back, and immensely contributed to the wonderful experience it was to be there. A special heartfelt thanks to my closest ones in Derby. To Jean Gilbert, who always welcomes me with an open heart. Thank you for your kindness and caring support. To Kirsten McEwan, for sharing my passion for science, and food, and for the great times we had together. Thank you for everything you taught me about research, for your helpful support and encouragement. You are a very special person and I am grateful to have you as a friend. To Corinne Gale, thank you for the genuine interest and support.

Manifesto o meu apreço a todas as instituições que colaboraram na recolha da amostra clínica e não clínica. Em particular, agradeço aos Serviços de Psiquiatria dos Hospitais da Universidade de Coimbra, Hospital de São Teotónio de Viseu, e Hospital Pêro da Covilhã por terem permitido e cooperado na recolha da amostra clínica. Estou imensamente grata aos profissionais e colegas destes serviços que colaboraram nesta tarefa morosa e árdua, em especial à Dra. Margarida Robalo, Dra. Lígia Fonseca, Dra. Alzira Albuquerque e Dra. Sónia Bessa. Uma palavra de profunda gratidão à Dra. Margarida Robalo, pelo seu interesse verdadeiro e confiança. Pela disponibilidade incansável para sinalizar os doentes para a amostra clínica, que contribuiu determinantemente para o número e diversidade da mesma, o meu muito bem-haja. À Dra. Paula Castilho e à Alexandra Dinis, pela colaboração na recolha da amostra clínica.

Agradeço também aos ex-alunos de mestrado da Faculdade, Sónia Martins, Pedro Gomes, Ana Rothes, Mónica Isidoro, Carla Gomes, Catarina Neves, Ana Teixeira, Carolina Costa, Vânia Costa, Catarina Andrade, Maria Luís Barreira, Fábio Rodrigues, Fábio Ramos e Ângela Xavier, cuja colaboração na recolha dos dados foi fundamental ao longo da realização deste trabalho. Um sincero obrigado à Catarina e à Maria Luís pela ajuda valiosa e cuidado na introdução informática dos dados da população clínica.

À Cláudia Figueiredo, agradeço a amizade, o interesse por este projeto, a calma que sempre me transmitiu, e a enorme disponibilidade e ajuda no tratamento estatístico dos dados. Obrigada pela partilha do teu conhecimento científico e estatístico, que em muito contribuiu para o rigor metodológico e estatístico deste trabalho.

Ao Carlos Duarte, responsável pela formatação final desta dissertação. Muito obrigada pela sua disponibilidade e trabalho cuidado.

E, por último, os primeiros. Os meus de sangue e de coração.

Aos meus amigos mais próximos, que estiveram presentes ao longo deste percurso e souberam torná-lo mais suave. Em especial, às minhas Kitties: Cati, Katy, Sónia e Mónica, amigas da alma, de sempre e para sempre. Obrigada pelo vosso apoio seguro e caloroso, mesmo que por vezes à distância, por me transmitirem força e acreditarem em mim. Pelos abraços, sorrisos e também pelas lágrimas. Obrigada por estarem aí. Aos respetivos, Filipe, Luís, Schulz e Pedro, pela amizade, pelos bons momentos e por aceitarem partilhar a vossas meninas comigo.

À Guigui, amiga da alma, obrigada pelo teu apoio carinhoso e preocupado ao longo deste processo, e por fazeres parte da minha vida desde o dia que nasci. À Martinha, outra amiga do coração, que não sendo de sempre, será com certeza para sempre. Obrigada pelo teu apoio próximo, pelo interesse verdadeiro, bom humor, e pelas palavras doces sempre prontas a dar-me alento. Aos respetivos João Nuno e João Lucas, pelo companheirismo, gargalhadas e incentivo transmitido. Ao pequeno Santiago, cuja inocência e doçura me derreteram o coração e amaciaram a fase final deste processo.

À minha querida Ana, que ainda longe de mim, continua sempre tão perto. Obrigada pela poesia das tuas palavras, pelos teus sorrisos quentes e pela tua coragem inspiradora.

À Sónia Bessa, colega de Faculdade e amiga. Obrigada pelas palavras sempre reforçadoras e reconfortantes.

À Joana, minha ‘cunhadinha’, por ao longo deste percurso, e sobretudo na sua reta final, ter estado sempre disponível para me animar nos momentos mais difíceis. Obrigada pelas tuas palavras encorajadoras e calorosas e pela compreensão.

À Marta e ao Paulo, pela energia positiva e pelos encorajamentos constantes. Obrigada pela vossa amizade verdadeira.

À minha família mais recente, D. Céu e Sr. António, à Paula e ao Zé Francisco, ao Francisco e à Margarida. Agradeço sinceramente terem-me acolhido com o coração entre vós e terem compreendido as minhas ausências ao longo destes anos.

Aos meus de sangue, que contribuíram para moldar a pessoa que hoje sou, e por isso este trabalho é também o reflexo da vossa existência na minha vida.

Aos meus queridos tios, tia Ni, tia Zi, tio Cá e tia Lúcia, ao tio Acácio, tia Anabela e tio Rui. Obrigada pela vossa presença segura, pelo acompanhamento de perto, pelo estímulo constante, pelos mimos... Obrigada. Aos meus priminhos, Inês, Beatriz, João Bernardo, Carolina, Maria Carolina e Inês. A vossa alegria contagiante e candura foram importantes raios de sol em momentos mais nebulosos.

Às minhas avós Fernanda e Ilda. Obrigada pelo vosso carinho, pelo apoio incondicional e afetuoso, e pela amabilidade desde sempre. À memória dos meus avós Serafim e Adriano, que permanecem presentes em tudo o que faço.

Porque não se agradece o amor, dedico este trabalho aos meus pais, João Carlos e Maria Isabel e aos meus irmãos João e Carlos. Ao meu pai, porque sempre me transmitiste uma confiança incondicional, apoiaste generosamente as minhas decisões, e me ajudaste ponderadamente a tomá-las em momentos difíceis. Porque sempre me incentivaste a ir mais além e a não ter medo de arriscar. À minha mãe, amiga de todas as horas, és tu a quem devo a inspiração e a coragem para perseguir os meus sonhos e ambições. A tua presença calorosa e apoio incondicional, a tua atitude positiva perante a vida, a partilha das angústias e dos sucessos do nosso percurso científico, os teus mimos, e tudo o que não cabe em palavras, tornaram possível ultrapassar as pedras neste caminho e continuar em frente, sempre. Ao meu irmão João, a tua bondade, criatividade, calma transmitida e total apoio foram fundamentais ao longo deste processo. A ti se deve também a capa que ‘veste’ esta tese. Por nela teres sabido ler e expressar o que não foi preciso descrever, obrigada. Ao meu irmão Carlos, porque a tua inesgotável garra de viver e boa disposição, os teus incentivos constantes, a tua compreensão empática das minhas ansiedades de cientista, foram cruciais nesta árdua jornada. A vós devo quem sou, e por isso este trabalho é vosso também.

Dedico ainda este trabalho ao Eduardo, meu companheiro de todos os momentos. Estiveste lá desde o início desta jornada, e o teu amor, a tua dedicação, a tua amizade, a tua paciência, a tua profunda compreensão e o teu amparo nos momentos mais sombrios, tornaram possível chegar ao fim deste caminho. Sei que este processo também não foi fácil para ti mas nunca desististe de mim ou hesitaste em apoiar-me a todos os níveis. Devo muito deste trabalho a ti, meu amor. Uma palavra à minha pequena Sushi, que sem o saber e apenas exercendo a sua natureza, me acompanhou em todos os minutos de redação desta dissertação, me ameigou, me obrigou a ‘parar’ e me manteve ligada à terra.

Por fim, um agradecimento muito especial a todas as pessoas que generosamente se disponibilizaram para participar nesta investigação e que comigo partilharam as suas dolorosas experiências de vergonha. A vossa coragem e confiança tornaram possível a concretização deste trabalho.

Thesis Abstract

Shame memories that shape who we are

Background: Shame is a powerful self-conscious and socially-focused emotion that has increasingly captured the attention of researchers and clinicians. Shame has been studied under the light of an evolutionary biopsychosocial approach that argues this is a genetically prewired emotion that arises from humans' evolved social motivational systems to form affiliative relationships and unfolding cognitive competencies for social understanding and self-conscious awareness. Even though shame plays a vital role in human psychosocial functioning and development, a consistent body of research has demonstrated it can have significant detrimental effects on mental and physical well-being. Nevertheless, the phenomenological features of shame experiences, particularly those that occur early in life within the family or in wider social arenas, warrant empirical clarification. Furthermore, there is a dearth of empirical research on how these shame experiences are structured as emotional memories and impact on self-identity and psychological distress. Therefore, the main aim of the present work was to study the phenomenology of early shame experiences, how they operate as traumatic and autobiographical memories and impact on self-identity and current emotional and psychological distress.

Method: This research project includes twelve empirical studies with a cross-sectional design and conducted in diverse samples of Portuguese general population and college students, and in a mixed clinical sample. Self-report questionnaires were administered to measure the constructs and a semi-structured interview - the Shame Experiences Interview - was developed to assess shame experiences phenomenology and employed in some of the non-clinical and clinical studies.

Results: Results showed that early shame experiences function as traumatic memories, can become central to self-identity and life story and reveal autobiographical memory properties. Shame traumatic and central autobiographical memories were found to be associated with elevated external and internal shame and increased vulnerability to psychopathological symptoms, such as depression, anxiety, stress and paranoid ideation. Results further indicated that, when compared to other negative emotional memories, shame traumatic and central memories have an independent and unique impact on several psychopathological indicators that goes above and beyond their negative emotional valence. Besides, shame memories seem to be differentially structured and impact differently on emotional and psychological difficulties depending on whether they involved an attachment figure or other social agents. In addition, results established that affiliative safeness memories and feelings protect against the negative impact of internal shame and shame memories on depressive symptoms. Finally, results demonstrated the multifaceted nature and complexity of shame experiences and memories, characterized by several threat-related phenomenological components, which are associated with the traumatic and centrality qualities of those memories. Also, in the clinical sample, shame memories were found to be more intense in terms of phenomenological features, traumatic and autobiographical memory properties and impact on self-identity and mental well-being.

Conclusions: Taken together, results from the empirical studies offer new insights into the nature of shame experiences, the phenomenology, traumatic and autobiographical properties of shame memories,

and their potential detrimental effects on self-identity and mental well-being. These findings add to existing research and conceptualizations of shame, and traumatic and autobiographical memory. Building on the evolutionary biopsychosocial model of shame, we draw a new integrative and comprehensive model of shame and shame memories that outlines the pathways through which they operate and elevate shame proneness and vulnerability to psychopathology. The model also includes the role of affiliative experiences as buffers of shame and shame memories' impact. This doctoral thesis' findings raise new challenges for future research and entail relevant clinical implications for therapy with high shame individuals and/or for whom shame memories are a source of current distress.

Keywords: Shame; Shame memories; Traumatic memory; Centrality to identity; Autobiographical memory; Phenomenology; External shame; Internal shame; Depression; Anxiety; Stress; Paranoia; Social anxiety; Attachment; Emotion regulation; Affiliative memories.

Resumo

Memórias de vergonha que moldam quem somos

Enquadramento: A vergonha é uma poderosa emoção autoconsciente e socialmente focada que tem vindo a ser alvo de uma crescente atenção por parte de investigadores e clínicos. A vergonha tem sido estudada à luz de uma abordagem evolucionária biopsicossocial, a qual argumenta que esta é uma emoção geneticamente formatada que deriva de sistemas sociais motivacionais que evoluíram nos humanos para formar relações afiliativas, e do desenvolvimento de competências cognitivas para a compreensão da arena social e para a autoconsciência. Um leque consistente de estudos tem demonstrado que a vergonha, embora desempenhe um papel vital no funcionamento e desenvolvimento psicossocial humano, pode ter efeitos negativos significativos no bem-estar mental e físico. Não obstante, torna-se necessário clarificar empiricamente as características fenomenológicas das experiências de vergonha, particularmente aquelas que ocorrem numa fase precoce de vida no seio familiar ou em contextos sociais mais alargados. Para além disso, existe uma lacuna na investigação empírica relativamente à forma como estas experiências de vergonha se estruturam como memórias emocionais e ao seu impacto na autoidentidade e no sofrimento psicológico. Neste sentido, o presente trabalho teve como objetivo principal estudar a fenomenologia das experiências precoces de vergonha, o modo como estas operam enquanto memórias traumáticas e autobiográficas e a forma como influenciam a autoidentidade e o sofrimento emocional e psicológico atual.

Metodologia: Este projeto de investigação inclui doze estudos empíricos com um desenho transversal, conduzidos em diversas amostras da população geral portuguesa e de estudantes universitários, e numa amostra clínica mista. Foram administrados questionários de autoresposta para medir os constructos em estudo e foi desenvolvida uma entrevista semiestruturada – Entrevista de Experiências de Vergonha –, para avaliar a fenomenologia das experiências de vergonha, a qual foi aplicada em alguns dos estudos não-clínicos e clínicos.

Resultados: Os resultados demonstraram que as experiências precoces de vergonha operam como memórias traumáticas, podem tornar-se centrais para a autoidentidade e história de vida, assim como revelam propriedades de memória autobiográfica. Verificou-se que memórias autobiográficas de vergonha traumáticas e centrais se associam a níveis superiores de vergonha interna e externa e a uma maior vulnerabilidade para sintomas psicopatológicos, tais como de depressão, ansiedade, stress e de ideação paranoide. Os resultados indicaram ainda que, quando comparadas com outras memórias emocionais negativas, as memórias traumáticas e centrais de vergonha têm um impacto independente e único em vários indicadores psicopatológicos, que vai além da sua valência emocional negativa. Adicionalmente, as memórias de vergonha parecem ser diferencialmente estruturadas e ter um impacto distinto nas dificuldades emocionais e psicológicas consoante tenham envolvido uma figura de vinculação ou outros agentes sociais. Os resultados demonstraram igualmente que memórias e emoções afiliativas de segurança são protetoras do impacto negativo que a vergonha interna e as memórias de vergonha têm na sintomatologia depressiva. Finalmente, os resultados evidenciaram a natureza multifacetada e a

complexidade das experiências e das memórias de vergonha, caracterizadas por vários componentes fenomenológicos ligados à ameaça, os quais estão associados às qualidades traumáticas e centrais de tais memórias. Na amostra clínica, as memórias de vergonha revelaram-se ainda mais intensas em termos das suas características fenomenológicas, das suas propriedades de memórias traumáticas e autobiográficas e do seu impacto na autoidentidade e no bem-estar mental.

Conclusões: De uma forma geral, os resultados dos estudos empíricos oferecem novas perspetivas acerca da natureza das experiências de vergonha, da fenomenologia e das propriedades traumáticas e autobiográficas das memórias de vergonha, e dos seus potenciais efeitos nocivos na autoidentidade e no bem-estar mental. Estes resultados complementam a investigação e conceptualizações existentes acerca da vergonha e da memória traumática e autobiográfica. Tendo por base o modelo evolucionário biopsicossocial, edificámos um novo modelo integrativo e compreensivo da vergonha e das memórias de vergonha que detalha as vias através das quais tais memórias operam e aumentam a propensão a experienciar vergonha e a vulnerabilidade à psicopatologia. O modelo inclui ainda o papel das experiências afiliativas como sendo capazes de suavizar o impacto da vergonha e das suas memórias. Esta dissertação de doutoramento lança novos desafios à investigação futura e contém implicações clínicas relevantes para a intervenção terapêutica em sujeitos com níveis elevados de vergonha e/ou cujas memórias de vergonha são uma fonte de sofrimento atual.

Palavras-chave: Vergonha; Memórias de vergonha; Memórias traumáticas; Centralidade para a identidade; Memória autobiográfica; Vergonha externa; Vergonha interna; Depressão, Ansiedade, Stress; Paranoia; Ansiedade social; Vinculação; Regulação emocional; Memórias afiliativas.

List of Publications

- I. Matos, M. & Pinto-Gouveia, J. (2010). Shame as a traumatic memory. *Clinical Psychology and Psychotherapy*, 17 (4), 299-312. doi: 10.1002/cpp.659.
- II. Pinto-Gouveia, J. & Matos, M. (2011). Can shame memories become a key to identity? The centrality of shame memories predicts psychopathology. *Applied Cognitive Psychology*, 25(2), 281-290. doi: 10.1002/acp.1689.
- III. Matos, M., & Pinto-Gouveia, J. (submitted). Shame memories that shape who we are: The moderator effect of centrality of shame memory between shame and depression.
- IV. Matos, M. & Pinto-Gouveia, J. (submitted). Shame autobiographical memory: An integrative model for the relations among autobiographical, traumatic and central shame memory features, shame feelings and psychopathology.
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THESIS OVERVIEW

Thesis overview

"We are what we remember."
Michael Ross & Anne E. Wilson
(2003, p. 137)

As suggested in the title, this thesis primary focus will be on how shame memories can shape who we are, influence how we navigate our social worlds and harmfully impact on our welfare.

Social relationships can be the source of our greatest joys but also innermost sorrows. They are of vital importance to our survival, physical and mental well-being (Baumeister & Leary, 1995; Bowlby, 1969, 1973; Buss, 2003; Cacioppo, Berston, Sheridan, & McClintock, 2000; Gerhardt, 2004; Gilbert, 1989; Schore, 2001). Through the lens of an evolutionary psychology approach, shame is a ubiquitous self-conscious emotion. It emerges from human's evolved dispositions to form attachments to caregivers, belong to groups and relatedness, and seek out social status, and is derived from a range of unfolding cognitive abilities for social understanding and self-conscious awareness (Gilbert, 1997, 1998c, 2007a). Even though shame plays a major role in human psychosocial functioning and development, a robust body of evidence shows that it can have damaging effects on a host of mental and physical health indicators (e.g., Dickerson, Gruenewald, & Kemeny, 2004, 2009; Gilbert & Andrews, 1998; Tangney & Dearing, 2002; Tracy, Robins, & Tangney, 2007). Whilst there is much research on the potential detrimental consequences of shame, research on the phenomenology of shame experiences, particularly those that occur in early interactions within the family or in wider social contexts, is scant. In addition, although it has been argued that early shame experiences may lay down powerful emotional memories with an enduring impact on one's sense of self (Gilbert, 2003; Kaufman, 1989; Tomkins, 1987), little empirical attention has been given to such speculations.

Therefore, this thesis will explore shame from the point of view of an evolutionary biopsychosocial theory (Gilbert, 1997, 2002a, 2003, 2007a), with a special focus on shame memory functioning and consequences. In particular, this thesis is going to explore the phenomenology of early shame experiences, how these are structured as traumatic and autobiographical memories and impact on one's self-identity and psychological distress.

The first part of the present thesis comprises two theoretical chapters which review the relevant theoretical literature on shame. **Chapter one** presents a general approach to the concept and features of shame emotion, its characteristics as a self-conscious and social emotion, its multifaceted nature, and its many influences on human functioning and psychological and physical well-being. **Chapter two** contextualizes shame in an evolutionary framework and outlines the evolutionary biopsychosocial model of shame (Gilbert, 1997, 1998c, 2002a, 2003, 2007a), which serves as the theoretical background for this dissertation.

The second and empirical part of this doctoral thesis includes the following eight chapters. The **third chapter** provides a short overview of the general aims of the thesis and describes the specific objectives of each chapter and empirical study. **Chapter four** outlines the general methodology employed across the empirical studies, specifically the study design and methodological procedures, the samples that integrated the studies, the assessment instruments used to measure the constructs and the general statistical procedures.

The following five chapters present the empirical studies that integrate this research project and contain a set of twelve papers, which have been published, submitted or are in preparation for submission in peer-reviewed scientific international journals. Such manuscripts share the same common main aim of investigating the nature of shame and shame memories and their potentially deleterious effect on mental health. However, the specific research questions they were designed to address were progressively formulated over the course of this research project and reflect its development. **Chapter five** outlines five empirical studies exploring how shame memories function as traumatic memories, can become central to personal identity and life story and reveal autobiographical memory properties. These papers also examine the impact of such traumatic, centrality and autobiographical features of shame memories on shame proneness and vulnerability to psychopathology. **Chapter six** builds on the results from the preceding chapter and describes an empirical study that investigates the uniqueness and specificity of shame memories in their association to psychopathology. It compares the effects of shame traumatic and central memories on indicators of psychological distress to those of other negative traumatic and central emotional memories, namely fear and sadness memories. In **chapter seven**, two empirical studies, derived from the prior chapters' results, look at whether shame traumatic and central memories vary on their relationship to shame, emotion regulation processes and psychopathology, depending on who elicited shame in the original shame experience: an attachment figure or other social agents from wider social contexts. Having established the traumatic and autobiographical nature of shame memories and their detrimental effects on mental well-being, **chapter eight** two empirical studies further explore the protective effects of affiliative safeness memories and feelings against the pathogenic impact of shame memories. In **chapter nine** two major empirical studies investigate, in a general population sample and in a clinical sample, the phenomenology of early shame experiences, involving attachment figures and involving other social agents, their traumatic, centrality and autobiographical memory properties and relation to current emotional and psychological difficulties. This chapter also describes a new tool to assess the phenomenology of shame experiences and memories: the Shame Experiences Interview, which was used in these two studies, as well as in chapter seven' studies. This semi-structured interview was designed especially for this thesis research, in an attempt to overcome limitations linked to shame measurement, and is intended to have clinical and research applications. The complete description and administration instructions of the Shame Experiences Interview, as well as its English and Portuguese versions are outlined in a brief manual presented in a separate appendix (Shame Experiences Interview – Administration Guidelines).

Chapter ten presents the general conclusions derived from the empirical studies and incorporates them in an integrative and comprehensive model of shame memories functioning and impact on self-identity and psychological distress. This chapter further discusses the main clinical and research implications of this thesis' findings, identifies the main methodological limitations of the empirical studies and proposes directions for future research.

In addition, in a separate Appendix, we present five papers (published or submitted for publication in peer-reviewed international and national scientific journals) which correspond to preliminary studies of adaptation to Portuguese language and psychometric properties of some of the main measures used in this research. Furthermore, a sample of institution's and ethical committee's authorization requests is given. In appendix we also present the informed consent form, the structured clinical interviews and the self-report instruments used in the empirical studies.

Because the papers included in this dissertation were published, submitted or prepared in the English language, it seemed logical to also write the theoretical background and synthesis chapters in English. For reasons of standardization, a Portuguese summary is included. Citations are managed throughout the thesis and separately in each manuscript, although to avoid repetition of references' lists and further extension of the dissertation length, a full reference list for the whole thesis is given at the end.

PART I

THEORETICAL BACKGROUND

Chapter **1**

Shame: Defining features and importance

Chapter **2**

An evolutionary and integrative perspective of shame:
The Biopsychosocial Model

Chapter 1

Shame: Defining features and importance

Chapter 1

Shame: Defining features and importance

Chapter overview

1.1. What is shame? Concept definition and features

1.2. The many influences of shame on psychological distress

Chapter summary

Chapter 1

Shame: Defining features and importance

Chapter overview

The focus of this thesis is on the phenomenology of shame as a traumatic and autobiographical memory and its effect on self-identity and psychological distress. This first chapter will explore the emotion of shame, its concept and features and how this emotion has been conceptualized as a self-conscious and social emotion, central to one's identity and social relationships. This chapter will outline the ubiquity of shame in our everyday lives and throughout the lifespan, and how this emotion has captured the attention of several psychological theories, and whose impact on human functioning has been the focus of scientific interest over the past decades. This chapter further describes the multifaceted nature of shame experiences, outlining the cognitive, emotional, behavioural, physiological and cultural components of this affect. We further distinguish state from dispositional shame. Finally, we review the existing empirical literature on the many influences of shame on psychological distress, setting the stage for the research objectives of the present thesis.

1.1. What is shame? Concept definition and features

If distress is the affect of suffering, shame is the affect of indignity, of defeat, of transgression and of alienation. Though terror speaks to life and death and distress makes of the world a veil of tears, yet shame strikes deepest into the heart of man. While terror and distress hurt, they are wounds inflicted from the outside which penetrate the smooth surface of the ego; but shame is felt as an inner torment, a sickness of the soul. It does not matter whether the humiliated one has been shamed by derisive laughter, or whether he mocks himself. In either event he feels himself naked, defeated, alienated, lacking in dignity and worth.

Silvan Tomkins (1963, p. 118)

Emotions, ours and those of the others, permeate our lives and affect us during every waking moment. Emotions play a vital role in human functioning and have long been renowned as the primary motivational systems in humans, responsible for organizing cognition, perception, and action (Damasio, 1999, 2003; Darwin, 1872; Fischer & Tangney, 1995; Izard, 1977; Tomkins, 1962, 1963). Most theoretical conceptualizations agree that emotions evolved to serve specific adaptive functions (e.g., social, behavioural or internal regulation) conducive to human survival and gene replication. Their experience enables individuals to appropriately respond to recurring threats, challenges and opportunities in their

social environments (e.g., Barret, 1995; Ekman, 1992; Frijda, 1986; Keltner & Gross, 1999; Keltner & Lerner, 2010; Oatley & Jenkins, 1992; Tooby & Cosmides, 1990).

An emotion that has been recognized as a critical force in human psychosocial functioning and development, specifically in self-identity, social and moral behaviour, is shame. Shame lies at the heart of human life and is considered to be one of the most powerful, painful and potentially destructive experiences known to humans (Gilbert, 1997; Kaufman, 1989; Nathanson, 1994).

Shame has been defined as the 'master emotion' and the 'affect of deference', holding powerful psychological and social functions (Scheff, 1988, 1994), and was described by Kaufman (1989) as the affect of 'inferiority', central to the development of identity. Cook (1987) also considered it as one of the most basic and central human affects. According to several theorists (e.g., Fessler, 2007; Gilbert, 2003; Nathanson, 1987; M. Lewis, 1992; Tangney & Fisher, 1995; Tomkins, 1987), shame is the quintessential emotion underlying social threat, comprising a family of negative feelings ranging from mild embarrassment to severe humiliation. It is the painful self-consciousness of, or anxiety about, negative judgment, inferiority, unwanted exposure, failure and defeat.

Shame is a universal emotion, generally regarded as a particularly intense, and often incapacitating, negative emotion involving feelings of inferiority, social unattractiveness, defectiveness, powerlessness and self-consciousness, along with a desire to escape, hide or conceal deficiencies (Gilbert, 1997, 1998c; H.B. Lewis, 1971; Tangney & Dearing, 2002; Tangney, Miller, Flicker, & Barlow, 1996). Shame is thus "felt as an inner torment, a sickness of the soul" (Tomkins, 1963, p. 118). It is an unwanted and hard-to-control experience, often considered a private and intimate emotion that involves a 'self evaluating the self' and a 'self as it believes to exist for others' (Gilbert, 1998c, 2003; Tangney & Dearing, 2002). Shame is considered to emerge from detrimental changes and losses in one's social status, with being demeaned or diminished. It is equated with feelings of being disgraced, devalued, dishonoured, demoted, degraded, discredited, ridiculed, humiliated, shunned, ostracized and scorned (Gilbert, 1997, 2007a). Shame is also related to feelings of aloneness, alienation, isolation and disconnection from others (Kaufman, 1989; Gilbert, 1998c, 2010; Nathanson, 1994; Retzinger, 1998; Tangney, 1995). However, the focus of what is shaming is very much constrained by social norms and cultural values (Fessler, 2007; Leeming & Boyle, 2004).

Shame as a self-conscious and socially-focused emotion

Many theorists regard shame as vital to our perceptions of ourselves and to our social interactions. In fact, shame has long been acknowledged as one of the most aversive self-conscious emotions (Gilbert, 1998c; Kaufman, 1989; Tangney & Dearing, 2002; Tracy, Robins, & Tangney, 2007) but is also considered a socially-focused emotion, often triggered by threats to one's social self and status, such as put-downs, criticisms and rejections (Gilbert, 1998c, 2007a).

As a self-conscious emotion, like embarrassment, guilt or pride, shame is a relatively new on the evolutionary stage and is less shared with other animals (M. Lewis, 1995; Tangney, 1995), being sometimes referred to as a 'higher-order', 'secondary', or 'moral' emotion. Self-conscious emotions develop later than primary emotions (e.g., anxiety/fear, anger/rage, joy/happiness), around two years of age, as they require various unfolding cognitive competencies for self-awareness and self-representations (e.g., symbolic self-awareness, theory of mind, metacognition; M. Lewis, 1992; Tangney & Dearing, 2002; Tangney & Fisher, 1995; Tracy & Robins, 2007). Shame is linked to self-evaluations, as the self reflects upon the self, and is experienced when a core aspect of the self is judged as defective, inferior, inadequate

or globally bad (Gilbert, 1997; H.B. Lewis, 1971; Tangney, 1995). Similarly to other self-conscious emotions, shame is regarded as an 'emotional moral barometer' providing immediate and salient feedback, regarding both anticipated behaviour and actual behaviour, on our social and moral acceptability. It strongly influences action tendencies and behaviour (Tangney, Stuewig, & Mashek, 2007a, 2007b) and is thought to facilitate the attainment of social goals (Gilbert & McGuire, 1998; Tracy & Robins, 2007).

Moreover, self-conscious emotions emerge from or with primary emotions through their blending and orchestration with such self-conscious cognitive abilities. In shame, threats to the self as a social agent can recruit negative primary emotions (e.g., anxiety, anger, disgust) and diminish positive emotions. So, shame operates through and is shaped by human self-conscious cognitive competencies for a sense of self as a social agent. Shame is then a rich and complex self-conscious emotion, whose experience can be textured with anger, anxiety and disgust (Gilbert, 1998c, 2002a; Kaufman, 1989; Nathanson, 1994).

Furthermore, shame is intrinsically a socially-focused emotion as it arises from threats to the social self, when there is an actual or potential loss of social status, esteem or acceptance; when one's whole self-identity (or part of it) is, or could be, negatively judged by others. Shame therefore is a key affective response to social-evaluative threats, acting as a warning that one 'lives in the minds of the others' as a person with negative characteristics (e.g., as inferior, flawed, worthless, inadequate), or lack of positive ones, and thus is at risk of their criticism, scorn, rejection, exclusion, disregard or even persecution. Simultaneously, the motivational state, nonverbal displays, and behaviours associated with shame (e.g., submission, withdrawal) are indicative of a devalued and damaged self attempting to appease others and reduce social conflict (Dickerson & Kemeny, 2004; Gilbert, 1997, 1998c, 2003, 2007a; Gilbert & McGuire, 1998; Gruenewald, Dickerson, & Kemeny, 2007; Keltner, 1995; Keltner & Harker, 1998). In fact, the centrality of the social self in the shame experience has a prolific history within the scientific literature on emotion and shame (Cooley, 1902/1983; Darwin, 1871/1899; Gilbert, 1997; Izard, 1977; James, 1890/1955; Leary, Tambor, Terdal, & Downs, 1995; H.B. Lewis, 1971; Scheff, 1988).

So, this rich and overpowering affective experience is related both to negative characterological self-related cognitions and evaluations (e.g., self as flawed, inadequate, inferior, bad) and to negative social evaluation, with beliefs that others see the self unfavourably, as inferior, defective, incompetent, weak or worthless (Gilbert, 1997, 1998c, 2003; Tangney & Dearing, 2002).

In addition, being a highly painful and stressful experience, shame can change one's mental states and prompt coordinated threat-related neuronal and psychobiological responses, with enduring consequences to cognitive and emotional processing and behaviour, and damaging effects on mental and physical well-being (Beer, 2007; Dickerson & Kemeny, 2004; Eisenberger, Lieberman, & Williams, 2003; Gruenewald et al., 2007).

Shame and the undesired self

Another key aspect of shame is that it is not so much the distance from the ideal self or falling short of standards that is crucial to shame, but the closeness to the *undesired* self (Ogilvie, 1987), that is, being object for derision and vulnerable to rejection and ostracism (Gilbert, 1998c, 2002a). In a qualitative study, Lindsay-Hartz, de Rivera and Mascolo (1995) found that shame was about being who we don't want to be, it is about 'I am fat and ugly' not about 'I failed to be pretty', it is about 'I am bad' not about 'I am not as good as I want to be'. Building on a review of current theory and research, Gilbert suggested that it is the:

“inner experience of the self as an unattractive social agent, under pressure to limit possible damage to self via escape or appeasement that captures shame most closely. It does not matter if one is rendered unattractive by one’s own or other people actions; what matters is the sense of personal unattractiveness – *being in the social world as an undesired self; a self one does not wish to be*. Shame is an involuntary response to an awareness that one has lost status and is devalued” (1998c, p. 22).

Moreover, shame can meld into a sense of one’s identity (e.g., as flawed, unlovable, inferior, a failure) (Gilbert, 1998c, 2003, 2007a; Tangney, 2003) and, as noted by Kaufman, “no other affect is more disturbing to the self, no more central for the sense of identity” (1989, p. 16). So shame can deeply influence who we are in our own eyes and how we behave and relate to others (Gilbert, 1998, 2003; Gilbert & McGuire, 1998; Leary, 2007b; H.B. Lewis, 1971; M. Lewis, 1992; Nathanson, 1994; Tangney & Dearing, 2002; Tangney & Fisher, 1995).

1.1.1. The ubiquity of shame

Shame is therefore an emotional experience endemic to the human condition and a potential source of human suffering. In the course of our lives, all of us will inevitably feel shame and it may profoundly impact on our sense of self and our behaviour in interpersonal contexts. Shame is everywhere and has a chameleon nature. Shame is in the child whose mother’s face shows contempt and disgust for his/her mistakes or faults, in the boy whose parents put down and call names for having failed a school test, in the girl whose father keeps negatively comparing to her big sister, in the child whose talent to dance or write is never valued or praised. Shame is in the child who is neglected and ignored by his/her depressed mother or in the physically or sexually abused child. Shame is in the girl who is mocked and bullied by her peers for being overweight, in the boy who is never chosen by his classmates to play football in the school yard, in the boy who bullies and teases his peers for fear of being seen as weak and different himself, and in the girl criticized by the teacher in front of the class for giving a wrong answer. Shame is in the adolescent who is not invited to a friend’s party, or whose parents are over-controlling and don’t let him go, in the teenage girl who feels less pretty than her friends, or in the teenage boy who is rejected by a girl he is in love with. Shame is in the daughter of an alcoholic father, in the wife who feels she is not good enough for her husband or is failing as a mother, in the man who does not get the promotion he has been working for or who feels unappreciated by his boss, in the man who loses his job and can no longer provide for his family, or in the woman who is aging and does not recognize the body she used to be proud of. These are some examples of the shame experiences we collected among individuals while developing the Shame Experiences Interview. They illustrate how shame exists in our everyday lives and how throughout the lifespan it may exert a profound and continuing influence on the self-experience and interpersonal behaviour.

The English word ‘shame’ dates back to 725 A.D. and has Teutonic roots, coming from the Indo-European word *skam*, *scant*, or *skanda*, meaning to hide, cover, or to be disgraced (Oxford English Dictionary, Simpson & Weiner, 1989). It is defined as the “painful emotion arising from the consciousness of something dishonouring, ridiculous, or indecorous in one’s own conduct or circumstances (or in those of others whose honour and disgrace one regards as one’s own), or of being in a situation which offends one’s sense of modesty and decency” (Simpson & Weiner, 1989, pp.162-163). In the Portuguese language, the word ‘*vergonha*’ comes from the Latin term *verecundia*, which means modesty, respect and shyness. It is defined as the “painful feeling caused by inferiority, indecency or indignity; feeling of insecurity caused by fear of ridicule and fear of being negatively judged by others; feeling arising from having committed a flaw or mistake, from indecorous conduct or for fear of dishonor and disgrace” (Dicionário Houaiss da

Lingua Portuguesa, 2001, p.3688). These definitions seem to have in common a core theme of possible devaluation by others or by the self due to disgrace caused by one's attributes or conduct.

There is a long tradition both in science and literature that the recognition of shame in ourselves and in others is what makes us humans, as in Sophocles, Darwin, Dostoyevsky, and Sartre. Even the biblical myth of Adam and Eve can be seen as a story of shame, attesting to the antiquity of this emotion, and conveying ideas of becoming self-aware, aware of other's scrutiny and fear of transgression against authority and its consequent punishment. Hence, although its' systematic empirical study has been hampered until recently, the theme of shame is not new in human history.

In fact, for generations shame has captured the attention of clinical, social and developmental psychologists. The existing theoretical literature pertaining to shame is prolific and diverse, embracing theories rooted in different schools of thought. Specifically, shame has been conceptualized in cognitive-behavioural approaches (e.g., Beck, Emery, & Greenberg, 1985), psychoanalytic and psychodynamic theories (e.g., Jung, 1954/1993; Kohut, 1977; Miller, 1996; Mollon, 1993), object relational attachment theories (e.g., Bowlby, 1973; Schore, 1994, 1998), affect theories (e.g., Kaufman, 1989; Nathanson, 1994; Tomkins, 1963, 1987), cognitive-attribitional theories (e.g., H.B. Lewis, 1971, 1987; M. Lewis, 1992, 2003; Tangney & Dearing, 2002; Tangney & Fisher, 1995; Tracy & Robins, 2004), functionalists perspectives (Barret, 1995, 1998), sociological and anthropological approaches (e.g., Lindisfarne, 1988; Scheff, 1988, 2003) and, of special interest to the present thesis, in evolutionary psychology perspectives (e.g., Keltner & Harker, 1998; Gilbert, 1997, 1998c, 2007a; Gilbert & McGuire, 1998; Gruenewald et al., 2007).

From relative obscurity, as the "hidden emotion" or the "sleeper in psychopathology" as labelled by Helen Block Lewis in 1987, shame has come to the fore of scientific interest in several fields of psychology, ranging from personality to therapeutic processes (Covert, Tangney, Maddux, & Heleno, 2003; Gilbert, 1998c, 2007a; Hook & Andrews, 2005; Kaufman, 1989; H.B. Lewis, 1987; Retzinger, 1998). In the last three decades, there has been a remarkable growth in the theoretical and empirical literature on shame, highlighting both its adaptive value and its central role in psychological distress and interpersonal problems (Gilbert & Andrews, 1998; Kaufman, 1989; Lewis H.B., 1987; Lewis M., 1992; Nathanson, 1987, 1994; Tangney & Dearing, 2002; Tangney, Stuewig, & Mashek, 2007b). In therapy, shame may impact on both patient and therapist and constitute a significant obstacle to the therapeutic process and to the client-therapist relationship (Gilbert, 2002a, 2006a; Gilbert & Irons, 2005; Hahn, 2004; Kaufman, 1989; Retzinger, 1998). Furthermore, parent-child shaming interactions have been found to be key in brain maturation and affect regulation and are associated with increased proneness to shame and vulnerability to psychopathology (e.g., Andrews, 2002; Claesson & Sohlberg, 2002; Gilbert, Allan, & Goss, 1996; H.B. Lewis, 1971; Perris, 1994; Schore, 1994, 1998). So, shame has an impact on diverse human phenomena, from the individual level to that of culture and society, where it may exert important social regulation and control functions (e.g., honour killing, Brooks, 1995; male aggressiveness, Gilmore, 1990; female circumcision or Chinese foot binding, Gilbert, 2002a; expression and meaning of sexuality, Baumeister & Twenge 2002; Buss, 2003; Nathanson, 1994; body appearance, Abed, 1998).

Given the ubiquity of shame, key questions concern the further understanding of its nature, phenomenological characteristics of shame experiences, how these are structured in emotional memory and their implications on emotional and psychological distress. This research adopts an evolutionary psychology approach and sets out to explore some of these emerging questions, looking into the nature of shame experiences and memories and their effects of human functioning and suffering.

1.1.2. The multifaceted experience of shame

Shame is a rich and complex emotional experience with a multifaceted nature. Shame experiences involve cognitive, affective, behavioural, physiological and cultural components (Gilbert, 2002a, 2006a, 2007c).

The *social and externally focused cognitive component* is related to the shame that is focused on what others think about the self (in contrast to what the self thinks about the self) and has been referred to as *external shame* (Gilbert, 1998c, 2003). External shame is associated with automatic thoughts that others see one as inferior, bad, inadequate, different, flawed; that is, others are looking down on the self with a contemptuous or condemning view and will disengage or harm the self. One's attention and cognitive processing are attuned outwardly, to the social world and to what is going on in the mind of the other. Hence, shame affects are typically triggered in social contexts and begin with an experience of an actual or imagined self in the mind of 'the other'.

The *internal self-evaluative component* refers to the global negative self-evaluations of oneself as inferior, defective, bad, inadequate, or different, which are commonly associated with shame (Tangney, 2003; Tangney & Dearing, 2002; Tangney & Fisher, 1995; Tracy & Robins, 2007), and has been labelled as *internal shame* (Gilbert, 2002a, 2003). In internal shame one's attention and processing are inwardly orientated, to one's emotions, personal characteristics, or behaviour (Gilbert, 2003, 2007a; Gilbert & Irons, 2009; Tangney & Dearing, 2002). These negative automatic thoughts about the self can take the form of self-criticism and self-attacking thoughts (e.g., I am worthless, a bad person, no good, a failure) and represent self-devaluations and internally shaming thoughts.

However, shame experiences typically involve the interaction of both externally and internally focused shame, which fuel one another. The same is to say that, the pain that derives from recognizing that one's social attractiveness has declined is likely to encompass harsh self-devaluation and self-blame. At the same time, it is unlikely that the hurting affect of private depreciation arises in the absence of the awareness that others share the same negative view of the self. Nevertheless, the dimension that is experienced as most salient can vary in shame events, and some individuals may be more prone to experience one more than the other (Gilbert, 2003, 2007a; Kim, Thibodeau, & Jorgensen, 2011).

The *emotional component* refers to the diverse emotions and feelings recruited in shame. In particular, primary defensive emotions, such as anxiety, anger, disgust in the self and self-contempt, blend with and texture the experience of shame. Shame is generally experienced as a composite of these various emotions and not as a separate emotion (Gilbert, 1989, 1998c; Kaufman, 1989; H.B. Lewis, 1971, 1987; Tangney & Dearing, 2002; Tangney, Wagner, Hill-Barlow, Marschall, & Gramzow, 1996). Shame has also been linked to the abrupt loss or interruption of positive affect (Kaufman, 1989; Nathanson, 1994; Tomkins, 1987). Shame can involve feelings of sadness, being linked to feelings of diminishment and (social) loss/defeat. Feelings of indignity or loss of dignity may also be part of the emotional experience of shame (Gilbert, 1998c), which in anthropological literature has been linked to themes of (dis)honour (Lindisfarne, 1998). Shame has been regarded as the opposite of pride (Mascolo & Fisher, 1995; Tangney et al., 2007b) and is commonly confused with another powerful self-conscious emotion: guilt. Shame and guilt are distinct psychological processes and a robust body of research has distinguished these two emotions (see Kim et al., 2011; Tangney & Dearing, 2002; Tangney et al., 2007a, 2007b for reviews). Even though shame and guilt can co-exist, unlike shame, guilt focuses on harm done to others, and sometimes the self, and on specific behaviours, rather than global evaluations of the self as 'bad and flawed'. It involves remorse and regret and motivates desires to repair and atone for harm done rather than concealing, hiding or running away, as in the case of shame. Whilst in shame others are seen as more

powerful and capable of rejecting the self, in guilt it is the self who has used his/her power unwisely to hurt others. Furthermore, shame has systematically been found to be much more maladaptive and associated with psychopathology than guilt (Gilbert, Pehl, & Allan, 1994; see Kim et al., 2011; Tangney & Dearing, 2002; Tangney et al., 2007a, 2007b for reviews). Envy is another emotion that can be elicited along with shame, when one feels others are better than oneself and the self is different from others and inferior than others in some way (Gilbert, 2003; Parrot & Smith, 1993; Smith & Kim, 2007). Thus, shame fuses and binds with other emotions, which give different textures to how shame is experienced and to the experience of the self in the shame situation.

The *behavioural component* of shame comprises the defensive behaviours that are automatically triggered in response to threats to the (social) self. Threats to one's social attractiveness and loss of positive social rewards recruit and operate through fast-track limbic centred processes and responses that automatically activate a set of innate defensive responses (e.g., emotions and behaviours), which can be experienced and expressed before one being consciously aware of them (Baldwin & Fergusson, 2001; Gilbert, 1998a, 2001b; LeDoux, 1998; Panksepp, 1998, 2010; Tracy & Matsumoto, 2008). Shame is marked by a set of nonverbal communicative displays, which are distinct from those of similar emotions (e.g., guilt, embarrassment). On the whole, shame is accompanied by a strong urge not to be seen, to hide, to conceal deficiencies, to avoid exposure and/or run away. Eye gaze is commonly averted, one's body posture is closed, avoidant and tense, the body folds in and shrinks and one may feel increased body temperature, stomach sickness, or heart racing. Individuals feel behaviourally inhibited and may withdraw or escape from the situation (Gilbert, 1998c, 2002a; Keltner, 1995; Keltner & Buswell, 1996; Keltner & Harker, 1998; Tangney & Dearing, 2002; Tracy & Matsumoto, 2008). These behavioural displays have been linked to a rapid onset of a basic submissive defensive profile (similar to the displays that denote submission in primates), and signal submission, withdrawal and disengagement, communicating appeasement, retreat and surrender, in an attempt to de-escalate or escape from social conflict and restore social relationships (Darwin, 1872; Ekman, 1992; Fessler, 2007; Gilbert 1997; Gilbert & McGuire, 1998; Keltner, 1995; Keltner & Harker, 1998; Keltner, Young & Buswell, 1997; MacLean, 1990).

However, when anger is the emotion elicited in the shame experience, feelings of humiliation may arise and be accompanied by high physiological arousal and strong desires to gain revenge or retaliate against the one who is 'exposing' the self as bad, inferior or weak, even if these fight/aggressive tendencies are inhibited (Gilbert, 2006a; Retzinger, 1991; Tangney & Dearing, 2002). Besides, shame responses can activate other defensive behaviours, such as demobilization and freezing, camouflage and concealment or, less frequently, help-seeking (Gilbert, 1992, 2002a). Therefore, shame displays involve a pattern of innate defensive responses, that represent blends of earlier types of defense (flight, submit, fight) and confer richness and complexity to the experience of shame (Gilbert, 2002a; Gilbert & McGuire, 1998).

The *physiological component* of shame relates to the stress response that has recently been found to underlie shame (see Dickerson, Gruenewald & Kemeny, 2004; Gruenewald, Dickerson, & Kemeny, 2007 for reviews). Dickerson and colleagues have suggested that shame orchestrates specific patterns of psychobiological changes in response to threats to the social self. In particular, shame has been associated with high cortisol and adrenocorticotropin hormone changes with the longest recovery times, increased proinflammatory cytokine activity, increased autonomic and cardiovascular parameters, (e.g., heart rate, blood pressure), and specific immunological correlates (Dickerson, 2010; Dickerson, Gruenewald & Kemeny, 2004, 2009; Dickerson, Kemeny, Aziz, Kim, & Fahey, 2004; Gruenewald, Kemeny, Aziz, & Fahey, 2004; Herrald & Tomaka, 2002). These authors argue that such psychobiological responses to social threat may have important benefits under certain contexts (e.g., signalling function for detection of social

threats, initiate biological processes to adequately respond to the threat, support behavioural patterns of submission and disengagement), however, enduring and chronic experiences of shame may have detrimental consequences to mental and physical health (Dickerson, 2010; Dickerson et al., 2009).

Moreover, findings from current social neuroscience research demonstrate that the experience of social rejection and exclusion, closely linked to shame, is processed by some of the same neural regions that process physical pain (Eisenberger et al., 2003; Eisenberger & Lieberman, 2004, 2005; MacDonald & Leary, 2005). This indicates that social rejection and exclusion, and ultimately shame, represent threats to survival, and feeling “hurt” by these experiences may be an adaptive way to prevent them (Eisenberger, 2011). In sum, there seem to be distinct physiological correlates corresponding to the experience of shame.

The *cultural component* of shame pertains to the way social and cultural contexts deeply influence the way reputations are made or lost, what is considered attractive and acceptable and what is undesirable and shameful. Cultural values label what is esteemed or shaming and worthy of stigma in social groups according to what is perceived as threats to the social order (Fessler, 2007; Gilbert, 2003; Kaufman, 1989; Leeming & Boyle, 2004). In anthropological writings shame is generally related to narratives of (dis)honour (Lindisfarne, 1998). Shame and honour systems significantly vary among cultures and societies (e.g., gender identities, sexuality, body shape-size) and are key processes in social regulation and control. So, processes of social threat, shaming and responses to being shamed socially texture and choreograph a variety of cultural, social and political domains, going far beyond their impact on the individual (Gilbert, 2003, 2007a).

In short, shame experiences involve a rich and complex set of emotions, cognitions, behaviours, motivations, physiological changes and cultural aspects, making shame a multi-textured emotion whose experience can greatly fluctuate from person to person and across situations. Hence, shame is an inner, private, self-focused but social experience of the self as undesirable and unattractive, under pressure to limit possible damage to one’s social self and status via appeasement or escape (Gilbert, 1998c, 2002a; Tangney & Dearing, 2002; Tracy & Robins, 2004, 2007). Also, whereas some people may be able to tolerate shame feelings to some degree, others cannot tolerate these affects and tend to cope with shame using several defensive behaviours (e.g., flight/escape, submission, hiding, concealment, fight, compensation), which can be highly maladaptive and contribute to perpetuate shame (Gilbert, 1998, 2002, 2007c; Nathanson, 1994; Tangney & Dearing, 2002).

Nonetheless, there is a dearth of research on the phenomenological features of shame experiences and studies exploring in detail these shame-defining features and their association with psychological distress are scant. Furthermore, the way shame experiences from early life are encoded and operate in autobiographical memory has never been investigated.

Shame foci

Shame can have different foci and individuals may vary regarding the domains in relation to which they usually feel shame. A variety of domains are particularly susceptible to shame (Gilbert, 1997; Kaufman, 1989). Shame can be focused on many aspects of the self: people can feel ashamed of their bodies (e.g., feelings of being too fat, the wrong shape, a specific body part, getting old, being disfigured, of bodily functions or of the body in action), feelings (e.g., anxiety, anger), fantasies and desires (e.g., sexual desires), traits or abilities (e.g., feelings stupid, untalented, incompetent, being lazy or carelessness), current or past behaviours (e.g., being submissive, running away, lying, losing control, avoiding things out

of fear) and because of their relations or association with other people (i.e., reflected shame, as the shame brought on a person by one's family or associates or brought to them by the self; Gilbert, 1997, 2002a; Gilbert & Miles, 2002).

State and dispositional shame

Albeit shame is one of the most distressing of emotions, it is a normal emotional response to threats to the social self or transgressions of some social ideal. Most people experience shame at various points in life, and moderate levels of shame are likely to serve adaptive functions in the healthy individual. However, some shame encounters may lead to a more intense shameful response and originate psychological distress. Shame can then be experienced in two distinct ways. Shame may be related to the transient emotional experience itself in a particular moment, as an acute and transitory feeling in certain situations, with potentially adaptive functions (e.g., communicate submission and withdrawal, de-escalate social conflict, prevent rejection and attacks, elicit appeasement, restore social bonds; Gilbert & McGuire, 1998; Keltner & Harker, 1998; Tangney, 2003). This has been referred to as *state* shame (Tangney, 1996; Tangney & Dearing, 2002).

But shame can also be experienced at a more characterological level and correspond to a disposition to feel shame, which involves the factors that precede the surfacing of this emotion. This vulnerability or proneness to experience shame in a pervasive and internalized manner is linked to an underlying and enduring sense of inferiority, defectiveness and worthlessness of the self, and can be seen as trait or *dispositional* shame (Andrews, 1998; Goss, Gilbert, & Allan, 1994). Shame proneness may be conceptualized in several ways, and it may comprise two different dimensions mentioned above: external shame and internal shame (Cook, 1987; Gilbert, 1998c, 2003, 2007a). So, shame proneness is associated with perceptions of being devalued, demeaned or scorned by others (Gilbert, 2003; H.B. Lewis, 1987; Mascolo & Fisher, 1995; Tangney, 1993) and with self-perceptions of being personally inferior or flawed (Gilbert, 2003; Kaufman, 1989). It is a global sense of the self as worthless, bad, inferior, incompetent, inadequate, unlovable, and undesired in one's own eyes, and as it is believed to exist in the eyes of the others. Thus, when shame is internalized, it permeates the core of one's self-identity and can become the filter through which one perceives the self, others and experiences (Cheung, Gilbert, & Irons, 2004; Claesson & Sohlberg, 2002; Crossley & Rockett, 2005; Gilbert, 2002a, 2003, 2007a). High shame proneness can thus be shattering, affecting the whole sense of self, and deeply impact on one's interpersonal behaviour and mental well-being (e.g., Allan, Gilbert, & Goss, 1994; Ashby, Rice, & Martin, 2006; Balcom, 1991; Gilbert & Miles, 2000b; Grosch, 1994; Kaufman, 1989; Kim et al., 2011; Mahalingam & Jackson, 2007; Murray & Waller, 2002; Tangney, Burggraf & Wagner, 1995; Troop, Allan, Serpell, & Treasure, 2008; Wyatt & Gilbert, 1998). For clarity, the present thesis focuses mainly on the dispositional type of shame and, unless otherwise specified, references to shame from hereon refer to shame proneness.

As we will comprehensively explore in Chapter 2, excessive shame proneness is believed to arise from internal negative representations of the self, rooted in early aversive experiences (i.e., of being shamed), with significant others within the family or in the wider social domain (e.g., parental criticism, rejection, neglect, physical, sexual and verbal abuse, bullying; Andrews, 2002; Claesson & Sohlberg, 2002; Gibb, Abramson, & Alloy, 2004; Gilbert et al., 1996; Gilbert & Gerlsma, 1999; Hawker & Boulton, 2000; Mills, 2005; Teicher, Samson, Polcari, & McGreenery, 2006; Webb, Heisler, Call, Chickering, & Colburn, 2007). However, research on the exact nature of these early shame experiences, the way they lay down and function as emotional memories, whether these become key to self-identity and their effect upon proneness to shame and psychopathological symptoms in adulthood is scarce.

In the following section we explore in detail the many influences of shame and its central role in a wide range of psychological difficulties.

1.2. The many influences of shame on psychological distress

“Shame is like a subatomic particle. One’s knowledge of shame is often limited to the trace it leaves.”

Michael Lewis (1992, p. 34)

In spite of the adaptive value shame may have in human psychosocial functioning and development, it can also be an overpowering, painful and incapacitating emotion. Although neglected for many years in the psychology field, the interest in shame as a central emotion in psychological disturbances has grown dramatically over the recent decades (e.g., Cook, 1996; Gilbert & Andrews, 1998; Harder, 1995; Kaufman, 1989; Tangney & Dearing, 2002; Tracy et al., 2007). Shame has been considered the “bedrock of psychopathology” (Miller, 1996, p.151) and, as Brown recently noted, it is “the secret behind many forms of broken behaviour” (personal communication, 16 March, 2012). We review here the main findings from existing empirical literature on the relationship between shame, other emotions, interpersonal behaviour, clinically relevant psychological facets, and mental and physical health symptomatology.

Shame, other emotions and moral behaviour

A robust body of research has distinguished shame from *other self-conscious emotions*, namely guilt, embarrassment and pride, regarding their phenomenology and association to psychological adjustment (Gilbert, 1992, 1997, 1998c; Gilbert et al., 1994; Harder, 1995; Lindsay-Hartz, 1984; Lindsay-Hartz et al., 1995; Lutwak & Ferrari, 1996; Tangney, 1991, 1992, 1995, 1999; Tangney & Dearing, 2002; Tangney et al., 1996; Tangney, Wagner, & Gramzow, 1992; Tangney et al., 2007a, 2007b; Tracy & Robins, 2006). In particular, although in psychological literature the terms *shame* and *guilt* have frequently been used interchangeably, various studies have provided consistent evidence for the distinction between shame and *guilt* in regard to several aspects: i) the *object of negative evaluation* (shame is focused on the global self whereas guilt is focused on specific behaviours); ii) the direction of *attentional focus* and the *focus of distress* (in shame attention is directed inwardly toward the self and to one’s emotional pain, whereas in guilt attention is orientated outwardly to troublesome behaviour and to the emotional pain of other people; shame disrupts interpersonal sensitivity whereas guilt enhances it); iii) the *phenomenology, action tendencies and accompanying emotions* (shame is a more painful emotion, linked to feelings of being small, worthless, powerless, exposed and inferior, and to motivations and desires to hide, escape, withdraw, isolate, or disappear, whereas guilt involves tension, regret and remorse over the effects of one’s behaviour on other people and is related approach-and-amend strategies, such as reparation, confession and apology); iv) the *centrality of public exposure* (with shame being considered a more public emotion than guilt); v) *attributional pattern* (shame is associated with global, stable and uncontrollable attributions, whereas guilt is associated with specific, unstable and controllable attributions); vi) *evolutionary origins and function* (shame is thought to have evolved as part of the social rank system, with functions of repairing one’s damaged reputation and restoring one’s compromised social standing, whereas guilt appears to have evolved as part of the caring system, with functions of atoning for harm done and repairing a damaged relationship); vii) and association with *moral behaviour and psychological symptoms* (shame is inversely related to empathy and moral behaviour and highly associated with

psychopathological symptoms and disorders, whereas guilt is positively associated with other-orientated empathy and moral behaviour and generally unrelated to poor psychological adjustment; for reviews see Kim et al. 2011; Tangney et al, 2007a, 2007b).

Regarding the relationship between shame and *moral behaviour*, consistent empirical evidence suggests that shame (contrary to guilt) does not seem to be effective in motivating people to choose moral paths in life. Across studies, shame was found to disrupt individuals' abilities to form *empathic connections* with others and to be linked to tendencies to egocentrically focus on one's own distress (Gilbert, 2003; Joireman, 2004; Leith & Baumeister, 1998; Marshall, 1996; Tangney, 1991, 1995; Tangney & Dearing, 2002; Tangney et al., 1992; for a review see Tangney et al., 2007b). Research consistently shows that shame motivates efforts to *deny, hide from, or escape* the shame-inducing situation, and promotes defensiveness, interpersonal separation, distance and isolation (Gilbert, 1998c, 2003; H.B. Lewis, 1971, 1987; Lindsay-Hartz, 1984; Lindsay-Hartz et al., 1995; Tangney et al., 1996; Tangney & Dearing, 2002). In several studies, and across individuals of all ages, shame was also found to be closely related to *anger*. Specifically, high shame individuals tend to externalize blame and blame others and reveal maladaptive forms of anger and destructive reactions to anger, associated with hostility, verbal or physical aggression, indirect aggression, displaced aggression, self-directed aggression or unexpressed ruminative anger (Andrews, Brewin, Rose, & Kirk, 2005; Bennett, Sullivan, & Lewis, 2005; Gilbert & Miles, 2000b; Harper & Arias, 2004; Harper, Austin, Cercone, & Arias, 2005; Retzinger, 1995; Stuewig, Tangney, Heigel, Harty, & McCloskey, 2010; Tangney et al., 1995; Tangney, Wagner, Fletcher, & Gramzow, 1992; Tangney et al., 1992;; Tangney, et al., 1996; for a review see Tangney & Dearing, 2002; Tangney et al., 2007a, 2007b).

In addition, research in a variety of samples (e.g., children, adolescents, adults, jail inmates) has shown that shame is related to a range of *anti-social, illegal, risky, or otherwise problematic behaviours*. For example, heightened shame is associated with increased delinquency and criminal behaviours, domestic violence, risky sexual behaviours or driving, and to elevated proneness to substance use and abuse, such as alcohol and drug use (Brown, 2004; Dearing, Stuewig, & Tangney, 2005; Lansky, 1992; Stuewig, & McCloskey, 2005; Tangney et al., 1996; for a review see Stuewig & Tangney, 2007).

Shame and clinically relevant psychological facets

Researchers have also investigated the relationship between shame and other important self-related psychological facets, typically implicated in psychological maladjustment.

Shame has been significantly associated with *negative self-evaluations* and perceptions of the self as unattractive, defective, inferior, worthless, undesired and with perceptions of being demeaned, devalued, inferior or scorned in the eyes of the others (Gilbert, 1992, 1997, 1998c, 2003; Goss et al., 1994; M. Lewis, 1992, 2003; Lindsay-Hartz, 1984; Lindsay-Hartz et al., 1995; Mascolo & Fischer, 1995; Scheff, 1995; Sloman, 2000; Tangney & Dearing, 2002; Tracy & Robins, 2004), with low *self-esteem* (Leary et al., 1995; Tangney & Dearing, 2002), and specifically with the social dimension of self-esteem (Gruenewald et al., 2004). High shame individuals have been found to reveal elevated *self-criticism*, in particular in its most pathogenic form of hated-self and function of self-attacking and self-persecution (Gilbert, Clarke, Hempel, Miles, & Irons, 2004; Gilbert & Irons, 2004, 2005, 2009; Gilbert & Procter, 2006).

Empirical studies have found shame to be linked to *perfectionism*, namely to socially prescribed and maladaptive negative perfectionism (Ashby et al., 2006; Fedewa, Burns, & Gomez, 2005; Harder, 1995; Tangney, Wagner, Fletcher, et al., 1992; Wyatt & Gilbert, 1998), to *striving* to avoid inferiority (Gilbert,

McEwan, Bellew, Mills, & Gale, 2009), and to other dysfunctional *coping styles* (Covert et al., 2003; Elison, Pulos, & Lennon, 2006; Tangney & Dearing, 2002; Tangney et al., 2007b).

Furthermore, individuals with elevated shame proneness tend to present a *depressive attributional style*, with a tendency to make global, internal and stable attributions in face of negative life events (Alexander, Brewin, Vearnals, Wolff, & Leff, 1999; Gilbert, 1992, 1998c; Tangney & Dearing, 2002; Tangney et al., 1992; Tracy & Robins, 2004, 2006), and to show higher levels of *ruminatio*n, revealing a depressive self-critical ruminative style (Cheung et al., 2004; Gilbert, Cheung, Irons, & McEwan, 2005), which are known to be linked to depressive symptoms and other psychological problems.

In addition, the relationship between shame and *social ranking* variables has also been empirically examined. Within the evolutionary psychology theoretical framework, researchers have found that high shame individuals tend engage in more unfavourable *social comparisons*, perceiving themselves as more inferior, unattractive, untalented, different or incompetent in comparison to others (Gilbert, 2000a, 2003; Gilbert et al., 1996; Gilbert, Allan, Brough, Melley, & Miles, 2002; Gilbert, Price & Allan, 1995; Gilbert & Miles, 2000b). Shame is further associated with an increased tendency to adopt *submissive* and avoidant interpersonal styles of behaviour (Allan & Gilbert, 1997; Birtchnell, 2000; Cheung et al., 2004; Ferguson, 2005; Gilbert, 1997, 2000a, 2002a, 2003; Gilbert et al., 1996; Gilbert et al., 2002; Gilbert, Gilbert, & Sanghera, 2004; Gilbert et al., 1994; Gilbert, & McGuire, 1998; Keltner & Harker, 1998). In turn, empirical literature has indicated that shame, negative social comparisons and submissive behaviours, are significantly associated with interpersonal problems, depression and social anxiety symptoms (Allan & Gilbert, 1997; Gilbert, 2000a; Gilbert et al., 1996; Gilbert & Miles, 2000b). Shame was also found to be significantly related to increased perceptions of *entrapment* and *defeat*, which have been acknowledged as important processes in depression and anhedonia (Gilbert et al., 2002).

Shame and mental health symptomatology

A growing body of research has documented an association between shame and mental health symptoms. In particular, shame has been systematically recognized as a pathogenic and transdiagnostic emotion associated with a number of clinical problems including: i) *depression* (Alexander et al., 1999; Allan et al., 1994; Andrews, Qian, & Valentine, 2002; Ashby et al., 2006; Cheung et al., 2004; Gilbert et al., 2004; Harder, 1995; Harper & Arias, 2004; Stuewig, & McCloskey, 2005; Tangney et al., 1992; Tangney & Dearing, 2002; Tangney et al., 2007b; Thompson & Berenbaum, 2006; for a review see Kim et al., 2011); ii) *anxiety* (Averill, Diefenbach, Stanley, Breckenridge, & Lusby, 2002; Cook, 1996; Fergus, Valentiner, McGrath, & Jencious, 2010; Irons, & Gilbert, 2005; Harder, 1995; O'Connor, Berry, & Weiss, 1999; Tangney et al., 1992); iii) *social anxiety* (Gilbert, 2000a, 2001a; Gilbert & Trower, 1990; Grabhorn, Stenner, Stangier, & Kaufhold, 2006; Sloman, 2000; Tangney et al., 1995); iv) *post-traumatic stress disorder* (Andrews et al., 2000; Budden, 2009; Harman & Lee, 2010; Lee, Scragg, & Turner, 2001; Leskela, Dieperink, & Thuras, 2002); v) *eating disorders* (Burney, & Irwin, 2000; Goss & Allan, 2009; Goss & Gilbert, 2002; Grabhorn et al., 2006; Keville, 2003; Skarderud, 2007; Swan & Andrews, 2003; Troop et al., 2008); vi) *personality disorders*, particularly avoidant, dependent and obsessive-compulsive (Schoenleber & Berenbaum, 2010), borderline (Brown, Linehan, Comtois, Murray, & Chapman, 2009; Rüşh et al., 2007) and narcissist (Gramzow & Tangney, 1992; Mollon, 1984; Tangney & Dearing, 2002); vii) *psychotic disorders* (Birchwood, Meaden, Trower, & Gilbert, 2002; Birchwood, Meaden, Trower, Gilbert, & Plaistow, 2000; Miller & Mason, 2005); viii) and *psychopathy* (Morrison & Gilbert, 2001).

Additionally, shame has been associated with other psychopathological symptoms, such as *self-harm* (Gilbert et al., 2010), *suicidal* ideation and behaviour (Brown, Comtois, & Linehan, 2002; Hastings,

Northman, & Tangney, 2000; Kleindienst et al., 2008; Lester, 1998; Milligan & Andrews, 2005) and *dissociative symptoms* (Talbot, Talbot, & Xin Tu, 2004). Further, two studies have indicated that shame mediates maladjustment following childhood sexual abuse and other traumatic experiences (Andrews et al., 2000; Feiring, Taska, & Lewis, 2002).

In *therapy*, shame may not only underlie and be a salient feature of many psychological disorders that bring individuals to psychotherapy and require specific intervention strategies to address it (Gilbert, 2006a, 2007c; Gilbert & Irons, 2005; Gilbert & Procter, 2006) but also influence therapy itself. In fact, shame impacts on one's (lack of) openness to others, identification with others, and help seeking (e.g., going to therapy). It fosters social isolation and prevents individuals from assessing social support and professional help-seeking, which are often critical for moderating psychological distress (Lee et al., 2001; van der Kolk & McFarlane, 1996). At the same time, shame may invade the therapeutic relationship and interactions, and form a significant obstacle to the therapeutic process (e.g., coping with in-session feelings and process, being overwhelmed with tears, losing control, or revealing abuse) and determine what is revealed or undisclosed and concealed in the therapeutic setting (Gilbert, 2002a, 2007a, 2010; Gilbert & Irons, 2005; Gilbert & Leahy, 2007; Hook & Andrews, 2007; Retzinger, 1998; Scheff, 1998).

Shame and physical health

In line with the abovementioned physiological correlates of shame experiences (i.e., threats to the social self), growing empirical evidence supports a unified psychobiological response to social self threats in humans (i.e., increased cortisol reactivity, adrenocorticotropin hormone changes, proinflammatory cytokine activity, autonomic and cardiovascular reactivity; for reviews see Dickerson, 2010; Dickerson, Gruenewald et al., 2004, 2009; Gruenewald et al., 2007). While such psychobiological responses to social self threats may be adaptive and beneficial in acute socially-agonistic encounters (as we will comprehensively discuss in Chapter 2 when outlining shame evolutionary approaches), research shows that their activation under inappropriate conditions or chronic exposure to these types of social self threats (i.e., shame situations) may have significant liabilities for physical health, associated with several negative immunological and health effects (e.g., cardiovascular disease, metabolic syndromes, negative immunological functioning, increased mortality; for a reviews see Dickerson et al., 2009; Gruenewald et al., 2007).

Overall, the foregoing discussion demonstrates the potentially deleterious effects shame may have on our mental and physical well-being. This emotion seems to play an outstanding role on the formation of our sense of self and self-identity, on our interpersonal relationships and social behaviour, on coping behaviours and on vulnerability to emotional distress and to a wide range of psychological and health problems, and may also be implicated in the way psychotherapy unfolds.

Notwithstanding this emerging research on shame, there are still relevant questions regarding the complexity of this emotion that remain unanswered. In particular, given the potential impact of shame on mental health, a better understanding of the phenomenology of shame experiences, the way they are structured in autobiographical memory and become central to self-identity, and how these impact on current shame proneness and vulnerability to psychopathology is critical. Also, it seems pertinent to explore the association between shame and certain psychological constructs, such as paranoia. Yet, to date, there is little research in this area. Given the clinical relevance of this emotion, a further elucidation of such questions could offer new insights into the conceptualization of shame and shame memories and draw attention to the importance of working with shame in a therapeutic context, adding to the

development of emerging psychotherapeutic approaches of this emotion (Gilbert, 2002a, 2005a; Gilbert & Irons, 2005; Gilbert & Procter, 2006).

Chapter summary

This chapter outlined the concept of shame as an overpowering self-conscious and socially-focused emotion. We further discussed the ubiquity of shame in our lives at individual, interpersonal, social and cultural levels and how it has been the focus of interest of psychologists from diverse theoretical backgrounds. This chapter also explored the multifaceted nature of shame experiences, their different components and foci, and how it can correspond to a transient normal feeling or to a more pervasive proneness to perceive the self as globally worthless and defective. This chapter reviewed a robust body of research ascertaining that shame can have be a hugely incapacitating and pathogenic emotion associated with a whole host of psychological symptoms. Having established the defining features of shame and the importance of this emotion to human functioning and well-being, the next chapter will contextualize shame in an evolutionary model, which served as the theoretical framework for this thesis research.

Chapter 2

**An evolutionary and integrative perspective of shame:
The Biopsychosocial Model**

Chapter 2

An evolutionary and integrative perspective of shame: The Biopsychosocial Model

Chapter overview

2.1. Evolutionary perspectives on shame

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Chapter summary

Chapter 2

An evolutionary and integrative perspective of shame

Chapter overview

The previous chapter explored the concept and features of shame as a crucial self-conscious and socially-focused human emotion, and outlined its ubiquity in human psychosocial functioning and well-being. Even though there are several theories of shame emotion, central to the present research project is the evolutionary approach of shame, in particular Gilbert's integrative biopsychosocial model (1989, 1997, 1998c, 2002a, 2003, 2007a), which explores the evolutionary history, adaptive functions and processing mechanisms that underlie this emotion. This chapter will contextualize shame in such evolutionary perspective, which served as the theoretical framework for this thesis research.

First this chapter outlines the evolutionary basis of this self-conscious emotion in light of several evolutionary models and its importance to our survival and physical and mental well-being. Then it explores shame in light of the evolutionary biopsychosocial approach. We begin to outline how evolution has designed our mind and brains to be extremely sensitive to social signals of care and affection from others and how humans are innately motivated to pursue several biosocial goals and to seek affection, care, protection, support, belonging and social status, guided by various social mentalities that help them navigate their social worlds. We discuss how attachment and social affiliation play a major role in human psychosocial and emotional maturation and on a range of neurophysiological processes and outline the evolved three affect regulation systems that underlie human capacities for emotional regulation and social relating. We then discuss how shame is linked to such affect regulation systems and how it emerges from our innate motives to be accepted and valued by others and to create positive affect in the mind of the others, so they will choose us for the enactment of important social roles. Furthermore, we explore how such social embeddedness gave rise to a range of cognitive abilities to understand the minds of the others and be influenced by them, and their importance to the emergence of shame. We therefore describe how competition for social attractiveness is the main strategy used by humans for social engagement, from which shame arises. Shame is then presented as an evolved affective-defensive response to the social threat of being unattractive, and the concepts of external shame, internal shame and humiliation are outlined. This chapter also discusses the assumption that shame can be rooted in early experiences that lay down emotional memories, which might operate as conditioned and threat memories. We further explore how shame is related to threat system processing, and its associated defensive responses. The two types of interpersonal threat that can be present in shame (exclusion and intrusion) are described as well as the concept of reflected shame. Finally, an overview of this evolutionary biopsychosocial model is given. Hence, this chapter will review the importance of shame to our (social) survival and welfare through the lens of an evolutionary model that provides the theoretical background for the present research.

2.1. Evolutionary perspectives on shame

"Shame relates almost exclusively to the judgment of others"

Charles Darwin (1871/1899, p.114)

"Placing shame higher on the evolutionary agenda could well render important insights into this painful and powerful human emotion that affects us in our personal lives, in our social rules for conformity and in our intergroup behaviour (...) continuing to explore the nature and content of this social emotion may offer important insights for therapy."

Paul Gilbert (1997, p. 142)

Since Darwin's (1872) insightful treatise, *The Expression of the Emotions in Man and Animals*, emotions have been asserted by most theoretical perspectives as having evolved to serve specific adaptive functions, providing an advantage to the survival and reproduction of our hominid ancestors (e.g., Darwin, 1872; Frijda, 1986; Izard, 1977; Neese, 1990; Tomkins, 1962). Within such an evolutionary framework, emotions enable individuals to meet particular threats, challenges, and opportunities within their social environments in a way that increases their chances of physical survival, reproduction, and gene replication (Considine, 2008; Cosmides & Tooby, 2000; Keltner & Gross, 1999; Keltner & Haidt, 2001; Keltner & Lerner, 2010; Nesse, 1990; Tooby & Cosmides, 1990).

Basic emotions are said to have evolved to address urgent threats and opportunities related to survival and reproduction (Keltner & Lerner, 2010; Plutchik, 1980; Tooby & Cosmides, 1990). Conversely, self-conscious emotions (e.g., shame, guilt) are thought to have evolved to deal with threats and opportunities related to social interactions and to be involved in cooperation, affiliation and the maintenance of supportive and helpful social relationships (Gilbert, 1998c; Keltner & Buswell, 1996; Keltner & Lerner, 2010; Leary, 2007a), and function to regulate social behaviour (Adolphs, 2002).

The self-conscious emotion of shame, in particular, is regarded as a genetically prewired emotion, which corresponds to evolved behavioural adaptations that assist humans to successfully navigate their social and physical environments, enhancing their chances of survival and thrive (Darwin, 1872; Ekman, 1992; Izard, 1977; Gilbert, 1997; Keltner & Gross, 1999; Leary et al., 1995; Scheff, 1988; Tomkins, 1987). In accordance to several evolutionary psychology accounts, shame represents a key affective response to social threats, regulating bio-behavioural responses designed to address environmental threats to survival and reproduction. Specifically, shame is asserted to have evolved to respond to threats to the social self, which encompass an actual or potential loss of social status, acceptance or esteem. Given that social bonds are vital to human well-being and survival, such threats could render one at risk of being excluded, rejected, scorned, ostracized or even persecuted by others from the social domain, all of which could seriously compromise one's access to vital biosocial resources (e.g., food, social support, protection against threat), conducive to reproductive success and, ultimately, to survival. Shame thus entails evolved systems to monitor and behaviourally respond to these threats to the social self, which could be rooted in social status negotiation of non-human primates and other animals. Shame motivational states (e.g., desire to hide, escape), nonverbal displays (e.g., averted eye gaze, head movements down, slumped body posture) and behaviours (e.g., submission, withdrawal), seem to indicate submission and disengagement and may function as appeasement strategies to reduce social conflict and restore social relationships

(Baumeister & Leary, 1995; Dickerson, Gruenewald et al., 2004; Ekman, 1992; Fessler, 2004, 2007; Gilbert, 1997, 2007a; Gruenewald et al., 2007, 2009; Keltner & Gross, 1999; Keltner & Harker, 1998; Leary & Baumeister, 2000; Leary et al., 1995; Scheff, 2003). In light of these approaches, shame has an undeniable adaptive value to human psychosocial functioning and development, even though it can also carry profound liabilities to mental and physical well-being.

Having presented a general overview of the existing evolutionary perspectives on shame, the following section will comprehensively discuss shame through the lens of a particularly prominent evolutionary approach, which served as the main theoretical framework for the current research project: the evolutionary biopsychosocial model (Gilbert, 1989, 1997, 1998c, 2002a, 2007a).

2.2. An evolutionary and integrative approach of shame: The Biopsychosocial Model

“Much of the emotional color of our lives is shaded by our perceptions of, and changes in, our social place. Without approval and recognition we can feel (and often are) devalued, subordinated and excluded. Here operate the pathologies of shame”

Paul Gilbert (2003, p. 1212)

The evolutionary biopsychosocial model of shame integrates knowledge both from evolutionary psychology (e.g., Buss, 2003), in particular social mentality theory (Gilbert, 1989, 1995, 2000b, 2005c) and attachment theory (e.g., Bowlby, 1969, 1973; Kohut, 1977), and a biopsychosocial approach (Gilbert, 1995, 2005b, 2006a; Kiesler, 1999). Such approach focuses on the emergence of interaction patterns between different systems in the brain (e.g., genes, motives, emotions, thoughts, social roles) and how such patterns are choreographed and shaped through social relationships and ecological conditions. This model contends that shame is rooted in the competitive dynamics of human life emerging from innate human needs for social acceptance and social status, and closely related to human self-consciousness and self-awareness.

2.2.1. The evolution of the human mind

Our minds and brains are a result of natural selection, a process by which slow changes occur as species adapt to changing environments, which represent challenges that favour some individual variations within a population over others (Darwin, 1859/1985). Evolutionary continuity is related to form conservation, that is, evolution does not create new designs but adapts already existing ones. So, brains have basic functions shared across species, which hugely impact on how our minds are designed and come to be the way they are in the modern days (Buss, 2003; Gilbert, 1989, 1998a, 1998b, 2002b, 2006b, 2009a; MacLean, 1990).

The human brain encloses a complex array of motivational systems (e.g., motives, emotions, cognitive competencies) and social strategies, which evolved and have been altered over millions of years ago and have been laid down at different times in evolution. For example, many of the earliest forms of social

behaviour, such as courting, sexual advertising, mating, gaining and defending territory, ritual threat displays and submission, can be traced back to our early ancestors, the reptiles. Our motivational systems and behaviours for infant-caring, alliance formation, play and status hierarchies came into the world with the evolution of mammals, while competencies for complex thinking, reflection, theory of mind and self-awareness only began to emerge more recently in the evolutionary history and are characteristics of human primates. So, human brains have evolved in a series of stages, making our minds full of a variety of different motives and emotions, which can at times conflict (e.g., while our capacities for reasoning and self-reflection allowed us to successfully manipulate and thrive in the world, they also enable us to catastrophically interpret anxiety bodily sensations and trigger a panic attack), and whose evolved adaptive functions may also carry disadvantages (e.g., while the infant's dependency on early bonds with caregivers is adaptive, it makes the infant extremely vulnerable to aversive or poor parenting; Buss, 2003; Gilbert, 2006b, 2009a, 2010; Gilbert, Bailey, & McGuire, 2000; Gilbert & McGuire, 1998; MacLean, 1990).

In light of this model, the evolutionary roots of shame lay in the way evolution designed humans to be exquisitely social from cradle to grave. Humans evolved as highly social mammals, whose survival and reproductive opportunities greatly depend on how they relate to others and how others relate to the self. So, the human mind and brain evolved to be extremely sensitive to signals of care and affection from others. Social relationships are of vital importance not only to human survival and but also to physical and mental well-being (Baumeister & Leary, 1995; Bowlby, 1969, 1973; Buss, 2003; Gilbert, 1989; Trevarthen & Aitken, 2001). Therefore, as we mature, selective pressures give rise to a suite of evolved social motivational systems (i.e., emotional and behavioural dispositions) to seek and respond to attachment to carers (Bowlby, 1969; Cassidy & Shaver, 1999), group belonging (Baumeister & Leary, 1995), and concern with social hierarchies and our relative social place (e.g., being seen and treated by others as inferior, equal or superior; Gilbert, 1992, 2000a). Understanding how evolution has lead humans to be highly regulated within social relationships sets the context for the biopsychosocial approach of shame.

2.2.2. Evolved social relationships and social mentalities

Human beings are social animals (Aronson, 2008; Buss, 2005; Caporael, 2001; Ehrlich, 2000; Lakin, Jefferis, Cheng, & Chartrand, 2003; Wright, 1994). From the day we are born until the day we die, our lives are filled with social interactions. Over millions of years, humans evolved within primate social groups (Baumeister & Leary, 1995) and many of our basic social emotions and behaviours (e.g., shame) may have served the function of enabling individuals to engage others in different types of social relationships (e.g., parent-child, friend, sexual, dominant-subordinate, enemy; Buss, 1995; Gilbert 1989; Gilbert et al., 2000; Nesse, 1990, 1998). The evolution of many mental mechanisms was then shaped by different social challenges, which included finding a mate, conceiving and reproducing, caring for offspring, eliciting support from others and defending resources from competitors (Buss, 1995, 2003; Gilbert, 1989; Gilbert et al., 2000). Such challenges have given rise to the evolution of specific *biosocial goals* and *social motivations* to create certain types of *social roles*. These operate as psychobiological regulators of behaviour and underpin universal forms of social behaviour (Buss, 1995; Nesse, 1998). These social roles comprise ways of relating such as care eliciting/seeking (i.e., needing and utilizing care, help and support); care-giving (i.e., providing care and looking after one's offspring); co-operating (i.e., forming alliances and friendships); mate selecting (i.e., seeking out sexual partner and forming sexual bonds) and compete for social status (i.e., pursuing resources associated with status; Buss, 1995; Gilbert, 1989, 1998a, 2000b; Gilbert et al., 2000; McGuire & Troisi, 1998).

Hence, to successfully create the desired social roles in these various domains, humans have evolved ways of being sensitive and analyzing social signals and respond to them in ways that impact on the *mind of the other*. A key idea is that different social roles are associated with different social strategies and *social signals*, and that the signals displayed by one individual can cause changes in the state of mind of the other (e.g., a threat from a dominant induces fearful submissive behaviour in the subordinate, and fearful subordinate behaviour reduces attacks and aggression states of mind in the dominant; Gilbert, 1997). Furthermore, different social signals indicating success or failure in a role, elicit positive and negative emotions, and shame may be one of the possible emotions arising in response to such failures (Gilbert & McGuire, 1998). Thus, while signals of proximity and attunement in the early mother-infant relationship elicit positive affect, those of separation and misattunements elicit negative affect, and some authors believe these to be the early precursors of shame experiences (Schore, 1994, 1998). In the social status domain, signals of approval and respect elicit positive affect, while signals of disapproval and being allocated in an unwanted subordinate position elicit negative affect, in particular shame (Gilbert, 2000b; Gilbert & McGuire, 1998; Nesse, 1998). So, individuals are guided to biosocial goals via the detection, evaluation and meaning of social signals, which trigger psychobiological response patterns that enable individuals to act in role-appropriate ways (Gilbert, 2000b; Gilbert & McGuire, 1998). And social signals are crucial to the functioning of social mentalities.

Therefore, combining archetype theory with modern evolutionary, social and developmental psychology, Gilbert (1989, 1995, 2000b, 2005b, 2009a) suggested that humans have a number of *social mentalities* that enable them to seek out and form certain types of social relationship. Social mentalities correspond to different patterns of neurophysiologic activity, resulting from different co-assemblies between motives, emotions, information-processing routines and behaviours that are ecologically sensitive. Social mentalities act to generate patterns of cognition, affect and behaviour into meaningful sequences that enable the co-creation and enactment of the abovementioned social roles. Gilbert (1989, 2000b, 2005b, 2005c) proposed five domains into which these can be classified: care eliciting, care giving, formation of alliances, social ranking and sexual (for a detailed description see Gilbert, 2005b, 2005c). So, in pursuing species general evolved biosocial goals and motives, our brain patterns are organized in certain ways and specific physiological processes (e.g., cortisol) can function differently according to the social mentality that is activated (Wang, 2005).

Of particular importance to the emergence of shame is the *social ranking mentality*. In light of the social mentality theory (Gilbert, 1989, 2000b, 2005c), this mentality involves forming relationships for direct competition for resources, gaining and maintaining rank and status (dominance/leader), accommodation to others of higher rank (submission/follower), and competing in ways that increase one's chances of being chosen by others for certain roles (e.g., as an ally, sexual partner, recipient of care and support, or leader). It is argued that social ranking mentality underlines heightened sensitivity to shame as it is linked to social threat and power: striving to be valued by others for social inclusion and seeking status in the eyes of the others, to be chosen in the competitions for a social place, with elevated sensitivity to unfavourable social comparisons and fears of being inferior or not good enough (Gilbert, 2000b, 2005b; Gilbert et al., 2000).

Within this theoretical framework, shame (as we will discuss in the following sections) is thereby conceptualized as an affective-defensive response to the threat, or actual experience, of social rejection or devaluation and loss of status in the eyes of the others (because one is, or has become, an unattractive social agent), which would undermine the successful achievement of the abovementioned biosocial goals and enactment of the variety of social roles humans are innately motivated for (Gilbert, 1997, 2002a; Gilbert & McGuire, 1998). In such evolutionary terms, shame can be seen as a reflection of defensive

social strategies, triggered in the presence of interpersonal threat, in individuals who see themselves as inferior, powerless and subordinate (Gilbert, 1992, 1997, 2000c; Gilbert & McGuire, 1998; Sloman, 2000). Shame signals (e.g., head down, gaze avoidance) are intended to affect the minds and social strategies of (dominant or rejecting) others and are here regarded as submissive and appeasement displays (akin to those of nonhuman primates). They evolved to de-escalate and/or escape from social conflicts and are adopted in instances where continuing in a 'shameless' non-submissive way could provoke serious attacks or rejection from others. Thus, shame can be seen as an involuntary submissive response activated by a social threat, aimed at appeasing others and de-escalating conflict (Gilbert, 1989, 1997; Gilbert & McGuire, 1998; Keltner & Harker, 1998; Keltner et al., 1997).

Individuals who are insecure in their social position, unsure of whether they are valued, like or wanted, feel under increasing pressure to compete for their social place and these social desired outcomes. This is what opens the social ranking system, which attunes one's attention to social comparison and to monitoring what others might think and feel about the self. It is in this context that shame can represent a threat to the sense of self with fears of being unable to elicit positive emotions in the minds of others.

In sum, in accordance with this evolutionary model, humans have evolved complex brains designed to function in certain ways and are innately motivated to pursue important biosocial goals and needs, for affection, care, protection, belonging or status. Various social mentalities guide individuals in seeking such biosocial goals and social roles, and navigating their social worlds and these mentalities are highly attuned to different types of social signals.

Social ranking, a mentality closely related to the emergence of shame, is intimately associated with early developmental affiliative experiences, especially in the attachment domain. It is in the earliest mother-infant bond that caregivers, through their love and approval, may instill in a child a sense of value and worth, determining whether they enter the social world with schemas of a robust sense of self, care of others and abilities to form stable friendships and pair bonding (Belsky, 1993; Bowlby, 1969; Kohut, 1977; Liotti, 2000; Schore, 1994, 2001; Sloman, 2000). So, understanding the importance of attachment and affiliative relationships to our survival and well-being and how our needs for love, affection, belonging and status, underpin the development of affect regulation systems, cognitive abilities for social understanding and social strategies for social engagement, is crucial to comprehend the nature of shame in light of this model.

2.2.3. The importance of attachment and affiliation

Insofar as shame is rooted in human drive for social acceptance and approval (Gilbert, 1989, 1997; H.B. Lewis, 1971; Nathanson, 1994; Scheff, 1988; Schore, 1998), then its basis can be traced back to the evolution of attachment. If for many mammals affection as evolved as a key regulator for motives and emotions, for humans in particular, being cared for and loved, as opposed to being rejected or neglected, has major effects on one's physiological states and psychological well-being (Cozolino, 2006; Gerhardt, 2004; Porges, 2007). In fact, humans are the most dependent species on their early attachments for survival (Bell, 2001; Carter, 1998).

Attachment and care-giving behavioural systems are thought to have evolved as they significantly increased human chances for survival and genes propagation (Carter, 1998; Hamilton, 1964). This is linked to two types of reproductive strategies: *r* and *K* (MacArthur & Wilson, 1967). For species without early attachment (e.g., fish, reptiles), where the *r* strategies are present, offspring are produced in high birth

numbers (e.g., hundreds, sometimes thousands) and, after birth, offspring need to be mobile and able to disperse and hide (to cope with the risk from predation), with only 1-2% surviving into adulthood to reproduce. In species with early attachment, where there is parental investment and *K* strategies are present (e.g., mammals), the birth numbers are low (i.e., one or two offspring) but with a higher survival rate (e.g., 50%), and offspring evolved to stay close to parents (rather than disperse) and do not have to be self-sufficient at birth (Geary, 2000). Hence, throughout evolution, the availability and quality of affiliative relationships have become vital to survival and primary affect regulators for mammals and humans.

In humans, therefore, neurophysiological and behavioural systems to protect and care for offspring have evolved to increase their chances of survival to reproductive age (Bowlby, 1969). According to the attachment theory (Bowlby, 1969, 1973, 1980), attachment is the process through which the infant seeks proximity to an attachment figure so that they may receive protection, care and nurturance. A crucial aspect is that parental care and investment provide a safe-secure base for the infant (Bowlby, 1969, 1973; Cassidy & Shaver, 1999) and parent-child interactions promote various forms of physiological and emotional regulation (Hofer, 1994; Panksepp, 1998). So, while adults evolve mechanisms to recognize their own offspring and are motivated to protect them from external threats, respond to their distress and care for them, infants, in turn, evolved innate motivations to seek proximity and care of their parents and to be physiologically regulated to their inputs (e.g., infants can be soothed by parents signals, such as touch, voice tone, facial expression; Bowlby, 1969, 1973; Gilbert, 1989, 2005b; Schore, 1994). A secure parent-child bond should provide protection from various threats, a safe and secure environment in which the infant can openly engage, and a source of soothing when distressed. Bowlby (1969, 1973) proposed that, for normal emotional and social development to unfold, human infants need a secure relationship with their caregivers.

Attachment relationships are thus powerful physiological and psychological regulators (Cacioppo, Berston, Sheridan, & McClintock, 2000; Carter, 1998; Panksepp, 1998, 2010). In fact, there is now considerable evidence that early interactions with attachment figures have a significant impact on expression of genes, brain maturation, autonomic, neuroendocrine and immune function, affect regulation, and development of a whole range of cognitive competencies (Belsky & Pluess, 2009; Cozolino, 2006; Gerhardt, 2004; Kennedy, Glaser & Kiecolt-Glaser, 1989; Mikulincer & Shaver, 2004, 2007; Schore, 1994; Siegel, 2001; Taylor, Lerner, Sage, Lehman, & Seeman, 2004; Taylor, Way, Welch, Hilmert, Lehman, & Eisenberger, 2006; Tyrka, Price, Marsit, Walters, & Carpenter, 2012). Furthermore, the quality of early relationships with attachment figures affects to the development of internal working models of self (e.g., as lovable and worthy or unlovable and unworthy of care and support) and others (e.g., as caring, soothing and available or threatening and unavailable; Bowlby, 1969, 1973, 1980; Mikulincer & Shaver, 2005, 2007). Thus, interpersonal schema form the basis for subsequent self-to-self evaluations and experiences and determine one's expectations of others behaviour and one's behaviour in social interactions (Baldwin, 1992, 1997).

In addition, this need for affiliation and to form attachments is extensive to social relationships. Belonging and being accepted by peers and groups, mutual support, co-operation and sharing have been vital to human survival and prospering (Baumeister & Leary, 1995). For many mammals, and especially humans, being excluded and rejected by a group would drastically compromise the attainment of important biosocial goals and ultimately undermine reproductive success and survival (Gilbert, 1989, 1997, 2007a). Affiliative and supportive social relationships, operating outside the parent-infant attachment bond (e.g. with siblings, peers, friends, teachers), also impact on psychological and physical well-being throughout life (Baldwin, 2005; Baumeister & Leary, 1995; Bowlby, 1969, 1973; Gilbert, 1989, 2007a; Guidano & Liotti,

1983; Siegel, 2001) and provide important learning experiences that also influence the emergence of self-other schemas (Baldwin, 1992, 1997; Beck, 1987; Gilbert, 1989, 1993).

Moreover, there is increasing empirical support that feeling cared for, supported and valued by others significantly influences physiological and emotional regulation and promotes feelings of safeness and soothing (Cacioppo et al., 2000; Gilbert, 1989, 2009a). In contrast, failure to meet affiliative goals, feeling rejected, uncared and unvalued, is one of the most powerful elicitors of stress responses (Belsky & Pluess, 2009; Eisenberger, 2011; Dickerson et al., 2009; Dickerson & Kemmeny, 2004; Taylor et al., 2004), can have huge detrimental effects on emotional, cognitive, and behavioural outcomes (Baumeister, DeWall, Ciarocco, & Twenge, 2005; Cacioppo, Hawkley, & Berndtson, 2003; Dickerson et al., 2009) and is related to physical and mental health problems (Cacioppo & Hawkley, 2009; Caporael, 2001; Cozolino, 2006; Gilbert, 1989, 2005b; MacDonald & Leary, 2005; Teicher et al., 2006).

Given the evolutionary benefits and the power of attachment and social relationships in shaping our minds and brains, theorists have posited that humans are innately motivated to seek out attachment relationships, belong to groups, participate in cooperative alliances, and maintain, or gain, social status (Baumeister & Leary, 1995; Bowlby, 1969; Cassidy & Shaver, 1999; Gilbert, 1989, 2007a). In light the biopsychosocial perspective of shame (Gilbert, 2002a, 2003, 2006a, 2007a) these are the social motivational systems that lie beneath our innate needs to be valued, esteemed, approved and accepted by others, and the development of cognitive abilities for social understanding and self-conscious awareness, all of which are vital to the emergence of shame in humans. Before fully exploring the implications of such needs and cognitive competencies to shame, we outline the three evolved affect regulation systems, which are hugely affected by the affectionate quality of our social interactions and support the capacity for a range of social behaviours (Cozolino, 2006; Gilbert, 2005a, 2009a), being also implicated in shame dynamics.

2.2.4. The three affect regulation systems

Gilbert (1989, 2010) argued that human's biosocial goals and motivations for attachments, status, sex or achievements are guided by emotions. The successful pursuing of such goals and motivations activates a flush of positive emotions whereas threats or obstacles may trigger threat-based emotions. In fact, Panksepp (1998, 2010) suggested that a series of integrated circuits in the brain are responsible for giving rise to different types of emotion, regulating our attention and thought processing and motivating our behaviour.

Based on recent neuroscience research on emotional processing (Depue & Morrone-Strupinsky, 2005; LeDoux, 1998; Panksepp, 1998), theorists have proposed the existence of three major affect regulation systems, which are a set of evolved central and peripheral physiological systems and their associated neuro-hormones, and underlie capacities for emotional regulation and social relating. These interacting systems are depicted in Figure 1, and have been outlined as threat-protection; drive and resource-seeking; and contentment-affiliation and soothing (Depue & Morrone-Strupinsky, 2005; Gilbert, 2005a, 2007c, 2009a, 2009c, 2010; Wang, 2005).

Threat-protection system

The need for threat-protection is common to all living things. The *threat-protection system* enables a basic and quick detection of threats (through attention-focusing and attention-biasing) and the rapid activation of defensive emotions (e.g., anxiety, anger, disgust) and behaviours (e.g., fight, flight, submit, and freeze). This system operates through specific brain structures, as the amygdala and the hypothalamic-pituitary-adrenal-axis (LeDoux, 1998; Panksepp, 1998, 2010), and the genetic and synaptic regulation of serotonin seems to play a role in its functioning (Caspi & Moffitt, 2006). Since our brains give more priority to dealing with threats than pleasurable things (Baumeister, Bratslavsky, Finkeneaur, & Vohs, 2001), this system tends to follow the strategy of ‘better safe than sorry’ (Gilbert, 1998b). Threat emotions and behaviours are easily conditioned, so that neutral stimuli can come to trigger them (Rosen, 1998). The threat system is a common source of many aspects of psychopathology (Gilbert, 2005b, 2009a, 2009a).

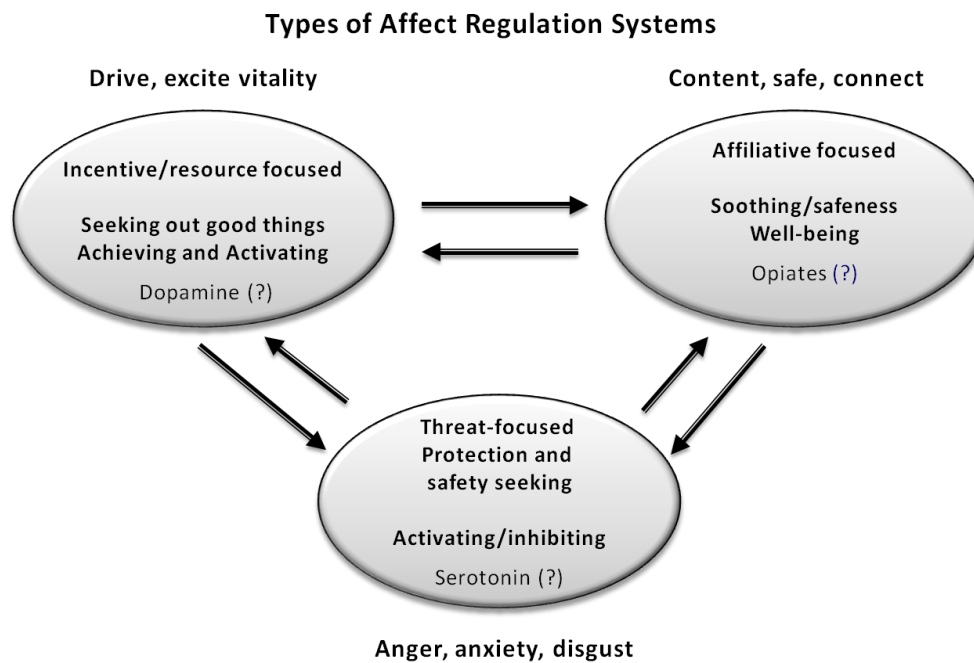


Figure 1. The interaction between the three major emotion regulation systems.

Note. Adapted from Gilbert (2005a) with kind permission Routledge

When the threat system is activated, attention, thinking and reasoning, emotions, motives, behaviour and images and fantasies can all be threat-focused and different defensive emotions and action tendencies can conflict (e.g., in a social conflict one can feel both anxiety and anger, as well as tendencies to flight and fight at the same time; Gilbert, 2007c, 2010). A number of threat signaling stimuli can trigger the threat-protection system including: social cues (e.g., criticism, rejection from others); inner sense of self (e.g., as unattractive and not worthy enough to be liked and wanted, and avoid rejection); our own thoughts and feelings (e.g., fear of becoming angry or fearful), predictions of what might happen to us (e.g., others will reject us; we can die); rumination and worry; or conditioned emotional memories (e.g., of early adverse experiences of criticism, rejection, abuse; of being in a car accident; Brewin, 2006; Gilbert, 2005b, 2009a, 2010; Wells, 2000). Thus, various internal and external stimuli can come to trigger quite intense threat

reactions. This is important because the emotions associated with shame are all threat ones, and can be primed because of early learning. This linkage of threat emotions to past trauma memories is the focus of this doctoral thesis.

Sensitivity and response to specific threats seem to be a result of an interaction between genes and learning. In fact, growing empirical evidence indicates that early life events may lead to epigenetic modifications and increase reactivity to stress, sensitizing one's threat-protection system (Belsky & Pluess, 2009; Caspi & Moffitt, 2006; Gilbert & Miles, 2000a; Taylor, Eisenberger, Saxbe, Lehman, & Lieberman, 2006; Taylor et al., 2004; Taylor, Way et al., 2006; Tyrka et al., 2012). Furthermore, social status seems to influence genetic expression and immune function in primates (Tung et al., 2012).

This relates to the focus of the present thesis as adverse early life events and interactions where one is allocated in unwanted inferior social rank position (i.e., shame experiences) may sensitize the threat-protection system, leading to the development of threat emotional memories. These memories may guide several safety strategies and thus operate as automatic conditioned, and sometimes conflicting, responses. Such sensitized strategies and phenotypes for threat detection and protection can notably influence how individuals construe their self-identity and perceive and navigate their social world. Hence, these strategies may impact on one's sense of self, lead to increased vulnerability to psychopathology and interfere with individuals' ability to pursue life goals (Gilbert, 2007c, 2009c). These assumptions, however, warrant empirical support.

Drive-resource acquisition system

The *drive-resource acquisition system* enables positive feelings (e.g., of activation, pleasure and excitement) that guide and motivate us to seek out and secure resources (e.g., food, sexual opportunities, status and recognition, alliances), which are associated with increases in our chances of survival and prosperity (Depue & Morrone-Strupinsky, 2005). The neurotransmitter dopamine is thought to be important in the functioning of the drive system, which when balanced with the other two systems, guides us towards important life goals. For example, if when pursuing a particular goal (e.g., status) there are signals in the environment that one's efforts are being successful, then a reward and positive emotion is elicited. However, if there are signals in the environment meaning that one's efforts are failing or being blocked, this is perceived as a threat and activates the threat-system, which triggers threat-based emotions, such as anxiety or anger/frustration (Gilbert, 2009a, 2010). It may also trigger shame, if one's social status, social acceptance and self-identity are at stake and such defensive emotions blend with self-conscious competencies.

In addition, the drive and the threat-protection systems can be linked in complex ways. For instance, some individuals may pursue status and achievement in order to feel safe and avoid feelings of rejection, subordination or inferiority. Ultimately, status-seeking and competitiveness can be linked to shame avoidance or compensation (Depue & Morrone-Strupinsky, 2005; Gilbert, 2007c, 2009a, 2009c; Gilbert et al., 2009).

Contentment-affiliative and soothing system

A third affect regulation system is the *contentment-affiliative and soothing system*. Conversely to the drive system, this system entails non-seeking or quiescence and is characterized by positive affects of soothing, warmth, peacefulness and well-being. When animals are neither under threat nor pursuing and seeking resources, they are satisfied or in a state of contentment (Depue & Morrone-Strupinsky, 2005).

Contentment is not just the absence of threat or low activity in the threat-protection system, but is associated with a particular system linked to endorphins/opiates and oxytocin (Carter, 1998; Depue & Morrone-Strupinsky, 2005; Gilbert, 2009a, 2010; MacDonald & MacDonald, 2010; Uväs-Morberg, 1998; Wang, 2005). This affect regulation system is thought to have evolved alongside the attachment system, being stimulated by signals of care and compassion from others. In fact, by providing a safe base from external threats and making parents responsive to distress calls (MacLean, 1985), attachment can be seen as a primary threat-protection regulation system (MacDonald, 1992). In earlier formulations, Gilbert (1989, 2005b, 2007c, 2009a) has referred to this system as the social safeness system linked to affection and kindness and with soothing properties.

Regulating threat and developing safeness

Humans are indeed care seeking animals who can regulate distress via access to care. The quality of care an infant receives from his/her caregivers significantly affects brain maturation, various physiological processes and hugely impacts on internal working models of self and others (Cozolino, 2006; Gerhardt, 2004; Mikulincer & Shaver, 2005, 2007; Schore, 1994, 2001). From the first days of life, *safeness-via-warmth* (Rohner, 1986) is not merely the absence of threat but is conferred and stimulated by others (Gilbert, 2005b, 2007a). A host of caregiver signals may stimulate this safeness-soothing system, including: touching, stroking, holding (Field, 2000), voice tone and musicality, facial expressions, the feeding and mutually rewarding interchanged that form the basis of an attachment bond (Trevarthen & Aitken, 2001); and several signals of support and friendliness (Heinrichs, Baumgartner, Kirschbaum, & Ehler, 2003). Recent research has also shown that touch, holding, stroking and grooming are one of the most powerful behaviours that release endorphins (which have soothing properties) and build affiliative relationships and bonds (Dunbar, 2010).

In contrast, not only threatening interactions with caregivers (e.g., angry voice tones, contempt facial expressions, physical abuse), but also the absence of positive forms of affectionate and soothing social signals (e.g., eye gaze, smiling, holding, stroking, as in the case of depressed mothers), can have damaging effects on infant's brain maturation and affect regulation, understimulating the safeness-soothing system and overactivating the threat-protection system (Murray & Cooper, 1997; Saplosky, 1994). For example, as Saplosky's (1994) observed:

"Touch is one of the central experiences of an infant, whether rodent, primate, or human. We readily think of stressors as consisting of various unpleasant things that can be done to an organism. Sometimes a stressor can be the *failure* to provide something to an organism, and the absence of touch is seemingly one of the most marked of developmental stressors that we can suffer" (p. 92).

Nevertheless, close kin-based attachments are only one type of relationship that provides avenues for feeling safe or feeling threatened (Gilbert, 1989, 2005b). Besides the attachment system, there are a host of 'value based' relationships where people can feel safe because they are liked, accepted, valued and supported by others and have a sense of belonging and community (Bailey, 2002; Baumeister & Leary, 1995). There are thus other social-relational processing systems where the creation of safeness, through social interaction, plays a prominent role (Cacioppo et al., 2000; Uväs-Morberg, 1998). As children grow older and began to enter the social world, they began to interact with new audiences and other competitors for a social place (e.g., peers). Throughout life, both children and adults seek to form friendships and peer-group alliances, within and outside their kinship networks, and often use supportive others to help them regulate threat arousal (Bailey, 2002). It is in these social interactions that they learn their acceptance is dependent on the choices others made in their favour or against them for the co-

creation of social roles (e.g., friendships, alliances; Gilbert, 1997, 2003, 2007a), and the type of social signals exchanged in these interactions are powerful psychobiological regulators (Cacioppo et al., 2000). So, safeness derived from affiliation is far more than just nurturance and includes feelings of 'being part of'. Attachment and social affiliative relationships can act as affect-regulators by fostering feelings of safeness, connectedness and warmth and thus soothing over-arousal and reducing distress in response to threats (Gilbert, 2009a, 2009c, 2010; Gilbert, McEwan, Mitra, Franks, Richter, & Rockliff, 2008).

Thus, both the drive and the safeness-contentment systems have been used by evolution to regulate behaviour in social relationships (Gilbert, 2009b). Humans are not only activated and seek out relationships, but the safeness system also evolved into a system that registers love, care and affection, and signals of acceptance and social safeness (Carter, 1998; Depue & Morrone-Strupinsky, 2005).

The key point is that these systems are in *constant states of co-regulation*, always interacting to create patterns of neurophysiological pathway connections and have reciprocal effects on each other (see Figure 1). So, social signals of affiliation and 'being cared for and about' trigger the social safeness system and one feels soothed and safe. Such safeness and contentment feelings regulate both the drive-seeking and the threat systems (Gilbert, 2009b). Genes and experiences are thought to affect the maturation of the three systems and their emergent patterns of interaction (Gilbert, 2005b). Gilbert (2005b) illustrates this idea suggesting that in children who are often threatened or left feeling uncared for or unsafe, their threat systems become more vigorously developed and the safeness-soothing system underdeveloped. As they grow up, these children can find it difficult to feel safe in the world and regulate distress, and may constantly be in a threat 'mode' or feel driven to prove themselves by achieving and striving.

So, specific systems in our brains are responsible for regulating the threat system, underpin feelings of safeness and well-being, and their development is related to early life experiences. These affect regulation systems can however become unbalanced. Specifically, it has been suggested that high shame individuals can have heightened sensitivity and overactivity of the threat-protection and/or drive systems along with an understimulation of the soothing system (Gilbert, 2007c, 2009c). Although it has been posited that such unbalance might be rooted in early adverse life experiences (such as shame experiences), namely those unfolding in attachment interactions, and in the formation and (re)activation of aversive emotional memories, little research has investigated these hypotheses.

2.2.5. Threat, safeness and intersubjectivity: The experience of the self in mind of the other

In line with the foregoing discussion is the notion that as parental investment and care evolved to a profound degree in humans, also human infants evolved to be extremely sensitive to the signals and communications from others, especially those unfolding within the attachment bond (Bowlby, 1969, 1973; Gilbert, 2005b, 2007a, 2007c, 2009a). Many theorists suggest that being loved and cared for in early life greatly impacts on one's maturing sense of self, emotion regulation abilities, feelings of safeness and future development of supported and committed relationships (Baldwin, 2005; Gilbert, 1993, 2005b, 2007c, 2009a; Schore, 1994).

Of note in such early interactions, is the way the mental state and motives of the mother (i.e., what is going on in her mind) are translated into a range of non-verbal and verbal behaviours (e.g., facial expressions, voice tone, holding, stroking), and her ability to empathically reflect and resonate with her infant's mental states and feelings. This process of empathic resonance, by which the mind of the mother is able to influence the mind of the infant, is called *intersubjectivity* (Threvarthen & Aitken, 2001).

Intersubjectivity is linked to the moment-by-moment co-regulation of individuals in an interaction as they experience the feelings of others directing at them (Stern, 2004).

As such, these co-regulating ‘dances’ of mother and infant have significant impact on the infant’s mind and brain maturation, with the mother affecting patterns of neuronal connections (Gerhardt, 2004; Schore, 1994; Siegel, 2001). Moreover, throughout infancy and childhood, the way others attune, empathize with and understand the child’s emotions and behaviour, crucially affects his/her ability to regulate emotions, behaviours and personal characteristics and link these to self-processing and self-defining systems (Schore, 1994, 1998, 2001). For example, research has shown that abused or rejected children, in contrast to loved and stimulated ones, develop different psychobiological infrastructures in their brains (Perry, Pollard, Blakley, Baker, & Vigilante, 1995), and that early care affects gene expression and genetic sensitivity to mental health problems (Belsky & Pluess, 2009; Caspi & Moffitt, 2006; Perry, 2002; Taylor, Way et al., 2006; Tyrka et al., 2012; see Taylor, 2010 for a review). The very sense of self is being sculpted in these early interactions, and at the root of this are brains that need others to love and care for them (Gilbert, 2005a).

Therefore, the absence or withdrawal of such positive stimulus seems to act as a threat (Gray, 1987; Sapolsky, 1994). In fact, misattunements in these mother-infant early interactions (e.g., lack of a positive attuned facial expression of the mother, or negative-affect-signaling facial expression, voice tone or body posture), indicative of negative affect in the mind of the mother, can stimulate the child’s threat system and generate a distress-withdrawal response in him/her. According to Schore (1998), this early response to interpersonal misattunements represents a precursor for later shame responses.

The central idea is that humans, from birth and throughout life, are exquisitely sensitive to verbal and non-verbal communications from others that convey information about ‘how we exist in the mind of the other’, with intersubjectivity processes remaining salient in our interactions with others during lifespan.

In light of the present evolutionary approach, the experience of the self as ‘positive in the mind of the other’ indicates that the other is safe and one may relax in his presence, is willing to sooth and help the self if needed, and will cooperate in the co-construction of meaningful social roles and mutually beneficial activities. Such positive self-experiences affect the emergence of self-regulation systems based on safeness and less threat focused (Gilbert, 2007a, 2007c, 2009a).

Drawing on the vital importance of safeness and acceptance for humans, derived from the experience of existing positively for others, the evolutionary biopsychosocial model of shame proposes that “shame is an affect that warns us we are in danger of losing, or have lost, this protective shield” (Gilbert, 2007a, p. 289), linking this emotion to human basic evolved safeness and threat systems (Gilbert, 2002a, 2007a).

2.2.6. Threat, safeness and human needs for love and acceptance: The nature of shame

There are thus a variety of evolutionary pressures that made creating positive feelings and thoughts in the minds of the others about the self, central to human evolution (Barkow, 1989; Baumeister & Leary, 1995; Gilbert, 1989, 2002a, 2007a, 2007c). From the earliest days of life, humans need others to engage positively with them, to invest, support and offer resources, and to be sources of comfort, soothing and care. From early attachments through cooperative, emotionally supportive and sexual relationships, humans have innate needs to be wanted, appreciated and valued by others, to find acceptance and social belonging, to feel connected to others and to feel cared-for, and to participate in sharing relationships. All individuals want to be valued and seen as desirable, deserving, helpful, talented and able, by their

parents, lovers, close friends, co-workers, team members, and bosses. In order to do this (and be wanted, accepted, valued, liked and approved), humans need to stimulate positive feelings and thoughts about the self in the mind of the others (i.e., stimulate desires in a potential lover, liking in a potential friend, to be seen as a valuable resource; Gilbert, 1997, 2002a, 2003).

In light of the current approach (Gilbert, 2002a, 2006a, 2007a), if one is able to generate these 'positive affects in the mind of the other about self', then three things can happen. First, the world is safe and one can know that others will not attack or reject the self because they value him/she. And this may foster feelings of safeness and connectedness and provide the deactivation of the threat system. Secondly, one increases the chances of inclusion, belonging and being wanted; engaging others and being chosen by them in fitness-conducive social roles (e.g., be chosen as a friend, lover or team member; eliciting care, engaging friends and social partners, and acceptance in groups; Etcoff, 1999; Gilbert, 1997). That is, one is able to co-create meaningful social roles, for mutual support, sexual relationships, or sharing, that ultimately increase one's chances of thrive and survival. Thirdly, receiving signals from others of being cared for, liked, desired and valued and being supported and chosen for role enactments with others, has direct effects on one's physiology and soothing system, impacts on various physiological systems mediators of health and well-being, such as the stress and immune system (Cacioppo et al, 2000; Carter, 1998, 2005; Heinrichs et al., 2003), and fosters one's resilience to threats and adverse life events, offering essential resources for coping with adversity (Cacioppo et al., 2000; Masten, 2001; Porges, 2003, 2007).

In contrast, to be seen as undesirable, unhelpful, untalented and unable, and being rejected, expelled or shunned, or even allocated in an unwanted low social position in a social group, makes the world a dangerous place. This can not only significantly compromise the co-enactment of important social roles and a variety of reproductive strategies (e.g., one might be unable to attract desirable sexual partners or form bonds with them, or attract allies and kin support), but can also activate the threat and stress systems and seriously undermine health-regulating social relationships and survival (Cacioppo et al., 2000; Dickerson, 2010; Dickerson, Gruenewald et al., 2004, 2009; Dickerson & Kemeny, 2004; Gilbert, 2002a, 2003, 2007a; Gruenewald et al., 2007; Perry et al. 1995; Taylor, 2010).

The nature of shame

Hence, humans are highly motivated create positive affect in the mind of the others about the self, competing to be seen as desirable and attractive social agents and for social places (Gilbert, 1997, 1998c, 2003; Gilbert & McGuire, 1998; see also section 2.2.8). Creating negative emotions in the mind of other about the self (e.g., anger, contempt) and failing in such competition for social attractiveness are major threats to one's social self and self-identity, rendering one's social world threatening and unsafe and eliciting defensive manoeuvres. **Shame** is here conceptualized as the involuntary affective-defensive response triggered by such experience of threat or loss of abilities to create desirable images in the mind of others, by the awareness that one has lost status and is devalued. Shame can thus be seen as a warning that one lives in the mind of the others as an unattractive social agent, a person with negative characteristics, or lack of positive ones, and stands at risk of being rejected, excluded, being passed by, or even harmed or persecuted by them (Gilbert, 1997, 1998c, 2002a, 2007a).

Gilbert (2007a), argues that it is "in the competitive dynamics to be loved, valued and chosen, where audiences make choices over whom they will associate with, care for, and form intimate, caring, or cooperative relationships with, prefer and favour, include or excluded and stigmatize, that shame exerts its power" (p. 285). Shame activates our threat systems and cuts us off from sources of soothing, social support and affect regulation. In addition, so important is our social need to feel safe, accepted and

valued by others that, in order to avoid shame, people will even risk their own lives and serious injury (Gilbert, 2007c).

This view that shame is intimately linked to challenges of courting positive relationships with others and creating good impressions in the minds of the others is shared by many theories of shame emotion (e.g., Barret, 1995; M. Lewis, 1992; Nathanson, 1994; Scheff, 1988, 1998; Schore, 1994, 1998). Shame is hence about the exposure of that deemed unattractive (Gilbert, 2007a; M. Lewis, 1992, 2003). The key idea however is that shame is felt only when disruptions in social relationships convey information about the self as unattractive to others in some way. According to the biopsychosocial perspective, shame is therefore is rooted in human needs to be valued and court positive feelings about the self in the mind of the other in, and for, a variety of social roles (Gilbert, 1989, 2002a, 2003; Gilbert & McGuire, 1998). Furthermore, as we will outline below, this model posits that shame emerged from evolved special processing systems underpinning self-processing competencies that monitor one's social standing (Gilbert, 2003, 2007a; Gilbert & McGuire, 1998; Tracy & Robins, 2004).

2.2.7. Cognitive abilities for understanding the minds of the others and for self-awareness

The evolutionary advantages of forming attachments, friendships and group alliances in humans has driven the evolution of specialized mechanisms for processing social information (Panksepp, 1998). The present conceptualization argues that competing for positive social relationships, trying to work out how to impress others, and being sensitive to shifts of feelings in them about us, may have fueled the evolution of various cognitive competences (e.g., symbolic representations, metacognition, empathy, mind reading and competencies for self-awareness and self-identities), crucial to social relating and to the emergence of shame (Gilbert, 2002a, 2003, 2007a).

Thus, humans have evolved high level cognitive, meta-cognitive and symbolic abilities that not only give rise to self-consciousness and self-awareness (M. Lewis, 2003; Tracy & Robins, 2004), but enable us to monitor the quality of our social relationships and assess how we exist in the minds of the others (Gilbert, 2002a, 2003, 2007a). In order to successfully achieve biosocial goals and engage others in the co-creation of vital social roles, humans need to be able to attribute feelings and intentions to others (e.g., I believe he does not like me because he sees me as ugly, different or untrustworthy; Suddendorf & Whitten, 2001), to know or make predictions of why others accept or reject them, to evaluate themselves and have a sense of self, so that they can predict the qualities others will value and like or reject and attack (Gilbert, 2003, 2007a; Gilbert & McGuire, 1998).

So, as we mature, a host of evolved cognitive competencies, specially focused on understanding the minds of the others and our relation to others' minds, begin to unfold (Gilbert, 2003, 2005b, 2007a). These comprise: symbolic self-other representations (Sedikides & Skowronski, 1997), theory of mind (Byrne, 1995; Suddendorf & Whitten, 2001); and metacognition (Bjorklund, 1997; Wells, 2000). These self-and-other focused abilities are crucial to social interactions and self-regulation, making the human mind a "collating mind", capable of building complex models of self and self in relation to others (Suddendorf & Whitten, 2001). All these higher-order cognitive competencies are thought to be key to the surfacing of shame.

Humans have evolved competencies for language and using symbols to think and reason, which has offered enormous advantages in the struggle for survival and reproduction. **Symbolic self-other awareness** comes with language and is related to the ability of imagine the self (or other) as an object and

to judge and give value to the self and other, to have self-esteem, to think about the meaning of one's appearance to others, to have pride or shame, or allocate positive or negative values to others (e.g., worthy and able, or worthless and useless; Gilbert, 2003; Sedikides & Skowronski, 1997).

Another key evolved cognitive competency critical to social relating is the ability to think about and understand what might be going on in the minds of other people. This is called **theory of mind** and is thought to emerge from neonate abilities for intersubjectivity (Threvarthen & Aitken, 2001). Theory of mind is related to our abilities to think about what motivates someone's behaviour, what they might value or devalue, what they know and don't know (about the self), and to think how to manipulate them to like us or to be wary of us (Byrne, 1995; Decety & Jackson, 2004; Gilbert, 2003, 2007a; Malle & Hodges, 2005; O'Connell, 1997; Whitten, 1999). Insofar as shame is about what others think about the self and generating negative views of the self in their minds, theory of mind is believed to play a salient role in human experiences of shame (Gilbert, 2003, 2007a). Related to these abilities is **metacognition**, the ability to think about our thinking, feelings and behaviour, to evaluate their consequences and implications and judge them as good or bad (Wells, 2000).

These cognitive competencies interact and give rise to complex self-other processing sequences both in actual interactions with others and in imagination, and capacities for self-focused feelings (Gilbert, 2007a; M. Lewis, 2003; Tracy & Robins, 2004). With their development around two years of age, children become able to recognize that they exist as 'objects' in the mind of the others, that others have feelings about them and are evaluating and judging their behaviour; they are able to understand social roles and rules and learn the symbolic meanings of behaviours. And these abilities are known to be central in shame (Gilbert, 2002, 2003, 2007a; M. Lewis, 2003; Mills, 2005).

As outlined in Chapter 1, when in social interaction one experiences threats to the social self, be they direct (e.g., rejection, violence) or indirect and symbolic (e.g., criticism and attacks on self-presentation), these will activate basic defensive emotions (e.g., anger, anxiety, disgust) which will blend with the higher-order cognitive abilities, giving rise to and texturing the *self-conscious emotion of shame* (M. Lewis, 2003; Gilbert, 2003, 2007a; Tracy & Robins, 2004, 2007). According to the biopsychosocial perspective, shame operates through and is shaped by human's competencies for a sense of self as social agent, emerging from these complex evolved abilities to be aware of 'how one exists for others' and make predictions of their thoughts and feelings about the self. Shame is here conceptualized as a rich and multifaceted experience that can be infused with anxiety, anger or disgust and greatly varies between people and across situations (Gilbert, 2002a, 2003, 2007a).

In addition, these cognitive abilities for social understanding and social relating also enable a central ability to inwardly construct what Kaufman (1989) called *imaginary audiences*, and what Baldwin (2005; Baldwin & Holmes, 1987) referred to as *interpersonal schema*, that enclose previous memories of the self-in-relation-to-others and direct expectations of how others will view and respond to the self. In light of this model, shame as a self-conscious emotion emerges from the unfolding complex cognitive abilities that facilitate the construction of self-identities that blend and texture primary emotions. These self-identities are crucial to the presentation of the self in social relationships and to the self one seeks to become (Gilbert, 2007a).

Self-identity and shame

The ability to create a self-identity also emerges from human competencies for self-awareness and symbolic representation, which give rise to a sense of self 'who is', 'who can' and 'who wants to be' (Gilbert, 2005b, 2009a). Gilbert (2007c) proposes that our sense of self is shaped via social relationships, in which the self is embedded, and arises from the choreographies of the other aspects of our minds. Self-identity is conceived as an internally constructed model of the 'self as is': a self with needs, desires, preferences, likes and dislikes; a self that can be threatened; a self who wants to be or does not want to be; a self that wants to be valued and respected via the roles one enacts; a self that imagines and hopes (Gilbert, 2007c). In light of this view, self-identity corresponds to a motivated organizing system that coordinates memories, emotions, beliefs and other processes for a cohesive securing of goals (Conway, 2005; Conway & Pleydell-Pearce, 2000; Leary, 2007b; Swann, Rentfrow, & Guinn, 2003). Self-identity is construed from both personality dispositions and to fit local social ecologies, in particular to cope with the socially constructed roles, threats and opportunities in that environment (e.g., one's sense of self will be different if we grow up in a drug cartel in Mexico or in a Tibetan Buddhist monastery). Self-identities are focused on evolutionary important roles (e.g., to be accepted by others, to be valued rather than rejected, to be helpful to others, to gain respect among peers). Moreover, self-identities guide our thoughts and emotions in pursuit of evolved biosocial goals (e.g., affection, sex, status, power), provide consistency to the sense of self and build reputations in the mind of the others (Gilbert, 2005b, 2007c, 2009a).

The type of self-identity we have, what we aspire to and how we come to understand and feel comfortable or threatened by our inner world, is fundamentally scripted by our social relationships, that is how we experience the self through the minds of the others (e.g., because I appear lovable and worthy from how you relate to me, then I can feel lovable and worthy; Gilbert, 2002a, 2003, 2007c). This idea of the co-construction of the sense of self derived from the experience of the self in the mind of the others is not new and is present in earlier attachment models (e.g., Bowlby, 1969) and concepts such as the looking-glass self (Cooley, 1902) and mirroring (Kohut, 1977).

So, threats to self-identity, arising from within or outside the self, can be major stressors and trigger the threat system (Gilbert, 2007c; Swann et al., 2003). Also, self-identities can be formed around social roles (e.g., a sense of self in the role of a lover is different from a sense of self as a therapist). Shame, being typically linked to failing in the social roles one most values, and related to a negative and devaluing sense of self in one's own eyes and in those of the others, can represent a collapse of one's self-identity. In shame, one has become an unattractive self, an undesired self, a rejected self, a failing self, a defective self, a weak self, an inferior self; a self that one does not want to be; a self is unable to secure important social goals and relationships (Gilbert, 2002a, 2006b, 2007c; Lindsay-Hartz et al., 1995). Therefore, shame seems to entail a major threat to self-identity and one's social self.

Although it has been suggested that shame experiences might be encoded in emotional memory as threat memories and be related to self-identity, being internalized into negative working models of self and ascribing meaning to external and internal experiences, attributes and behaviour (Gilbert, 2003, 2007c; Kaufman, 1989; Mikulincer & Shaver, 2004; Tomkins, 1987), these assumptions have never been directly explored. For this reason, a key research question pertains to whether one's shame experiences can operate as threat trauma-like emotional memories, and become central to self-identify, functioning as turning points in one's life narrative and influencing subsequent emotional and cognitive processing.

Implicit and explicit processing

Another relevant aspect of shame according to Gilbert's integrative approach is that shame responses can be shame triggered outside conscious awareness (Gilbert, 2002a, 2007a). Even though the above mentioned complex cognitive abilities are recruited in the experience of shame, they can lay down powerful implicit regulating processing that can operate outside consciousness (Baldwin, 2005; Gilbert, 2007a, 2007c; Haidt, 2001). So, albeit evaluations underpin emotions, they can be made rapidly, automatically and outside conscious control (e.g., via fast routes to the thalamus and amygdala; LeDoux, 1998), and this applies to self-relevant cognitions and evaluations (Keltner & Lerner, 2010; Koole, Dijksterhuis, & van Knippenberg, 2001; Lerner & Keltner, 2001).

In a series of studies, Baldwin and colleagues have demonstrated that both conscious and non-conscious information processing can follow 'if-then' rules (e.g., if others express disapproval then respond with shame, submissive and withdrawal defenses); that people can feel threatened and respond before being able to consciously articulate what they feel threatened about; that self-evaluation is non-consciously linked to approval or disapproval of others; and that accessibility and quality of others schema (e.g., as warm and supportive or hostile and critical) influences how people cope with failures and respond to interpersonal threats (Baldwin & Holmes, 1987; see Baldwin & Dandeneau, 2005; Baldwin & Fergusson, for reviews). The point is that self-conscious shame affects can be activated before people becoming conscious of their relevant meaning. Once activated, shame, akin to other affects, influences subsequent processing and appraisal tendencies (Lerner & Keltner, 2001), and basic defense and safeness processing systems with specific psychobiological response patterns can organise response dispositions below the level of consciousness (Gilbert, 2002a).

2.2.8. Strategies for social engagement: Competing to be attractive

On the whole, so far we have explored the nature of threat and safeness systems in humans and how social relationships are vital to our survival, foster of feelings of safeness and regulate threat, enable the attainment of important biosocial goals and regulate our psychobiological patterns. We have discussed how our evolved minds came to be highly sensitive to the relationships in which they are embedded, how we developed a range of abilities to understand others minds and be influenced by them, and how we need other minds to mature, develop and regulate our own, and shape our self-identities. It is against this backdrop of evolved motivations to be valued, esteemed and accepted by others and to create positive affect in the mind of the others, that shame is contextualized as a rooted in human competition for social attractiveness.

A central premise in this evolutionary biopsychosocial approach is that the adaptive advantages of various positive relationships implied that the use of aggression and threats to dominate others, to suppress threat from them, inhibit and stimulate fear in them to get what one wants, was tempered by human needs to compete for social place by stimulating positive feelings in the others about the self, that is to be attractive to them (Gilbert, 1997, 2002a, 2003; Gilbert & McGuire, 1998). If we can do that, then others will engage and co-create sharing, supportive relationships with us and benefit survival and reproduction-related resources, and humans are highly motivated to compete for them. The competitive dynamic here is rooted in the fact that people can choose whom they associate with, that is, one's peers or potential sexual partners are free to make choices with whom they form cooperative or sexual relationships with. In such context, the most advantageous strategy is to display qualities of self that are attractive and useful to others, so one is chosen by them for social roles (Gilbert, 1997; Gilbert & McGuire, 1998).

In fact, for millions of years, the power of attraction has shaped the evolution of minds and brains for many species. Humans, in particular, have for long competed to be seen as attractive to others to secure access to social resources (e.g., support, allies, sexual partners) that enhanced their fitness. Those regarded as unattractive would have been ignored, rejected, ostracized or excluded and would have lost in the competition for such resources. As a result, Gilbert (1997, 2002a) suggested that various mental mechanisms may have evolved to be sensitive to such threats and response with various defensive behaviours. So, humans compete for approval and acceptance and to elicit investment of others, and are motivated to compete for high social rank (e.g., be dominant over others) but also to avoid unwanted low rank positions and risk rejection, exclusion, and ultimately, shame (Barkow, 1989; Gilbert, 1997, 2000b, 2002a, 2003).

So there are two main social systems for social engagement: aggression and attractiveness. Although aggression may be a useful strategy in certain contexts if one can limit the choices of others and enforce compliance out of fear, it is far uncommon in human relationships because it carries risks and increases the chances of conflict and injury, and also withdrawal and deflection by others. So, human competition for social place, to be liked, approved and valued by others, is far more about being an attractive social agent, by displaying qualities that attract others, generate positive emotions in their mind about the self and stimulate their approach behaviours towards the self (Gilbert, 1997, 2002a, 2003, 2007a; Gilbert & McGuire, 1998).

Social attractiveness and shame

Hence, in humans, social relationships are secured, and social rank and status are usually gained and maintained via displays of social attractiveness (Gilbert, 1989, 1997). In order to obtain a place in a network of cooperative relationships one needs to generate positive emotions and create desirable images and self-presentations in minds of the others (e.g., stimulate desire in a potential lover, liking in a friend, be seen as valued in a group), so they will approve, value and esteem us, and choose us to create advantageous social roles with them, that is, to be their friends, allies, sexual partners, employees (Gilbert, 1997, 2003). Attractiveness enhancement strategies, evident in our choice of clothes, make up, body shapes, hard working, and related to impression management (Leary, 1995), provide a focus for self-identity and are used as markers of belonging to certain groups (Baumeister & Leary, 1995; Gilbert, 2003).

According to Gilbert (1989, 1992, 1997, 2003), humans have therefore evolved mechanisms and evaluative competencies to monitor their attractiveness (i.e., investment worthiness) to others, and these correspond to what he referred to as *social attention holding power* (SAHP). SAHP is related to the ability to capture and elicit positive attention to the self and social rewards (e.g., approval, praise, acceptance, respect, admiration; Gilbert, 1997), and is thought to have evolved from an earlier ability by which animals evaluated their relative fighting ability before engaging in contest for resources and for social rank (i.e., 'resource holding power'; Gilbert et al., 1995; Price, Sloman, Gardner, Gilbert, & Rohde, 1994).

SAHP can be external, related to monitoring how much attention and interest one can elicit in others for the self and is linked to what others see as attractive and how the self exists for others. Positive SAHP means that one is able to attract positive attention and interest from others and stimulate positive feelings, whereas negative SAHP indicates that one attracts negative attention and stimulates feelings in others such as contempt, anger or fear and is at risk of criticism and rejection. SAHP can be internal, related one's own judgments of relative attractiveness and is linked to inwardly focused attention and to feelings and judgments of oneself (i.e., how attractive, talented, able one sees oneself to be), which similarly to external SAHP can be positive and negative. Also SAHP can be role focused and can be high

and positive in one role and low and negative in another, for example 'my girlfriend loves me and finds me desirable but by friends see me as different and uninteresting'. The more one wishes to compete in a certain domain (e.g., seek professional recognition) the more vulnerable to shame in that domain one might be (Gilbert, 1997, 2003). The concept of SAHP is related to that of 'sociometer' that was proposed by Leary et al. (1995) to describe an inner sense of one's social connectedness, the mechanism by which individuals evaluate their relative social position, and according to these authors underpins self-esteem. Other authors further suggested that we tend to value qualities about ourselves if you think they are qualities that others will value on us (Santor & Walker, 1999).

The central point is that such mechanisms to monitor one's social attractiveness seem to be built from the abovementioned cognitive competencies and serve the enactment of strategies for social engagement via attraction, with efforts to impress others so that one will be chosen and desired for roles by them. In other words, humans monitor how they are stimulating liking in their friends, desire in sexual partners, and admiration of their talents or skills in their bosses (Gilbert, 1997, 2002a, 2003, 2007a).

In light of this perspective, and drawing on what has been outlined above, **shame** relates to a diminishment of social desirability and attractiveness (SAHP). Shame acts as a warning signal that one is being seen as an unattractive and undesired social agent by others; that one is not activating enough positive affect in the mind of the others to be chosen, or that one is activating negative affect in the mind of the others (e.g., dislike, anger, contempt, anxiety, disgust). As a consequence one might be ignored, demeaned, rejected, or even attacked and persecuted by others rather than being chosen to form helpful relationships (Gilbert, 1998c, 2002a, 2003). The key aspect of shame in this view is that it alerts the self and others to actual or possible detrimental changes in one's social status (i.e., losses of SHAP), with possible consequences of attack, rejection or disengagement from others, damaging one's social opportunities to develop advantageous relationships. These are the threats shame evolved to cope with. The central function of shame as an involuntary affective-defensive response to such threats to the social self, is to prime submissive and withdrawal strategies, with desires to escape, hide and conceal, aimed at signaling to other that one is submitting, not fighting back and recognizes one's SAHP as decreased (Gilbert, 1997, 2002a; Gilbert & McGuire, 1998).

Social comparison

In order to work out one's attractiveness to others (i.e., to estimate one's SAHP), one has to monitor and keep track of not only how others react to the self and what are one's current alliances and support network, but also the qualities that a group finds attractive and gives high SAHP ratings to (e.g., forms of beauty, intelligence). The process through which individuals do this is social comparison (Gilbert et al., 1995). Social comparison is closely linked to shame, in that our inner sense of self can be strongly influenced by how we compare ourselves with others (Gilbert, 2007c). In fact, shame is associated with making unfavourable social comparisons with others and feeling that, compared to others, one lacks qualities in some way (e.g., is inferior, different, untalented) and is an outsider, different from others, and thus less likely to be chosen by them for or be able to sustain desired social roles (Gilbert, 2000a, 2007a; Gilbert et al., 1995). Parental favouritism, sibling rivalries and the competitive dynamics of school and peers groups can make people acutely aware of social comparison and increase vulnerability to shame (Gilbert, 2005b, Gilbert & Gerlsma, 2000).

Therefore, in the social dynamics of life, humans are constantly negotiating their social place and where they stand in relation to others, as friends, lovers or competitors. Securing social relationships and status via being loved, valued and accepted by others, is critical to on one's sense of safeness in the world and

ability to regulate threat, and hugely impacts on one's physical and mental well-being. In this scheme of things, shame is rooted in our evolved strategies to be attractive and engage others in beneficial social relationships; in the competition for social attractiveness, via creating positive images of ourselves in the mind of the others and thus advance our chances for inclusion, belonging and being wanted and chosen. Shame is the affective-defensive response to failure or rejection in such competition, that is, to threats to our social attractiveness, making the world a dangerous place and undermining a variety of reproductive strategies (Gilbert, 1997, 2002a, 2003, 2007a; Gilbert & McGuire, 1998).

2.2.9. Shame as the response to the social threat of being unattractive

In view of the biopsychosocial model (Gilbert, 1998c, 2002a, 2003, 2007a), shame is therefore an involuntary defensive response to the awareness that one's social attractiveness is under threat or has been lost, alerting individuals to disruptions in their social rank and social relationships. It is about a sense of self as unattractive and undesired in the social world, a self one does not wish to be, a self under pressure to limit possible damage to the sense of self and social reputation via escape or appeasement. Shame is then thought to have evolved as a damage limitation strategy, a strategy to keep the self safe from rejection, exclusion, attacks or disengagement from others, ensuring human's (social) survival and welfare.

According to this model, shame entails two types of evaluation and feelings: one focused on the 'experience of the self as seen and judged by others' and the other focused on the 'experience of the self as seen and judged by the self' (Gilbert, 1998c). Although other theories of shame have tended to follow a similar view (e.g., Mills, 2005; Scheff, 1988), Gilbert (1998c, 2002a, 2003, 2006a, 2007a) specifically proposes the existence of two types of shame with different attention, monitoring and processing systems: external shame and internal shame.

2.2.9.1. External shame

External shame relates to the (a class of) feelings arising from the experience of oneself as existing negatively in the minds of others, as having deficits, failures or flaws exposed to others (Gilbert, 1998c, 2002a, 2003; M. Lewis, 1992). That is to say, one believes that others see the self as unattractive, inferior, inadequate, disgusting, worthless or bad; that others are looking down on the self with a contemptuous or condemning view and might (or already have) disengage, reject, exclude or even attack the self. The focus is on the experience of the self as an object in the mind of the others, on losing attractiveness in their eyes, and the feelings one has generated in them (e.g., contempt, ridicule, disgust, disdain, or disinterest). One's attention and cognitive processing are attuned outwardly, directed to what is going on in the mind of the other about the self (e.g., what would impress them, what must be concealed from them to avoid criticism and rejection), and one's emotional reaction to such perceptions (e.g., fear, anger) influences the full shame response. Furthermore, people often engage in defensive maneuvers, and in external shame the behaviour is orientated towards trying to positively influence one's image in the mind of others (e.g., by submitting, appeasing or displaying desirable qualities). So, the aforementioned cognitive abilities, such as theory of mind or self-other symbolic representation, as well as mentalizing and mind reading are key in external shame (Gilbert, 1998c, 2002a, 2003, 2007a).

Also, the concept of external shame is linked to that of SAHP outlined above. Specifically, it associates with the notion of external and negative SAHP, when one believes to be held in disrespect and seen as

inadequate, incompetent or bad. A similar but different concept to that of external shame is 'stigma consciousness' (Pinel, 1999). This is related to experiences of being seen as having stigmatized traits and/or acting in a way that locates one as belonging to a stigmatized group (e.g., the ill, the mad). Gilbert (2006a) considered stigma consciousness a form of external shame, since one believes to be devalued in the minds of the others simply because of having characteristics that link one to a stigmatized group. In addition, the maintaining factors for external shame are linked to the social structure of values (Gilbert, 2003, 2007a). For example, getting pregnant outside of marriage is no longer experienced as a serious shame event in the way it was 100 years ago.

Shame, evolved social roles and cultural values

Given that social roles are central to the dynamics of shame, Gilbert and McGuire (1998) noted that shame and shaming can be associated with specific social roles. In particular, shame is considered to be typically focused on four major evolutionary roles: sexual behaviours (e.g., sexual deviance, unattractiveness), prosocial behaviour (e.g., failures to meet obligations), conformity (e.g., breaking social rules, traditions or fashions) and resource competition (failure to compete successfully for resources or being seen as lacking abilities to do so; Greenwald & Harker, 1998). The focus on these domains varies across cultures and, although the kind of roles people can engage in (e.g., sexual, prosocial) are related to evolved motives and competencies, the enactment of such social roles is socially constructed. In this sense, external shame is influenced not only by evolved social roles but is also shaped by cultural values, which define how reputations are made or lost, what is deemed to be valued and attractive or unattractive and worthy of shame and stigma, depending on what is considered as threat to the social order. Shame and stigma may then act as key processes of social regulation and control (Gilbert, 2003, 2007a; Gilbert & McGuire, 1998). Importantly, Gilbert (2003) notes that it is:

“because social groups and relationships can vary in their ecologies and the enactments of social roles, defining *what* is worthy of prestige, what is acceptable, and what is shaming in a role, that the higher level competencies are salient to the experience of shame. We learn our awareness of what might bring ‘the failures’ in the eyes of the others and steps to avoid it. This may make us socially cohesive, but we can also feel trapped in our behaviour and in the eyes of others, constantly under their scrutiny” (pp.1218-1219).

So this model argues that shame affects are typically elicited in social contexts, and begin with an experience of an actual or imagined negative self in the mind of ‘the other’. Such exposure to (actual or imagined) rejection or threatening social information typically triggers a set of primary emotions and defenses aimed at restoring one’s damaged social attractiveness, repairing social bonds and protecting self-identity.

2.2.9.2. Internal shame

When shame affects are constellated around self-(de)evaluation and feeling textures of being personally inferior, inadequate, undesirable, weak, disgusting or globally bad to oneself, this is labelled *internal shame* (Gilbert, 1998c, 2002a, 2003). Internal shame is linked to the internal dynamics of the self and to how one judges and feels oneself (Gilbert, 2003). In this type of shame, attention and cognitive processing are directed inwardly to the one’s emotions, personal attributes and behaviour, and focused on the self’s flaws and shortcomings. It relates to the way we attend to and judge various aspects of the self (e.g., attributes, traits, abilities, body, feelings, fantasies, thoughts) and then try to control, subdue, avoid,

conceal, compensate for, or even get rid of those aspects. Whilst in external shame, one tries to avoid the exposure of such aspects of oneself to the minds of others (e.g., “I don’t want you to see me this way”), internal shame is about one’s own feelings (e.g., “I don’t want to be like this”). That is, one is ashamed and rendered unattractive by one’s own attributes, thoughts, feelings and behaviours (Gilbert, 2007c).

Internal shame is about the *closeness* to an *undesired and unattractive self*, an unwanted self, rather than the distance from a ‘desired self’ (Lindsay-Hartz, 1984; Lindsay-Hartz et al., 1995). According to Gilbert, internal shame can be seen as an internalizing defensive response to external shame, where one may begin to identify with the mind of the other and engage in negative self-evaluations and feelings, seeing the self in the same way others have (as flawed, inferior, undesired and globally self-condemning), for purposes of restoring one’s image and protect the self against rejection or attacks from others (Gilbert, 1998c, 2003; Gilbert & Irons, 2009). The maintaining factors for internal shame are often beliefs about the inadequacy of the self and a tendency to respond to disappointment and setbacks with self-criticism (Gilbert, 2002a, 2007a).

Internal shame and self-criticism

Internal shame can be related to a process of internal shaming, linked to the painful internal experience of *self-criticism* and self-persecution (Gilbert, 1998c, 2003, 2007a). As such, shame involves negative automatic thoughts about the self, which can take the form of self-critical and self-attacking thoughts (e.g., I am worthless, bad, useless, ugly, a failure) and represent self-devaluations and internally shaming thoughts (Gilbert, 2002a, 2003). The dynamic between internal shame and self-criticism is complex and involves both the type and intensity of negative emotions directed at the self (e.g., one can become frustrated, angry or disgusted with oneself), as well as one’s (in)ability of activate self-soothing systems when facing failures and setbacks (Gilbert & Irons, 2005; Whelton & Greenberg, 2005). In fact, research has shown that self-criticism is highly associated with shame (Gilbert, Clarke, Hempel, Miles, & Irons, 2004; Gilbert, Baldwin, Irons, Baccus, & Clark, 2006). These studies further suggest that internal shame is linked to the power of hostile emotions (e.g., contempt, anger) directed at the self and to the inability to access self-soothing via positive images of, and feelings for, the self.

External and internal shame interaction

Although external and internal shame are here regarded as different types of emotional experience, with different attention, monitoring and processing systems, there is an intimate relationship between internal and external shame because both of them are important for social functioning. The self-other dynamic in the experience of shame indicates a constant flow between self-evaluations and evaluations of self by others in our experience of self (Gilbert, 2002a). In fact, shame experiences often involve both externally and internally focused shame, fuelling each other. The same is to say that, the pain that derives from recognizing that one’s social attractiveness has declined is likely to encompass harsh self-devaluation and self-blame. At the same time, it is unlikely that the hurting affect of private depreciation arises in the absence of an awareness that others share the same negative view of the Self. Nevertheless, the dimension that is experienced as most salient can vary in shame events, and some individuals may be more prone to experience one more than the other (Gilbert, 2002a, 2003, 2007a; Kim et al., 2011).

2.2.9.3. Internalizing shame and shame emotional memories

Learning that one has not or cannot generate positive affects in the minds of the others about oneself is crucial to shame vulnerabilities. As noted by Gilbert (2007c), we learn to be ashamed but are not born ashamed. It has been proposed that proneness to internal shame arises from early social interactions within the family environment or in wider social groups (Gilbert, 1998c, 2002a, 2007a) and it would seem that one is most vulnerable to internalizing shame when one's social needs for love, affiliation, belonging and status are thwarted.

Several possible routes to developing shame have been identified in empirical and theoretical literature (see Mills, 2005 for a review). These include adverse rearing interactions, in the form of parental criticism, put-down, rejection, high parental expectations, parental sibling favouritism (Gilbert et al., 1996; Gilbert & Gerlsma, 1999; Mills, 2005; Tangney & Dearing, 2002; Wyatt & Gilbert, 1998); high expressed emotion within the family (Wearden, Tarriner, Barrowclough, Zastowny & Rahil, 2000); neglect (Claesson & Sohlberg, 2002) and emotional maltreatment (Gibb et al., 2004, Gibb, Chelminski, & Zimmerman, 2007); feeling threatened and submissive in the family (Gilbert, Cheung, Grandfield, Campey, & Irons, 2003); and verbal, physical and sexual abuse (Andrews, 2002; Andrews & Hunter, 1997; Gibb et al., 2007; Feiring et al., 2002; Stuewig & McCloskey, 2005; Teicher et al., 2006). Also, in the wider social world, peer rejection, exclusion, bullying, teasing or discrimination, can be relevant shame experiences (Gibb et al., 2004; Gilbert & Irons, 2009; Hawker & Boulton, 2000; Pinel, 1999). All of these experiences may lead to the development of a sense of self as undesirable and unattractive in the mind of the others and globally self-condemning, and translate into internalized shame.

In line with this, Gilbert (2003, 2007c) suggested that shame experiences (where one felt unable to create positive affect and desirable images in the mind of the other) may be recorded as conditioned emotional memories of threat. In such early experiences, the negative emotions stimulated in the other (e.g., having elicited withdrawal or anger in others) and how others acted towards the self (e.g., being treated as undesirable or bad), ignite negative emotions in the self (e.g., shame), and influence self-evaluations and beliefs (e.g., I am undesirable or bad), and may become associated with the display behaviour. Thus, these conditioned emotional memories represent 'scenes in our minds', an interlinked set of body-based feelings and events, that blends together one's experience of the self in the mind of the others and their behaviours towards the self, one's self-experience and feelings in the moment, the displayed behaviour and situational cues, and can thus form a shame 'script' (Gilbert, 2003, 2010). When an interpersonal interaction is processed as a threat, these conditioned emotional memories, or shame scripts, can be triggered, activating not only shame but all the other emotional cues and feelings (e.g., aloneness, entrapment, disconnection) present in the original event. These are hence associated with the 'self as it was experienced as existing in the mind of the others' and with one's own self-evaluations and feelings.

So, these memories can have 'whole body affects' and lay down the affect regulation patterns for the 'sense of self' (Schore, 1998). Shame experiences are thus thought to be laid down in memory as scenes and fragments of self in relationships and can then become 'mini coordinators' of attention, thinking, feeling and behaviour (Tomkins, 1987). Shame memories are believed to operate like mini-scenes or emotional hot-spots in the mind (Kaufman, 1989). Furthermore, Gilbert (2003, 2007c) suggested that these emotional memories may function as heightened memories of threat, working at implicit levels and being linked to a basic orientation to the world, where one's threat systems and protective psychobiological response patterns are easily activated (Perry et al., 1995) and one can suffer from intrusive aversive memories (Brewin, 2006). Such threat memories may recruit specific memory systems for processing traumatic events, such as the amygdala, operating through body-wide physiological

systems, and being related to conditioning and to 'body memory' recreations when reactivated (Brewin, 2003; Gilbert, 2007c, 2010; Odgen, Minton, & Pain, 2006; Rothschild, 2000).

In addition, there is considerable evidence from attachment literature that early relationships with parental figures, siblings and friends can result in the formation of internal working models of self and others, and of relational schema (Baldwin, 1997; Baldwin, & Holmes, 1987; Bowlby, 1969, 1973, 1980; Gilbert, 1992, 2004; Guidano & Liotti, 1983; Mikulincer & Shaver, 2004, 2005). Internal working models or relational schema are sets and patterns of basic ideas, beliefs, memories and expectations about the self and about others. These internal working models and relational schema direct attention, cognitive, emotional and self-other processing, and can provide resilience if they are reasonably positive about the self and others (Masten, 2001). However, if one has adverse experiences with others, such as shame ones, then one can develop negative internal working models of self (e.g., as being unlovable, undesired, inferior, inadequate, criticized by others) and others (e.g., as critical, threatening, hostile or neglectful), that can be reactivated in times of stress and translate into emotional and psychological problems (Baldwin & Dandeneau, 2005; Mikulincer & Shaver, 2005). So, the degree to which people are able to rapidly access warm and supportive, or critical, rejecting and condemning, other-to-self and self-to-self scripts, memories, images, feelings and thoughts has a central bearing on emotional and social responses to negative, self-defining events and abilities to cope with set-backs and failures. (Baldwin & Dandeneau, 2005; Gilbert, 2007a, 2007c, 2009a; Mikulincer & Shaver, 2005). In line with what was noted above, these internal representations are thought to be powerful regulators of the ease of activation of the threat system and one's ability to activate the safety-soothing system in face of life adversities.

The preceding discussion suggests that shame can thus be internalized, derived from intense and enduring levels of shame experienced in early social interactions and throughout life (Claesson & Sohlberg, 2002; Kaufman, 1989; M. Lewis, 1992). Experiences of shame (related to the experience of creating negative affect in the mind of the other), which operate within an interactional experience in the family environment or in wider social contexts, can become the basis for negative self-evaluation and self-experience. Particularly, internalized shame may be linked to conditioned emotional memories and complex memory systems, such as scenes of previous episodes of being shamed, and one's imaginary audiences created through experiences with others (Baldwin, 1997; Kaufman, 1989; M. Lewis, 1992; Nathanson, 1994; Tomkins, 1987). So, throughout life what is key to shame and self-to-self relating is the way in which others are, and were, experienced as relating to the self.

Nonetheless, despite these assumptions on the nature of shame as an emotional memory, which could be encoded in autobiographical memory and function as a conditioned traumatic memory, with a potentially significant impact on one's self-identity and sense of self, and detrimental effects on one's proneness to external and internal shame and vulnerability to psychopathology, there is a dearth of research in this area and such conjectures are yet to be investigated.

2.2.10. Humiliation

According to this model, another possible defense to social threats is to express aggression, especially in environments where submissiveness is likely to generate even more threats and difficulties. In such cases, one responds to shame with a humiliation response (Gilbert, 2002a, 2003, 2007a). The humiliation response is focused on the other as bad with a sense of injustice and unfairness and strong desires of revenge, and arises with anger as an automatic defense to a put-down, rejection or slur (Frijda, 1994; Gilbert, 1998). Although there are many overlapping features between shame and humiliation (e.g., both

are attacks on relative social status and/or attractiveness, both focus on harm done to the self), they are regarded as different affective responses (Gilbert, 1998c, 2002a). While in humiliation people feel overwhelmed and severely defeated and believe they do not deserve the harsh treatment given to them, in shame there is usually a sense of damaged self and of blame-worthiness. Also, humiliation involves external attributions (e.g., It is the other who is bad for rejecting or attacking the self) and encompasses more aggressive defenses (e.g., counter-attacking), whereas shame entails internal attributions (e.g., feeling one is to blame for the rejection or attack), and typically encompasses flight and submission defensive reactions and damage limitation strategies (Gilbert, 1998c, 2002a).

Some authors suggest that rage, related to humiliated fury, is a defense against acknowledging shame, that is, acknowledging that one is in the wrong or is unattractive to others, and this has been called by-passed shame (Mills, 2005; Retzinger, 1991). Gilbert (1998c) proposes that another reason for an externalized other-blaming, humiliated response is when there are no grounds for assuming responsibility and it is indeed the aggressive actions of the other that is the only source for an enraged response, as in the case of abusive experiences (e.g., rape and torture).

The above two sections have outlined how external shame, linked to beliefs one exists in the mind of the others as an unattractive social agent is central in light of the evolutionary biopsychosocial of shame. Such externally focused evaluations of one's social attractiveness were distinguished from the devaluing and demeaning self-directed thoughts and feelings of internal shame. It was further noted that, instead of internal shame, one might feel humiliation in response to threats to one's social attractiveness, and not identify with the negative images of oneself in the mind of the others. The following sections explore a few other concepts relevant for the present shame approach, namely, how shame involves the triggering of a defensive processing system, the types of threats shame may entail and how shame can be derived from whom one associates with.

2.2.11. Shame and threat system processing: Attention and defensive behaviours

Threats to the social self, arising from perceived loss of one's social attractiveness in 'minds of the others' and/or from self-evaluations, trigger shame as an affective-defensive response and activate specific patterns of threat-related psychobiological systems (Dickerson & Kemeny, 2004; Dickerson et al., 2009; Gilbert, 1997, 2002a, 2007a, 2007c). Such threats to one's social attractiveness and loss of positive social rewards recruit and operate through fast-track limbic centred processes and responses that automatically trigger a set of innate defensive responses (e.g., emotions and behaviours), which can be experienced and expressed below the level of consciousness and are designed to be engaged rapidly, using 'better safe than sorry' rules (Baldwin & Fergusson, 2001; Gilbert, 1998b, 2001b, 2006a; LeDoux, 1998; Panksepp, 1998; McNally, 2001; Tracy & Matsumoto, 2008). So, when triggered shame recruits and blends with various primary defensive emotions (e.g., anger, anxiety, disgust), which once activated guide subsequent processing (Lerner & Keltner, 2001). Furthermore, once primed, the threat-protection system influences attention, controls arousal and selects a response from a menu of evolved responses to threats (e.g., flight/escape, submitting, hiding, camouflage, cut off, defensive fight, help-seeking, demobilization) (Gilbert, 1989, 1998b, 2002a, 2007c).

As noted above, Gilbert (1997) argues that shame acts to alert the individual to actual or potential detrimental changes in their social attractiveness (i.e., losses in their SAHP) and activates a host of defensive behaviours, such as disengagement or submission strategies, for purposes of inducing the attacker to de-escalate conflict and not harm the self. In particular, shame comprises a set of action

tendencies, nonverbal communicative displays (e.g., gaze, facial expression, posture, physical sensations) and behaviours, that represent blends of earlier types of defense and are generally associated with submission and withdrawal (e.g., bowed head, slumped posture, eye gaze avoidance, strong desired not to be seen, to hide, to avoid exposure and/or run away; Gilbert, 1998c, 2002a, 2007a; Keltner, 1995; Keltner & Buswell, 1996; Keltner & Harker, 1998; Tracy & Matsumoto, 2008). In the context of this model, and as proposed by other theorists (Dickerson et al., 2009; Keltner, 1995; Keltner & Buswell, 1996; Keltner & Harker, 1998; MacLean, 1990), such shame displays are similar to those that denote submission in non human primates, and are regarded as submissive and appeasement displays designed to de-escalate and/or escape social conflict (i.e., by communicating that the animal will not fight for resources or provoke/exacerbate conflict; Gilbert, 1989, 1997, 1998c; Gilbert & McGuire, 1998). Hence, the experience of shame is seen here as an involuntary submissive response in the face of social threat, operating as a damage limitation strategy to keep the self safe from attacks and rejection and maintain social cohesion (Gilbert, 2000c; Gilbert & McGuire, 1998; MacLean, 1990).

2.2.12. Shame threats

This approach contends that shame can be triggered by different interpersonal threats (Gilbert, 2003, 2007a, 2010), which correspond to two main types of social threat related to exclusion and intrusion (Dugnan, Trower, & Gilbert, 2002). In *threats of exclusion*, shame is focused on displays that fail to impress or attract interest of others and/or on deficits of the self, especially in comparison to others, and ignites self-criticism and self-blame. Threats of exclusion involve experiences such as being actively rejected or passively ignored and are linked to feeling one is rarely noticed or wanted and others are too distant (Gilbert, 2007a, 2010). In *threats of intrusion*, shame is related to intrusions of others into one's private world, one can feel powerless to stop or defend against them, and is rendered small, powerless and frightened. This is the case of certain shame experiences, such as verbal, physical or sexual abuse. In these situations others can get too close and hurt the self. Fears of intrusion may also involve situations where one does not want to be seen and fears the exposure of one's negative attributes. There may be a fear that others can intrude into one's private world and discover one's flaws. This type of fear is thought to be related to concealment and to a more paranoid focus in shame, particularly if one attributes malevolence to the intentions of others (Gilbert, 2007a, 2010; M. Lewis, 1992). These two types of shame 'fears' texture the experience of shame and are not mutually exclusive.

Reflected shame

Another form of shame, in accordance with the present theoretical view, relates not directly to self-actions but to the behaviours or attributes of one's associates. Gilbert and colleagues (Gilbert, Gilbert, & Sanghera, 2004) labelled this reflected shame as the shame others can bring/reflect on you by your association with them and the shame you may bring/reflect to others (e.g., my family's or group's behaviour or attributes can shame me and my behaviour or attributes can shame them; Gilbert, 2007a). It is especially in cultures where shame and honour systems are closely tied to the behaviours of one's associates that issues of reflected shame become relevant. In addition, the degree in which families and social groups ascribe control of one person over another is crucial to the emergence of reflected shame (Gilbert, 2002a).

2.2.13. The biopsychosocial model of shame: Overview

The complex dynamics of shame in light of the evolutionary biopsychosocial approach outlined throughout the present chapter can be depicted in a simple model, given in Figure 2.

This evolutionary and integrative biopsychosocial approach to shame (Gilbert, 2002a, 2006a, 2007a, 2010) posits that the potential to feel shame evolved because humans are a self-aware and self-identity forming species. In order to feel safe, fit in and belong, compete for social place and engage others to form advantageous social roles, humans seek social validation. Shame arises when such efforts do not succeed and we cannot feel safe in the minds of the others.

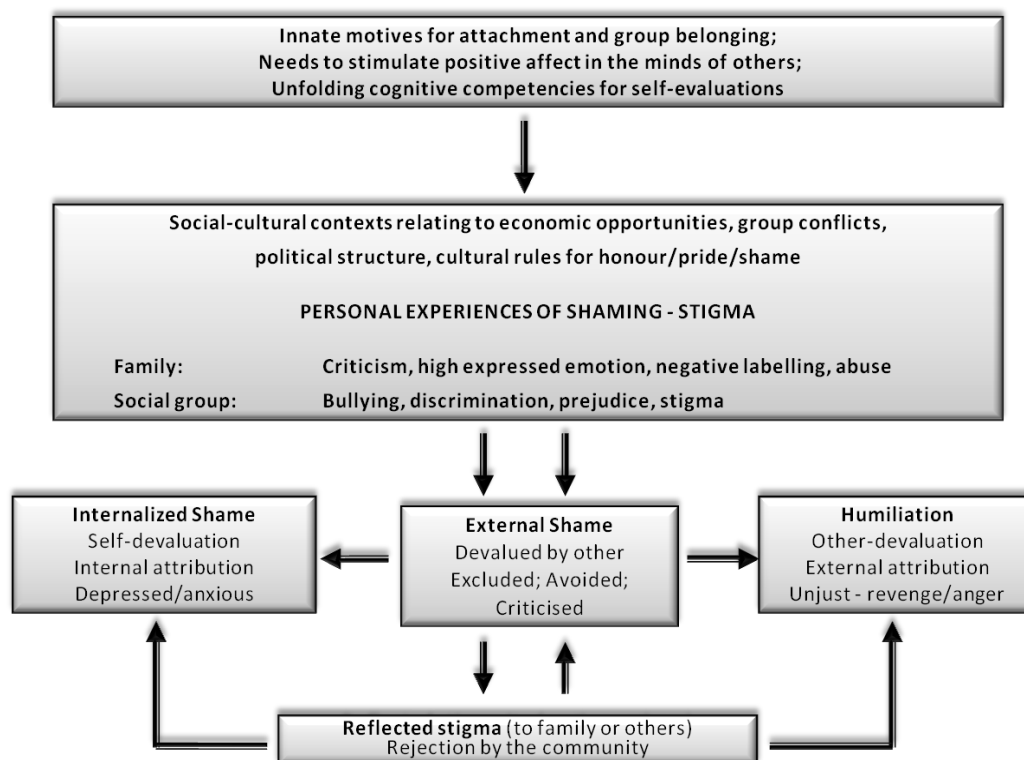


Figure 2. Evolutionary biopsychosocial model for shame

Note. Adapted from Gilbert (2002a, p.34; 2006a, p.99). Copyright 2002 by Routledge

In light of this model, our propensity to shame arises from us being social animals. From the first days of life we need others to care for us, for not only will that determine our chances of survival but also such inputs (along with genes) will essentially shape the kind of brain we will mature and the self we will become. Humans thus have innate **needs for attachment and group belonging**; that is, to exist positively in the minds of the others. Crucial to such needs is the **generation of positive feelings in others about the self**. Consequently, we are born with unfolding motives and competencies to mature into complex social beings, in particular, humans have **complex cognitive abilities** to evaluate how they exist in the mind of the others and also to self-evaluate. Such motives and competencies evolved to enable us to co-create and navigate our self-identities to fit local, social ecologies. Thwarting of these needs can lead to a sense

of self as undesirable and unattractive. It is this experience of social undesirability and unattractiveness that is at the root of shame (Gilbert, 2002a, 2006a, 2007a, 2010).

At the next level in this model are the social and cultural processes that impinge on **personal experiences**. The *social contexts* for shame arise from local, historical, cultural and ecological conditions that influence personal interactions and provide the backdrop on which people seek to mature and satisfy their social needs and shape their identities. Groups emerging in different ecologies vary in what is deemed acceptable and valued or what is rendered shameful and unattractive. So the *cultural dynamics* of groups determine what should be stigmatized, chosen or rejected on the basis of ethnicity, gender, social position, physical attributes (e.g., deformities), desires (e.g. homosexuality) and talents (e.g., or lack of talents). The societal values are transited through specific groups that elevate some individuals and stigmatize others (e.g., body weight and shape in young women). So, individuals can fear being shamed or stigmatized, not necessarily because of personal characteristics, but because of being classed as belonging to a stigmatized 'group – 'being one of them'. Such social and cultural variations and complexities form the background in which relationships between individuals emerge and impinge on one's acceptance and approval or rejection and condemnation, thus influencing the dynamics of shame, honour and pride (Gilbert, 2002a, 2006a, 2007a, 2010).

So, cultural values and interpersonal styles are located within the family or in wider social groups. At a more intimate level, within **family contexts**, children will be subject to parental rearing practices that can be loving, caring and soothing or critical, hostile, abusive, and neglectful. These early experiences may lay down affect-based *memories* of others as caring and helpful or threatening and unsupportive (Kaufman, 1989), and interpersonal schema that may come to regulate self-organising systems (Baldwin, 2005). Key to this might be shame-filled memories that texture the experience of self as having done something wrong or as being worthless, unlovable or bad (Gilbert, 2002a, 2006a, 2007a, 2010). However, these assumptions regarding shame memories have been scarcely investigated and are central to the present research project.

In the **wider social domain** of peers, individuals may experience their reference groups as accepting and supportive or rejecting and bullying. Peer bullying can be a common experience for shame, particularly when bullying involves exclusion and ridicule, representing attacks on one's attractiveness and social standing (Hawker & Boulton, 2000). These experiences, arising in specific interactions, indicate whether the individual is regarded as attractive, accepted, belonging or esteemed, in contrast to being unattractive, undesired and vulnerable to social harm (Gilbert, 2002a, 2006a, 2007a, 2010). It is the latter that opens the potential for shame experiences, whose phenomenology features and memory properties are the focus of the current thesis.

At the centre of this model is, therefore, **external shame**, where we experience ourselves through the minds of the others. Thus, several cultural, social, peer, and parental experiences can funnel down onto individuals and influence how they perceive themselves as 'existing in the minds of others'. So, individuals can come to believe that are not able to create positive acceptable images in the mind of the others, that they exist negatively in their minds (e.g., as undesirable or bad), and form expectancies that others will be harsh and rejecting if they fail in some way, or express certain feelings, desires or characteristics. When that happens, external shame arises and the world is seen as unsafe (e.g., others may reject, exclude or harm the self) and individuals will engage in defensive maneuvers to protect the self against such threats to their social self and self-identity (Gilbert, 2002a, 2006a, 2007a, 2010).

A possible defense is **internalized shame** (which can be triggered non-consciously), where one identifies with the mind of the other, such that the person self-devalues. This defense is associated with submissiveness, high levels of self-monitoring, self-attribution styles and efforts to try to regulate expressions and minimise harm from others (Gilbert & Irons, 2005; Gilbert & Miles 2000b; Keltner & Harker, 1998). In these cases, individuals tend to focus on their relative inferiority and relative (lack of) power to resist others, whereby blaming self can be safer than blaming powerful others (e.g., one's Gods or parents) who can retaliate (Gilbert, 2005b). However, shamed individuals who adopt submissive defenses may also feel anger, which can be ruminative and destructive (Gilbert & Miles, 2000b; Tangney et al., 1996). Self-monitoring and self-blame can thus be linked to power dynamics, where subordinates tend to self-blame and inhibit anger more than dominants (Fournier, Moskowitz, & Zuroff, 2002; Gilbert & Irons, 2005).

On the other hand, an alternative defense to social threats is to express aggression, especially in environments where submissiveness is perceived as an ineffective strategy. This corresponds to an externalizing **humiliation** response, which focuses on 'the other as bad and unjust' with desires for revenge. The essence of the humiliation response arises with anger as the automatic defense to a put down, slur or rejection. Humiliation and shame are not mutually exclusive and people can move between them (Gilbert, 2002a, 2006a, 2007a, 2010). This model therefore distinguishes between internalizing and externalizing defenses to threats to the social self, although it does not explore the underlying factors for such strategic choices (e.g., genetic, gender, conditioning/learning and social).

Therefore, in view of this model, the core source of shame are experiences of lack of social safeness, in particular experiences or expectations that others will be critical and rejecting rather than forgiving and helpful, associated with a heightened sense of social threat and an insecure sense of one's social position, attractiveness and acceptance to others (i.e., external shame), which in some contexts may be accompanied by poor self-soothing abilities. The detection of such social threats, real or imagined, is thought to be fuelled by conscious or non-conscious memories and interpersonal schema, which may prime defensive emotions, thoughts and behaviours (Gilbert, 2007a). However, empirical support for such speculation is still warranted.

Finally, the model outlines that issues of **reflected shame** and honour can become prominent in cultures where shame and honour systems are intimately linked to the behaviours of one's associates; and then the defense and repair of shame is can be related to the power dynamic of the relationship, and to cultural scripts for honour and the repair of honour (Gilbert, 2002a, 2006a, 2007a, 2010).

So, this evolutionary and biopsychosocial model offers an integrative and holistic perspective of shame, and highlights the importance of how we have experienced, and currently experience, the self the mind of others and their behaviour towards us in various domains, from intimate to social. In this model, shame is contextualized in the social dynamics in which it emerges, and in our evolved needs for social safeness and to engage others in various survival-beneficial social roles.

The present research project was drawn upon this evolutionary psychology approach to shame and set out to explore some of the emerging research questions derived from it. In particular, aspects regarding the study of the phenomenology of early shame experiences, how such shame experiences are structured in autobiographical memory, whether they operate as traumatic memories and shape one's self-identity and sense of self, and how such shame memories influence one's proneness to external and internal shame and vulnerability to psychological and emotional difficulties later in life, constitute relevant research questions that are yet to be answered, and are the focus of the current thesis.

Chapter summary

This chapter has contextualized shame in an evolutionary model that enthused this thesis research. It has pointed out that we are a species that pursue various biosocial goals, vital to our survival and thrive, and whose evolved minds are highly attuned and responsive to the relationships in which they are embedded. This chapter explored the importance of attachment and affiliation and how these are linked to affect regulation, and showed our need for other minds to mature, develop and regulate our own, and shape our self-identities. It outlined how such motives to be valued, loved, cared for, and belong, link to our innate needs to generate positive affect in the mind of the other and how a range of social-cognitive competencies evolved to make our minds very sensitive and focused on what others think and feel about us and enable self-awareness. Such abilities also underlie our self-identities, which help us navigate in social world' challenges and threats but make us highly sensitive to shame. This chapter then explored how social life is partly a competition for attractiveness, where audiences, and our desired partners, can choose in favour of someone else. It was against this backdrop of evolved design that shame was contextualized as an affective-defensive response to the threat of being an unattractive and undesired social agent, under pressure to limit possible damage to one's self-identity and social bonds via escape or appeasement.

This chapter then further outlined the centrality to this model of external shame, related to the experience that one is not valued positively in the mind of the others and how such threats to the social self can automatically activate internalizing defenses, where one can identify with the mind of the other and experience internal shame, or externalizing ones, where one finds the other unjust or unfair, feels angry and desires for vengeance. So, in light of the biopsychosocial approach hereby reviewed, shame is related to social threat but also implies a lack of social safeness, linked to (in)abilities to elicit acceptance and soothing from others and learn how to be self-soothing. In addition, this chapter discussed how shame can become internalized into the sense of self and reviewed theoretical assumptions on how shame experiences may lay down conditioned emotional memories with an impact on self-experience and physiological and emotion regulation. Having articulated the importance of shame to our existence as social beings and to our self-identities, and the notion that shame experiences may be encoded in powerful emotional memories, research needs to explore in detail the phenomenology of early shame experiences and how these come to be structured in autobiographical and emotional memories, shape we are and who we want to be, and impact on our mental well-being. This is the basis of this doctoral thesis and the next chapter will outline the general and specific aims that guided this work.

PART II

EMPIRICAL STUDIES

Chapter 3

Aims of the thesis

Chapter 4

General methodology

Chapter 5

Shame as a traumatic and central autobiographical memory:
Implications to shame and psychopathology

Chapter 6

The uniqueness of shame memories:
A comparative study of the contribution of different emotional memories
to shame and psychopathology

Chapter 7

The role of attachment in shame memories relation to
psychopathology

Chapter 8

Protection against shame:
Shame memories, safeness memories and feelings, shame and
psychopathology

Chapter 9

A new tool to assess shame phenomenology:
Understanding the phenomenology of shame memories in non-clinical
and clinical populations using the Shame Experiences Interview

Chapter 10

Synthesis and concluding remarks

Chapter 3

Aims of the thesis

Chapter 3

Aims of the thesis

Chapter overview

3.1. General aims

3.2. Specific aims

Chapter summary

Chapter 3

Aims of the thesis

Chapter overview

The second part of this doctoral thesis presents the empirical studies of this research project. These studies intend to contribute to a better understanding of the nature of shame and shame memories and how these texture the self we become. The results are outlined in five chapters that comprise twelve papers (five of which already published or in press, five submitted for publication and two in preparation for submission in peer-reviewed international scientific journals), each corresponding to an empirical study in which we sought out to answer some of the emergent research questions from contemporary shame literature, as well as address some limitations regarding shame measurement.

This chapter is an overview of the general and specific aims of the empirical studies.

3.1. General aims

This thesis was inspired by the evolutionary and biopsychosocial perspective of shame (Gilbert, 1997, 1998c, 2002a, 2003, 2007a), which highlights the vital role shame plays in human psychosocial functioning and development. Even though research on the experience, expression and consequences of shame has grown in the last two decades, drawing attention to the potential deleterious effects of this emotion, scant empirical attention has been paid to the phenomenology of shame memories and their potential damaging effects on mental health.

The general aim of this research project was therefore to investigate the nature and phenomenology of shame as traumatic and autobiographical memory and its impact on our sense of self and self-identity and on current emotional and psychological distress.

In addition, we wanted to examine whether shame memories' impact on psychopathology would go above and beyond their negative emotional valence. We further intended to explore whether shame memories would vary on their relationship to psychopathological symptoms and emotion regulation processes depending on who elicited shame in the experience, an attachment figure or other social agents. Besides, we were interested in understanding whether positive safeness memories and feelings would protect individuals against the detrimental effects of shame and shame memories. Finally, we wanted to assess the phenomenological characteristics of early shame experiences and whether these would be associated with shame memories' traumatic and autobiographical properties and vulnerability to mental health difficulties, using a new semi-structured interview, specifically developed for this research purposes. Overall, and as outlined in the title, this research intended to provide new insights into the nature of shame memories that shape who we are.

Although beneath all empirical studies (i.e., papers) was the same primary objective that guided this research project, that is, to better understand the nature of shame and shame memories and their potentially detrimental effects on mental well-being, each paper entails specific aims which were progressively formulated alongside the development of the present work. Hence, in general, each paper intended to answer some of the research questions that emerged from the previous one(s). So, the empirical studies are interconnected and reflect the progress of the present research project along the time. For this reason, the manuscripts were organized in five different chapters, each capturing the major common goal of a particular set of studies.

3.2. Specific aims

Based on the aforementioned central aims, the empirical chapters and respective studies of the present thesis focus on the following specific aims:

1. In Chapter 5 we explore whether shame memories function as traumatic memories, can become central to personal identity and life narrative, and reveal autobiographical memory properties. Also, the relationships among the traumatic, centrality and autobiographical features of shame memories and current psychological distress are investigated. The specific goals of this chapter were:
 - a. To study the traumatic characteristics (i.e., intrusiveness, avoidance and hyperarousal symptoms) of shame memories from childhood and adolescence and to investigate the association between such traumatic features and current external and internal shame and psychopathological indicators. In addition, we intended to explore the moderator effect of shame traumatic memories on the relationship between shame and depressive symptoms (Study I).
 - b. To investigate whether shame experiences from childhood and adolescence were regarded as central memories to one's self-identity, salient turning points in one's life narrative, and personal reference points for meaning attribution. We further examine the association between such centrality qualities of shame memories, current external and internal shame, and depression, anxiety and stress symptomatology. Finally, we study the relationship between centrality of shame memories and their traumatic impact (Study II).
 - c. To extend the findings from Study I and Study II and test the moderator effect of centrality of shame memories on the association between external and internal shame and depressive symptoms (Study III).
 - d. To study phenomenological properties of shame autobiographical memories and further explore their relationship to the traumatic and centrality features of those shame memories, current external and internal shame, and psychopathological symptoms (Study IV).
 - e. To investigate the relationship between shame and shame traumatic and centrality memory characteristics, and paranoid and social anxiety symptoms. Specifically, we examine whether shame traumatic and central memories had a different impact on paranoid ideation and social anxiety symptoms when current shame feelings were considered simultaneously (Study V).
2. In Chapter 6 we expand upon these studies and investigate the uniqueness of shame memories in their association to psychopathology, by comparing the effects of shame traumatic and central memories to that of other negative traumatic and central emotional memories. The specific aims of this chapter were:
 - a. To study the relative contribution of the centrality of shame memories to psychopathology vulnerability, (i.e., traumatic stress reactions, shame, depressive, anxiety and stress symptoms,

- dissociative experiences and paranoid ideation), in comparison to the centrality of fear and sadness memories. Furthermore, we investigate the relative contribution of shame traumatic memories to current external and internal shame, and to depression, anxiety and stress symptomatology in comparison to that of fear and sadness traumatic memories (Study VI).
3. Chapter 7 draws on previous studies findings (Study I, II and III), and explores whether shame traumatic and central memories vary on their relationship to shame, emotion regulation processes and psychopathology, depending on who elicited shame in the underlying shame experience. In particular, we examine the role of attachment figures in how shame memories come to be structured as traumatic and central memories and impact on psychopathology. The specific purposes of this chapter were:
 - a. To investigate the association between shame memories involving attachment figures and those involving others from the wider social domain, and current shame feelings and depressive symptoms. We further analyze the moderator effect of traumatic and centrality qualities of shame memories with attachment figures and with others on the relationship between external and internal shame and depressive symptomatology (Study VII).
 - b. To study the association between shame traumatic memories, with attachment figures and with others from wider social contexts, and emotion regulation processes (i.e., rumination, thought suppression and dissociation). Besides, we test the mediator effects rumination, thought suppression and dissociation on the relationship between shame traumatic memories involving those two different types of shames and depressive symptomatology (Study VIII).
 4. In Chapter 8 we study the protective effects of affiliative safeness experiences and feelings against the pathogenic impact of shame traumatic and central memories. In addition, we try to understand whether the effects of early safeness memories and of shame traumatic and central memories on depressive symptoms would operate through current external and internal shame. The specific objectives of this chapter were:
 - a. To explore the relationship between early memories of safeness and early shame traumatic and central memories, current feelings of social affiliation and connectedness, and depressive symptoms. Specifically, we analyze the moderator effect of early memories of safeness and warmth on the associations between shame traumatic memory and centrality of shame memory and depressive symptoms. We further extend these moderator models and test whether current feelings of social safeness and pleasure would mediate the abovementioned associations (Study IX).
 - b. To develop a more complex conceptual model drawn upon prior research and analyze the mediator effect of current external and internal shame on the relationship between early memories of warmth and safeness, shame traumatic and central memories, and depressive symptomatology (Study X).
 5. Chapter 9 explores in detail the phenomenology of early shame experiences, involving attachment figures and involving other social agents, their traumatic, centrality and autobiographical memory properties and relation to current emotional and psychological difficulties, both in a general population sample and a clinical sample. Here we also present the Shame Experiences Interview, the semi-structured interview we designed to accomplish this research' goals and overcome limitations associated with the measurement of shame phenomenology. The specific aims of this chapter were:
 - a. To describe the Shame Experiences Interview and evaluate its utility as a semi-structured interview to measure the phenomenology of early shame experiences and memories (Study XI and XII).
 - b. To explore and compare the phenomenology of early shame experiences involving attachment figures and of those involving others from wider social contexts and their traumatic, centrality

and autobiographical memory characteristics in a general population sample. Furthermore, we analyze the association between certain phenomenology components of the two shame memories and their traumatic and centrality features. We also explore the accessibility of general negative and positive memories with each parent and with friends and examine the centrality and autobiographical memory properties of an early positive memory with an attachment figure (Study XI).

- c. To extend the previous study findings and examine and compare the phenomenology of early shame experiences involving attachment figures and of those involving other social agents and their traumatic, centrality and autobiographical memory characteristics in a mixed clinical sample. We also investigate the association between phenomenology features of the two shame memories and their traumatic and centrality qualities. In addition, we examine differences between the clinical and non-clinical population on the phenomenology characteristics of the two shame memories. We assess the accessibility of general negative and positive memories with each parent and with friends and evaluate the centrality and autobiographical memory properties of early positive memories with attachment figures in the mixed clinical sample. Finally, we explore the relationship between traumatic and centrality properties of the two shame memories and external shame, internal shame, social comparison, depressive, anxiety, stress and dissociative symptoms (Study XII).

Chapter summary

This chapter outlined the general aims of the present thesis, drawn on the evolutionary perspective of shame and on the lack of empirical research on shame phenomenology and memories and their impact on mental health difficulties. This chapter also presented the specific aims of this research project, delineating the detailed goals of each chapter and empirical study. The next chapter describes the general methodological procedures followed in the empirical studies in order to attain such general and specific aims.

Chapter 4

General methodology

Chapter 4

General methodology

Chapter overview

4.1. Study design and procedure

4.2. Participants

4.3. Measures

4.4. Statistical procedures

Chapter summary

Chapter 4

General methodology

Chapter overview

The previous chapter described the general and specific aims of this research. In this chapter we outline the general methodology employed in the present research project with the purpose of accomplishing such research objectives, given that the specific and detailed method of each empirical study is presented in the manuscripts. We briefly describe the study design and general procedures for data collection, the samples that integrated the studies, the assessment instruments used to measure the constructs, and the general statistical procedures.

4.1. Study design and procedure

All empirical studies had a cross-sectional design.

Translation and adaptation to the Portuguese language of some of the self-report questionnaires used in this study were performed following recommended scientific translation procedures (i.e., instruments were translated into Portuguese by a bilingual translator and the comparability of content was verified through stringent back-translation procedures). Preliminary studies of the psychometric properties of the Portuguese versions of the most significant self-report measures used in this research were conducted. For length reasons of this thesis the five papers of these psychometric studies (three published and two submitted for publication in international and national peer-reviewed journals) are presented in Appendix A.

We designed the semi-structured interview, the Shame Experiences Interview (SEI; Matos & Pinto-Gouveia, 2006a), in order to ensure early on collection of the clinical and non-clinical samples used in Studies VII, VIII, XI and XII.

Several samples were then collected to carry out the aims of the empirical studies. Studies I to VI, IX and X were conducted in general community population or college student samples using self-report questionnaires. The set of measures was administered to the respondents by the researcher with assistance of undergraduate students. The student samples were recruited in Portuguese public and private Universities in the middle region of Portugal (i.e., Coimbra, Figueira da Foz). After the consent of the educational institution board, the questionnaires were completed by the volunteers at the end of a

lecture, with previous knowledge and authorization of the Professor in charge. In the general community population, convenience samples were used collected within the staff of Portuguese institutions, namely schools and private corporations in the districts of Coimbra, Viseu, Leiria and Aveiro. These institutions' boards were contacted, the research aims were clarified and authorization obtained (see Appendix B I and II for examples of authorization request for the administration of the research protocol). The self-report questionnaires were completed by volunteers in the presence of the researcher. In line with ethical requirements, it was emphasized that participants co-operation was voluntary and that their answers were confidential and only used for the purpose of the study. Data were collected between January 2007 and September of 2010.

Studies VII, VIII and XI were carried out in general population samples, in which the same procedure described above was applied. In these studies participants additionally completed the SEI in an individual and separate session that took place one to two weeks after the filling of the self-report instruments. The SEI took approximately 90 minutes to complete. Data were collected between January 2008 and July of 2011.

Study XII was conducted in a clinical sample, recruited from three outpatient mental health services within the Portuguese National Health Service (i.e., Hospitais da Universidade de Coimbra, Hospital de São Teotónio de Viseu and Hospital Pêro da Covilha), as part of a more comprehensive research project. After approval of the respective Ethical Committees (see Appendix B III for an overview of the Hospitals' ethical committee authorization requests), the patients' psychotherapist or psychiatrist identified and invited the patients who met our inclusion criteria (fully explained in Study XII) to integrate the study.

With those patients who agreed to participate in the study, the two individual sessions were scheduled. In the first session, they were informed about the aims and procedures of the research and gave their informed consent (see Appendix C I). In this session, the structured clinical interviews and the research pack were administered by the author (MM) and trained clinical researchers. The structured clinical interviews, that established the clinical diagnosis categories using the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV; American Psychiatric Association, APA, 1994) criteria, were the Structured Clinical Interview for Axis I (SCID-I; First, Spitzer, Gibbon, & Williams, 1996), the Structured Clinical Interview for Personality Disorders (SCID-II; First, Gibbon, Spitzer, Williams, & Benjamin, 1997), and the Borderline Personality Disorder Severity Index - 4th Version (BPDSI; Arntz & Giesen-Bloo, 1999), to further confirm Borderline Personality Disorder diagnoses. The research pack contained the self-report measures related to our study and to the larger research project for which these patients were recruited.

In the second session, the SEI was administered by the author (MM) and lasted on average 90 to 120 minutes. This second session took place approximately 1 to 2 weeks after, depending on the patient's availability. However, with some patients presenting more severe symptomatology, in order to avert bias due to fatigue or emotional arousal, it was necessary to schedule an additional session to complete the SEI. Data were collected between February of 2008 and July of 2011.

Although the majority of patients contacted to integrate the study decided to participate, due to the severity of some patients' psychological disorders, drop-offs from therapy while participating in the study, and the length of the research protocol, the final response rate was of 78%.

4.2. Participants

4.2.1. General population and student samples

The empirical studies were conducted in multiple samples, of which a full description regarding socio-demographic variables is given in each study. Study I and II were conducted in a sample of 811 participants, of which 481 were undergraduate students and 330 were individuals from the general community population. Study III was carried out in a sample of 385 undergraduate students. A sample of 412 participants was collected for Study IV, composed by 240 undergraduate students and 172 individuals from the general population. Three hundred and twenty eight individuals from the general community population integrated Study V. Study VI was performed in a student sample of 292 participants. A sample of 230 individuals from the general community population participated in Study VII and of 90 in Study VIII. These two samples integrated the larger sample of 401 participants from the general community population which was used in Studies XI and XII. A sample of 181 undergraduate and graduate students took part in Study IX, from which 178 respondents also integrated Study X.

4.2.2. Clinical sample

The clinical sample was composed of 119 patients, all of which met criteria for at least one Axis I ($n = 112$, 94.1%) and/or one Axis II ($n = 104$, 87.4%) disorder, with 79.8% ($n = 95$) presenting comorbidity with, at least, one Axis I or Axis II disorder. The full inclusion criteria, socio-demographic and clinical diagnosis characteristics of this mixed clinical sample are presented in Study XII.

4.3. Measures

Three types of assessment instruments were used in this research project: (1) structured clinical interviews to establish diagnosis categories in the clinical sample according to the DSM-IV (APA, 1994) criteria (only in Study XII); the Shame Experiences Interview, to assess the phenomenology of early shame experiences (Studies VII, VII, XI and XII); and self-report questionnaires to evaluate emotional, memory, psychopathological and affect regulation constructs (all studies). Below we briefly describe the structured clinical interviews and the SEI, and summarize the set of self-report measures applied in this research.

4.3.1. Structured clinical interviews

4.3.1.1. Structured Clinical Interview for Axis I - SCID-I

The SCID-I (First et al., 1996; Portuguese version by Maia, 2006), is a semi-structured interview constituted by a set of standardized questions organized in modules, which correspond to DSM-IV (APA, 1994) Axis I clinical disorders (i.e., mood disorders, psychotic disorders, substance use disorders, anxiety disorders, somatoform disorders, eating disorders, adjustment disorders). Throughout the interview, patients' responses are registered and rated to evaluate the number of criteria fulfilled for each diagnosis, producing a final pathological profile of the assessed clinical disorders. In Appendix D I we provide the cover and summary score sheet of the SCID-I (given its considerable length).

4.3.1.2. Structured Clinical Interview for Personality Disorders - SCID-II

The SCID-II (First et al., 1997; Portuguese version by Pinto-Gouveia, Matos, Rijo, Castilho, & Salvador, 1999) is a semi-structured interview designed to cover the 11 DSM-IV (APA, 1994) Axis II Personality Disorders (i.e., Avoidant, Dependent, Obsessive-compulsive, Paranoid, Shizoid, Schizotypal, Borderline, Histrionic, Narcissistic and Personality Disorder Not Otherwise Specified) and the appendix categories Depressive Personality Disorder and Passive-Aggressive Personality Disorder. SCID-II may be used to establish Axis II diagnosis, both categorically ('present' or 'absent') or dimensionally (rating the number of fulfilled criteria for each diagnosis). At the end of the interview, a summary of the pathological profile of the evaluated personality disorders is obtained. The interviewer should also decide on the primary diagnosis of personality disorder, that is, the one that should be the target of greater clinical attention. In Appendix D II, the initial sheets and the summary score sheet of the SCID-II are presented.

4.3.1.3. Borderline Personality Disorder Severity Index - 4th Version – BPDSI

The BPDSI (Arntz & Giesen-Bloo, 1999) is a semi-structured clinical interview assessing the frequency and severity of manifestations of Borderline Personality Disorder during a circumscribed period of three months. Specifically, it includes 9 parts assessing symptoms of Borderline Personality Disorder in the following areas: Abandonment, Interpersonal relationships, Identity, Impulsivity, Parasuicidal behaviour, Affective instability, Emptiness, Outbursts of anger, and Dissociation/Paranoid ideation. All frequency questions are scored on 10-point scales (0 = never; 10 = daily), in the end overall scores of borderline symptomatology severity in each area are produced. The initial sheets and final score sheets are given in Appendix D III.

4.3.2. Shame Experiences Interview - SEI

The SEI (Matos & Pinto-Gouveia, 2006a) is a semi-structured interview designed by us to assess the phenomenology of shame experiences from childhood or adolescence. It measures cognitive, emotional, bodily/physical, behavioural, motivational and contextual components of shame experiences and their autobiographical and traumatic memory characteristics. A complete description of this interview, its categories and rating scales can be found in Study XII. The Portuguese and English versions of the SEI with administration instructions for the interviewer are presented in a separate appendix of this thesis, the Shame Experiences Interview – Administration Guidelines.

4.3.3. Self-report questionnaires

The self-report questionnaires used in the empirical studies are outlined below and given in Appendix E. Their full description and psychometric characteristics in the empirical studies in which they were employed are presented in each paper. Preliminary psychometric studies were conducted to analyze the psychometric qualities of the main self-report measures. These resulted in five papers (published or submitted for publication in peer-reviewed international and national scientific journals), which can be found in Appendix A.

The *Impact of Event Scale – Revised* (IES-R; Weiss & Marmar, 1997; Portuguese version by Matos, Pinto-Gouveia, & Martins, 2011, see Appendix A IV) assessed the traumatic characteristics of shame memory, that is, intrusion, avoidance, and hyperarousal symptoms associated to a particular memory.

The *Centrality of Event Scale* (CES; Berntsen & Rubin, 2006; Portuguese version by Matos, Pinto-Gouveia, & Gomes, 2010, see Appendix A V) was used to measure the extent in which a shame memory is construed as a central component of personal identity, turning point in life story and reference point for everyday inferences.

The *Autobiographical Memory Questionnaire* (AMQ; Rubin, Burt, & Fifield, 2003; Rubin, Schrauf, & Greenberg, 2003; Sheen, Kemp, & Rubin, 2001; Portuguese version by Matos & Pinto-Gouveia, 2011c) was applied to assess a variety of autobiographical memory properties of shame memories.

The *Other As Shamer* scale (OAS; Goss, Gilbert, & Allan, 1994; Portuguese translation by Lopes, Castilho, & Pinto-Gouveia, 2005 and Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011c, see Appendix A I) measured the construct of external shame, that is, global judgements of how people think others view them.

The *Internalized Shame Scale* (ISS; Cook, 1994, 2001; Portuguese version by Matos, Pinto-Gouveia & Duarte, 2011e, see Appendix A II) was used as a measure of internal shame, that is, a trait of internalized shame translated in global negative self-judgments.

The *Experience of Shame Scale* (ESS; Andrews, Qian & Valentine, 2002; Portuguese translation by Lopes & Pinto-Gouveia, 2005a and Portuguese version by Matos & Pinto-Gouveia, 2011d) taps feelings of shame around key domains of self (i.e., character, behaviour, body) and was used to assess internal shame.

The *Social Comparison Scale* (SCS; Allan & Gilbert, 1995; Portuguese translation and adaptation by Gato & Pinto-Gouveia, 2004) measured self-perceptions of social rank and relative social standing.

The *Depression, Anxiety and Stress Scales* (DASS-42; Lovibond & Lovibond, 1995; Portuguese version by Pais-Ribeiro, Honrado, & Leal, 2004) assessed three dimensions of psychopathological symptoms: depression, anxiety and stress

The *Social Interaction and Performance Anxiety and Avoidance Scale* (SIPAAS; Pinto-Gouveia, Cunha, & Salvador, 2003) was used to measure social anxiety symptoms, specifically the degree of anxiety and avoidance in social situations.

The *General Paranoia Scale* (GPS; Fenigstein & Vanable, 1992; Portuguese version by Lopes & Pinto-Gouveia, 2005b) was applied to measure general paranoid ideation.

The *Paranoia Checklist* (PC; Freeman et al., 2005; Portuguese translation and adaptation by Lopes & Pinto-Gouveia, 2005c) measured the frequency of, and conviction in, paranoid thoughts and the degree of distress caused by them.

The *Dissociative Experiences Scale - Revised* (DES-II; Carlson & Putnam, 1993; Portuguese translation and adaptation by Dinis, Matos, & Pinto Gouveia, 2008) evaluated the frequency of dissociative symptoms.

The *Rumination Responses Questionnaire* (RRQ-10; Treynor, Gonzalez, Nolen-Hoeksema, 2003; Portuguese translation and adaptation by Pinto-Gouveia & Dinis, 2006) measured two aspects of rumination: reflection and brooding.

The *White Bear Suppression Inventory* (WBSI; Wegner, & Zanakos, 1994; Portuguese translation and adaptation by Pinto-Gouveia & Albuquerque, 2007) evaluated thought suppression tendencies.

The *Early Memories of Warmth and Safeness Scale* (EMWSS, Richter, Gilbert, & McEwan, 2009; Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011d) measured personal emotional memories, specifically recall of feeling warm, safe, accepted and cared for in childhood.

The *Social Safeness and Pleasure Scale* (SSPS, Gilbert et al., 2009; Portuguese translation and adaptation by Pinto-Gouveia, Matos, & Dinis, 2008) evaluated positive affects linked to experiencing one's social world as safe, warm and soothing.

4.4. Statistical analyses

Descriptive and inferential statistics were performed to analyze the data throughout the studies. These data analyses were conducted using PASW (Predictive Analytics Software), version 18 (SPSS Inc., Chicago, IL, USA) for PCs. In addition, structural equation models, specifically path analyses, were estimated using AMOS (Analysis of Moment Structures) version 18 (Amos Development Corporation, Crawfordville, FL, USA). A more complete report of the statistical procedures adopted in each empirical study is given in the respective manuscript.

Chapter summary

This chapter delineated the general methodological procedures of the present research project. The studies' design, data collection procedures, the non-clinical and clinical samples, assessment instruments and the general statistical procedures used in the empirical studies were described. A detailed description of the specific methodology of each study is presented in the empirical studies in the next five chapters.

Chapter 5

**Shame as a traumatic and central autobiographical memory:
Implications to shame and psychopathology**

Chapter 5

Shame as a traumatic and central autobiographical memory: Implications to shame and psychopathology

Chapter overview

Study I. Shame as a traumatic memory

Study II. Can shame memories become a key to identity? The centrality of shame memories predicts psychopathology

Study III. Shame memories that shape who we are: The moderator effect of centrality of shame memory between shame and depression

Study IV. Shame autobiographical memory: An integrative model for the relations among autobiographical, traumatic and central shame memory features, shame feelings and psychopathology

Study V. The effect of shame and shame memories on paranoid ideation and social anxiety

Chapter summary

Chapter 5

Shame as a traumatic and central autobiographical memory: Implications to shame and psychopathology

Chapter overview

Drawing upon current theoretical and empirical shame and memory literature (e.g., Berntsen & Rubin, 2007; Claesson & Sohlberg, 2002; Conway, 2005; Gilbert, 2002a, 2003; Pillemer, 1998; Rubin, Schrauf, & Grennberg, 2003; Schore, 2001), we posited that early shame experiences might be encoded in our memory system as traumatic and autobiographical memories, with key implications to our sense of self and personal identity and potential detrimental effects on vulnerability to psychopathology. This chapter will therefore outline five empirical studies investigating whether shame memories operate as traumatic memories, can become central to personal identity and life narrative and reveal autobiographical memory properties. This set of studies also explores the impact of traumatic, centrality and autobiographical features of shame memories on current emotional and psychological distress.

In particular, Study I investigates the traumatic features of shame memories from childhood and adolescence and the relationship between such traumatic features and current external shame, internal shame and psychopathological indicators. In Study II we look at whether shame experiences from childhood and adolescence are construed as central memories to one's self-identity and life story. We also explore the impact of such centrality qualities of shame memories on current external and internal shame, depression, anxiety and stress symptomatology, and the traumatic impact of the shame memory. Study III expands upon the findings from Study I and Study II and examines the moderator effect of centrality of shame memories on the relationship between external and internal shame and depressive symptoms. In Study IV, the phenomenological properties of shame autobiographical memories are investigated, as well as their association to the traumatic and centrality features of those shame memories, external and internal shame and psychopathological symptoms. The final study of this chapter, Study V, extends the results of the previous studies and explores whether shame and shame traumatic and centrality memory characteristics are distinctively related to paranoid and social anxiety symptoms.

5 | Study I

Shame as a traumatic memory

Matos, M. & Pinto-Gouveia, J. (2010). Shame as a traumatic memory. *Clinical Psychology and Psychotherapy*, 17(4), 299-312. doi: 10.1002/cpp.659.

Shame as a traumatic memory

M. Matos & J. Pinto-Gouveia

Abstract

Background: This study explores the premise that shame episodes can have the properties of traumatic memories, involving intrusions, flashbacks, strong emotional avoidance, hyperarousal, fragmented states of mind, and dissociation.

Method: A battery of self-report questionnaires was used to assess shame, shame traumatic memory and depression in 811 participants from general population (481 undergraduate students and 330 subjects from normal population).

Results: Results show that early shame experiences do indeed reveal traumatic memory characteristics. Moreover, these experiences are associated with current feelings of internal and external shame in adulthood. We also found that current shame and depression are significantly related. Key to our findings is that those individuals whose shame memories display more traumatic characteristics show more depressive symptoms. A moderator analysis suggested an effect of shame traumatic memory on the relationship between shame and depression.

Limitations: The transversal nature of our study design, the use of self-reports questionnaires, the possibility of selective memories in participants' retrospective reports and the use of a general community sample, are some methodological limitations that should be considered in our investigation.

Conclusion: Our study presents novel perspectives on the nature of shame and its relation to psychopathology, empirically supporting the proposal that shame memories have traumatic memory characteristics, that not only affect shame in adulthood but also seem to moderate the impact of shame on depression. Therefore, these considerations emphasize the importance of assessing and intervening on shame memories in a therapeutic context.

Keywords: Shame; Shame memories; Traumatic memory; Depression; Moderator effect

Key Practitioner Message:

- Early shame experiences reveal traumatic memory characteristics and are related to current shame and to psychopathology.
- Individuals whose shame memories have more traumatic characteristics are those who show more depressive symptoms.
- Shame traumatic memories moderate the relationship between shame and depression, hence to the same shame, individuals who experienced shame as more traumatic are the ones who show more depressive symptoms.
- Therapy for shame-based problems needs to incorporate strategies to assess and address individuals' shame traumatic memories.

Introduction

Shame

Shame can be a social event (e.g., being judged and shamed in the eyes of others) or a private feeling linked to our own person judgements of our feelings, fantasises abilities and characteristics. Shame can guide our behaviour, influence our feelings about ourselves, shape a sense of our self-identity and feelings about our social acceptability and desirability (Gilbert, 1998c; Tangney & Dearing, 2002). This rich and powerful human emotion has a crucial influence on several aspects of psychological functioning, such as cognition, behaviour, emotion, sense of self or physiology, operating at the individual, interpersonal, group and cultural levels throughout our life (Gilbert, 1998c; Kaufman, 1989; Lewis, 1992; Tangney & Dearing, 2002).

Scheff (1988) described shame as the affect of deference and Kaufman (1989) defined it as the affect of inferiority. Several authors have associated shame to the internal experience of the self as undesirable, unattractive, defective, worthless and powerless (Gilbert, 1998c; Nathanson, 1996; Lewis, 1992; Tangney & Fischer, 1995) within a social world, under pressure to limit possible damage to self-presentation, through flight or appeasement (Gilbert, 1998c).

Despite often being seen as a self-focused and self-evaluative experience of being defective or inadequate in some way (Tangney & Dearing, 2002; Tracy & Robins, 2004), shame is fundamentally an experience of the self related to how we think we exist in the minds of others (Gilbert & McGuire, 1998; Keltner & Harker, 1998). Gilbert (1998c, 2002a) argues that shame can be both an inner experience of the self that involves an involuntary affective-defensive response to the threat of, or an actual experience of social rejection or devaluation because one is (or has become) unattractive as a social agent.

Therefore, shame can be external, when shame evaluations and feelings are focused on the social and external environment, on the self as seen and judged by others as inferior, inadequate or bad; and/or shame can be internal, when shame affects and evaluations are internally focused, on the self as felt and judged by the self as bad, undesirable, weak, inadequate or disgusting (Gilbert, 1997, 2002a, 2003).

Like pride or guilt, shame is a self-conscious emotion since it is an emotion that involves the self evaluating the self (internal shame) and also how the self exists in the mind of others (external shame). Shame arises from our early interactions with significant others and develops later than primary emotions (eg. anger, fear, joy) as it depends of certain unfolding mental abilities (Gilbert, 2002a; Lewis, 1992, 1995; Tangney & Fischer, 1995) that include a form of self-awareness, a theory of mind of '*how we exist in the minds of others*' and our ability to imagine a self as thought about by others (symbolic representation and meta-cognition; Gilbert, 2002a, 2003). When these self-conscious competencies, for a sense of self as a social, agent blend with primary emotions self-conscious emotions arise. So a threat to the self as a social agent (e.g. shame) can recruit various negative and threat based emotions into the experience of self (e.g. anxiety, anger, disgust). Shame is a cognitive-emotion blend and not a separate emotion (Gilbert, 1998c, 2002a, 2003).

Shame and psychopathology

Research on shame has stressed the key role this emotion plays in human functioning in general and, mainly, its powerful impact in a wide range of psychological symptoms and numerous intrapersonal and interpersonal problems (Birtchnell, 2000; Gilbert, & Andrews, 1998; Harder, 1995). Particularly, recent research has drawn attention to the importance of shame in the onset and course of depression in non-clinical and clinical samples. For instance, Tangney, Wagner, and Gramzow, (1992) and Tangney, Burggraf and Wagner (1995) showed that shame-proneness had a unique association with depression. In other study, Cheung, Gilbert and Irons, (2004) found that shame was still significantly related to depression after controlling for the mediating influence of rumination. Andrews (1995) argued that bodily shame, but not childhood abuse, was related to chronic or recurrent depression when both factors were considered together and current depressive symptoms were controlled. Also, Allan and Gilbert (1997) ascertained that shame, as an experience invoking a sense of defeat and powerlessness, appeared as a central component in depression. Andrews, Qian and Valentine (2002) argue that shame plays a significant role in the onset and course of depression by demonstrating a prospective association between shame and depressive symptoms. Furthermore, using clinical samples, Andrews and Hunter (1997), concluded that shame was related to a chronic or recurrent course in depressed patients; and Thompson and Berenbaum (2006) explained that, compared to controls, individuals in current depressive episodes, as well as individuals with a past history of depressive disorder who were in remission, reported more shame in response to both hypothetical interpersonal and real life everyday dilemmas.

Additionally, several studies have also pointed to an association between shame and anxiety (Irons & Gilbert, 2005; Tangney, Wagner, & Gramzow, 1992); social anxiety (Gilbert, 2000a; Grabhorn, Stenner, Stangier, & Kaufhold, 2006); post-traumatic stress disorder (PTSD; Lee, Scragg, & Turner, 2001; Leskela, Dieperink, & Thuras, 2002); eating disorders (Skarderud, 2007; Troop, Allan, Serpell, & Treasure 2008); personality disorders, specially borderline personality disorder (Rüsh et al., 2007) and dissociation (Talbot, Talbot, & Xin Tu, 2004).

In therapy, recent clinical and empirical advances demonstrate that shame may constitute a significant obstacle to the therapeutic process and to the client-therapist relationship and point out the importance of addressing shame using specific intervention techniques/strategies (Hahn, 2004; Hook & Andrews, 2005; Gilbert & Leahy, 2007; Retzinger, 1998; Scheff, 1998).

Emotional memory

Research has shown that shame-proneness seems to have trauma-like origins in early negative rearing experiences, namely experiences of shaming, abandonment, rejection, emotional negligence or emotional control, and several forms of abusive, critical and/or harsh parental styles (Andrews, 2002; Claesson & Sohlberg, 2002; Gilbert, Allan, & Goss, 1996; Gilbert & Gerlisma, 1999; Gilbert & Perris, 2000; Schore, 2001; Stuewig & McCloskey, 2005; Webb, Heisler, Call, Chickering, & Colburn, 2007). These shaming and devaluing experiences seem to have major effects on brain psychobiological maturation and have been associated not only to proneness to shame but also to vulnerability to psychopathology (Schore, 1998, 2001; Tangney, Burggraf, & Wagner, 1995).

According to Gilbert (2003), these early (shaming) rearing experiences (where a child experiences the emotions of others being directed at himself) become the foundations for self-beliefs. They are recorded in autobiographical memory as emotionally textured experiences. These experiences can then become

descriptors of the self, for example “*having elicited withdrawal in others and being treated as undesirable – therefore I am undesirable*” (p. 1222). Thus, vulnerability to shame-based problems is commonly rooted in *feeling memories* of being rejected, criticised and shamed (Gilbert, 1998c, 2002a; Tomkins, 1987) and/or abused (Andrews, 2002). The internalization of these experiences can result in seeing and evaluating the self in the same way others have, that it, as flawed, inferior, rejectable and globally self-condemning (i.e., negative internal models of self and others; Gilbert, 1998c, 2002a; Mikulincer & Shaver, 2005).

Traumatic memory

Some authors have proposed that shame experiences may be recorded in autobiographical memory as conditioned emotional responses, with an impact in the formation of self-relevant beliefs, in attentional and emotional processing, and with neurophysiologic correlates (Lewis, 1992, 2000; Gilbert, 2002a, 2003; Kaufman, 1989; Tomkins, 1987). It is well known that abusive experiences can be coded as traumas although the fear-based and shame-based aspects of these experiences can be difficult to entangle (Andrews, 1995; Lee, Scragg, & Turner, 2001; Leskela, Dieperink, & Thuras, 2002; Stuewig & McCloskey, 2005; Webb et al., 2007). However, even though the nature of (less traumatic) shame experience suggests that it has the powerful characteristics of a traumatic memory, such as intrusion, flashbacks, strong emotional avoidance, hyper arousal, fragmented states of mind, dissociation (Ehlers & Clark, 2000; Gilbert, 2002a; Gilbert & Irons, 2005; Gilbert & Procter, 2006; Hackmann, Ehlers, Speckens, & Clark, 2004), this has never been empirically supported.

Moreover, recent studies on traumatic memory have also shown that traumatic memories influence cognitive and emotional processing and are related to numerous psychopathological symptoms, like depression, anxiety, anger, post-traumatic stress disorder and personality disorders, specially, borderline. (Berntsen & Rubin, 2007; Brewin, Reynolds, & Tata, 1999; Greenberg, Rice, Cooper, Cabeza, Rubin & LaBar, 2005; Rubin & Siegler, 2004; Rubin, Schrauf, & Greenberg, 2003; Thomsen & Berntsen, 2008).

Despite clinical and empirical data suggest that early shame experiences may be recorded as powerful and distressful emotional memories, with characteristics of a traumatic memory, having a main impact on shame in adulthood and on psychopathology, these linkages have not been investigated.

Aims

This study sets out to explore the nature of shame as a ‘traumatic memory’. Specifically, we propose to study the traumatic characteristics of early shame experiences (from childhood and adolescence) and to investigate the relation between the shame trauma-like memories to current external and internal shame. We should expect that recalled memories of early shame experiences would show traumatic memory characteristics and that individuals whose shame memories were traumatic would reveal more shame both externally and internally focused.

In addition, we intend to examine the association between shame trauma-like memories, external and internal shame and psychopathology. Given that the literature has focused specially on the relation between shame and depression (Andrews & Hunter, 1997; Cheung et al., 2004; Thompson & Berenbaum, 2006), in this study we are particularly interested in exploring the relationship between shame, shame traumatic memories and depression.

Moreover, we aim at investigating the potential moderator effect of shame trauma-like memories on the relationship between shame (external and internal) and depression. Specifically, we are interested in exploring whether shame memories that function as traumatic memories would amplify the empirically acknowledged effect of shame on depression (Andrews et al., 2002; Tangney et al., 1995).

Method

Participants

Participants in this study were 811 subjects from general population, with 481 (59.3%) undergraduate students recruited from the University of Coimbra (Portugal), and 330 (40.7%) recruited from the general community population. Sixty percent were females ($n = 486$), with a mean age of 28.82 ($SD = 11.08$) and 40% males ($n = 325$), with a mean age of 26.35 ($SD = 10.61$). Seventy four per cent of the subjects were single ($n = 596$). Fifty nine per cent were students ($n = 481$) and 19% ($n = 153$) of the general population subjects had middle class professions. The participants years of educations mean was 14 ($SD = 3.21$). Both groups (the undergraduate students and the community sample) showed similar mean and standard deviation values on the research variables. Also, no significant differences were found between males and females on the research variables (see Table 1). So, the data analysis considered only one group.

Procedure

Participants were given a battery of self-report questionnaires designed to measure external shame, internal shame, traumatic memory characteristics and psychopathology. The questionnaires were administered by the author, MM, with assistance of undergraduate students. In the student sample, the battery was completed by the volunteers at the end of a lecture, with previous knowledge and authorization of the Professor in charge. A convenience sample was used in the general population, collected within the staff of institutions, namely schools and private corporations. These institution's boards were contacted, the research aims were clarified and authorization was obtained so that their employees could participate in the study. Afterwards, the personnel was elucidated about the investigation goals and invited to voluntarily participate. Then, the self-report questionnaires were filled by volunteers in the presence of the researcher. In line with ethical requirements, it was emphasized that participants co-operation was voluntary and that their answers were confidential and only used for the purpose of the study.

Measures

All instruments used in this study were translated into Portuguese by a bilingual translator and the comparability of content was verified through stringent back-translation procedures.

Shame

Researchers have conceptualised and measured shame in different ways (Andrews, 1998; Gilbert, 1998c; Tangney, 1996). In this study we were interested in two aspects of shame. One was external shame, as measured by the beliefs about what one thinks others think about the self (Allan, Gilbert, & Goss, 1994). The other was to assess internal shame, using the Andrews, Qian and Valentine (2002) scale that taps feelings of shame around three key domains of self: character, behaviour and body.

Other As Shamer scale (OAS) was developed by Allan, Gilbert, and Goss (1994) and Goss, Gilbert, and Allan (1994) and translated and adapted to Portuguese by Lopes, Pinto-Gouveia and Castilho (2005). The scale consists of 18 items measuring external shame (i.e., global judgements of how people think others view them). For example, respondents indicate the frequency on a 5-point scale (0–4) of their feelings and experiences to items such as “*I feel other people see me as not quite good enough*” and “*I think that other people look down on me*”. Higher scores on this scale reveal high external shame. In their study, Goss et al. (1994) found this scale to have a Cronbach’s α of .92. In this study, the Cronbach’s α was .91.

Experience of Shame Scale (ESS) was derived from Andrews and Hunter’s (1997) interview measure of shame by Andrews et al. (2002) and translated and adapted to Portuguese by Lopes and Pinto-Gouveia (2005a). It consists of 27 items measuring three areas of shame: character (personal habits, manner with others, what sort of person you are and personal ability), behaviour (shame about doing something wrong, saying something stupid and failure in competitive situations) and body (feeling ashamed of one’s body or parts of it). Although we used this instrument to assess internal shame, it isn’t a measure specifically designed to evaluate internal shame (since it comprises a few items that might be related to external shame, e.g. concerns about what others think about the self). Each item indicates the frequency of experiencing, thinking and avoiding any of the three areas of shame in the past year and rated on a 4-point scale (1–4). In their study, Andrews et al. (2002) found this scale to have a high internal consistency (Cronbach’s α = .92) with good test–retest reliability over 11 weeks (r = .83). In this study, we found the ESS total to have a Cronbach’s α of .94. In the present research, only the total of the ESS was used.

Psychopathology

Depression, Anxiety and Stress Scales (DASS-42; Lovibond & Lovibond, 1995; Portuguese translation and adaptation: Pais-Ribeiro, Honrado, & Leal, 2004) is a self-report measure composed of 42 items and designed to assess three dimensions of psychopathological symptoms: depression, anxiety and stress. To this research we were interested on the depression subscale. The items indicate negative emotional symptoms and the respondents are asked to rate each item on a 4-point scale (0-3). On the original version, Lovibond & Lovibond (1995) found the subscales to have high internal consistency (Depression subscale Cronbach’s α = .91; anxiety subscale Cronbach’s α = .84; Stress subscale Cronbach’s α = .90). In the present study, the three subscales also shown high internal consistency (Depression subscale Cronbach’s α = .94; anxiety subscale Cronbach’s α = .90; Stress subscale Cronbach’s α = .93).

Traumatic memory of the shame experience

Impact of Event Scale – Revised (IES-R) was developed by Weiss & Marmar (1997) and translated and adapted to Portuguese by Matos and Pinto-Gouveia (2006b). The IES-R is a self-report measure designed to assess current subjective distress for any specific life event, in our study specifically, a shame experience from childhood or adolescence. The IES-R has 22 items, 7 items having being added to the original 15-item IES (Weiss & Marmar, 1997), each item is rated on a 5-point scale (0–4). This scale is

constituted by three subscales that measure the three main characteristics of traumatic memories: avoidance (e.g., “I stayed away from reminders of it”), intrusion (e.g., “Any reminder brought back feelings about it”) and hyperarousal (e.g., “I was jumpy and easily startled”) that parallel the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV, APA, 1994) criteria for PTSD. In the original study, the Cronbach α 's of the subscales range from .87 to .92 for intrusion, .84 to .86 for avoidance and .79 to .90 for hyperarousal (Weiss & Marmar, 1997). In our research, we found the total of the IES-R and its subscales to have high internal consistency (IES-R Total Cronbach's α = .96; Intrusion subscale Cronbach's α = .94; Avoidance subscale Cronbach's α = .88; Hyperarousal subscale Cronbach's α = .91).

Priming for a shame memory

In this study, we modified the instructions of the IES-R to prime participants with a shame memory and complete the scale with that memory as their focus. Participants were instructed to answer the questionnaire based on the impact throughout their lives that a significant shame experience they recalled from their childhood or adolescence had. After a brief introduction about the concept of shame it was instructed:

“Now, please try to recall a (significant) situation or experience in which you think you felt shame, during your childhood and/or adolescence. Below, is a list of comments made by people after stressful life events. Using the following scale, please indicate the degree of distress that each difficulty has caused you throughout your life. That is, concerning the shame experience you recalled, how much were you distressed by these difficulties?”

We consider that this adjustment in the instructions doesn't seem to affect the validation of this scale, since the items' content is well suited for both instructions.

Results

Study: Shame, traumatic memory and psychopathology

Descriptives

The means and standard deviations for this study are presented on Table 1.

The descriptive statistics for the variables studied are similar to previous studies (e.g., Andrews et al., 2002; Creamer, Bell, & Failla, 2003; Gilbert, 2000a; Goss et al., 1994; Weiss & Marmar, 1997) despite the adaptation into another language, given that all instruments were translated into Portuguese and the comparability of content was verified through back-translation procedures. No gender differences were found concerning the variables under consideration.

Table 1: Means (*M*) and standard deviations (*SD*) for all subjects (*N* = 811) and *t*-test differences between males (*n* = 325) and females (*n* = 486)

Variables	Total (<i>N</i> = 811)		Males (<i>n</i> = 325)		Females (<i>n</i> = 486)		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
<i>Psychopathology</i>								
DASS Depression	7.65	7.75	8.08	7.37	7.36	7.99	1.30	.195
DASS Anxiety	7.29	6.69	7.69	6.24	7.02	6.97	1.39	.164
DASS Stress	12.38	8.12	11.95	7.59	12.67	8.45	-1.24	.216
<i>Shame</i>								
Other As Shamer	19.76	9.32	20.02	8.69	19.59	9.72	0.67	.506
Experience of Shame Scale	48.94	13.41	48.25	13.22	49.40	13.55	-1.20	.232
<i>Shame traumatic memory</i>								
IES-R Total	3.76	2.57	3.70	2.47	3.79	2.64	-0.53	.598
IES-R Intrusion	1.25	0.90	1.22	0.86	1.26	0.92	-0.67	.530
IES-R Avoidance	1.41	0.88	1.39	0.86	1.45	0.90	-0.95	.343
IES-R Hyperarousal	1.08	0.96	1.09	0.92	1.09	0.99	-0.09	.932

Note. DASS = Depression Anxiety and Stress Scales; IES-R = Impact of Event Scale-Revised.

Shame and traumatic memory

Table 2 illustrates the correlations between current external shame and internal shame, and shame traumatic memory subscales. The Pearson product-moment correlation coefficients showed that the traumatic memory of shame experience and its subscales intrusion, avoidance and hyperarousal were moderately and positively correlated with external shame ($r = .43, p < .001$) and internal shame ($r = .44, p < .001$).

Table 2: Correlations (2-tailed Pearson *r*) between External Shame, Internal Shame, IES-R subscales and DASS-42 subscales (*N* = 811)

Variables	OAS	ESS	IES-R Total	IES-R Intrusion	IES-R Avoidance	IES-R Hyperarousal
OAS		.52*	.43*	.43*	.38*	.38*
ESS	.52*		.44*	.44*	.41*	.40*
DASS Depression	.44*	.40*	.40*	.39*	.33*	.39*
DASS Anxiety	.38*	.37*	.42*	.40*	.36*	.43*
DASS Stress	.33*	.40*	.40*	.38*	.33*	.40*

* $p < .001$

Note. IES-R = Impact of Event Scale-Revised; OAS = Other As Shamer; ESS = Experience of Shame Scale; DASS = Depression Anxiety and Stress Scales.

Shame, traumatic memory and depression

Table 2 gives the correlations between shame traumatic memory subscales, external and internal shame and psychopathology. The Pearson product-moment correlation coefficients showed that the traumatic memory of shame experience and its subscales intrusion, avoidance and hyperarousal were moderately and positively correlated with depression, anxiety and stress. This is in line with recent work of Brewin and colleagues, who discovered intrusive memories to be expressively related to depression and to high levels of distress and re-experiencing symptoms (Patel et al., 2007). Moreover, as found in previous studies (Andrews et al., 2002; Andrews & Hunter, 1997; Cheung et al. 2004; Gilbert, 2000a; Gilbert et al., 1996; Gilbert & Gerlsma, 1999), external shame and internal shame were also found to be significantly correlated with depression, anxiety, and stress.

To better understand these results, we conducted a multiple regression analysis, using external shame, internal shame and shame traumatic memory to predict depression (see Table 3). Regression analysis results revealed that the predictor variables produce a significant model ($R^2 = .27$, $F_{(3,807)} = 96.74$, $p < .001$), accounting for 26.5% of the variance in depression. Additionally, these results showed that external shame, internal shame and shame traumatic memory have a significant and independent contribution on the prediction of depression. Thus, external shame emerged as the best global predictor ($\beta = .26$, $p < .001$), followed by shame traumatic memory characteristics ($\beta = .21$, $p < .001$) and internal shame ($\beta = .17$, $p < .001$).

Table 3: Regression analysis using external shame (OAS) internal shame (ESS) and shame traumatic memory (IES-R) (independent variables) to predict DASS depression (dependent variable) (Standard method)

Predictors	<i>R</i>	<i>R</i> ²	<i>F</i>	β	<i>p</i>
Model I	.51	.27	96.74		.000
OAS				.26	.000
ESS				.17	.000
IES-R				.21	.000

Note. IES-R = Impact of Event Scale-Revised; OAS = Other As Shamer; ESS = Experience of Shame Scale; DASS = Depression Anxiety and Stress Scales.

The moderator effect of shame traumatic memory on the relationship between shame and depression

Finally, given the previous findings we explored the impact of shame traumatic memory on the relation between shame and depression.

In order to analyze the moderation effect of shame traumatic memory on the relation between external shame and depression, we conducted a multiple hierarchical regression analysis considering the interaction of a continuous predictor (Cohen, Cohen, West, & Aiken, 2003). In this procedure, in an attempt to reduce the error associated with multicollinearity, we have used a standardized procedure, centering the values of the two predictors (external shame and shame traumatic memory) and then obtained the interaction product by multiplying two created variables (Aiken & West, 1991).

Therefore, we can verify that the three steps of the model are statistically significant (Table 4). On step one, we entered external shame as a predictor and on step two we further included shame traumatic memory as a predictor variable. In both steps the predictors entered produced statistically significant models. The third step, where the interaction terms were entered, presents a R^2 of .26 ($F_{(1,809)} = 94.48, p < .001$). Thus, there was a significant interaction of shame traumatic memory and external shame on predicting depression.

Table 4: Model summary of the three steps hierarchical multiple regression using external shame (OAS) to predict DASS depression having shame traumatic memory (IES-R) as moderator ($N = 811$)

Model	R	R^2	F	p
1	.44	.19	192.94	.000
2	.50	.24	131.36	.000
3	.51	.26	94.48	.000

Note. IES-R = Impact of Event Scale-Revised; OAS = Other As Shamer; DASS = Depression Anxiety and Stress Scales.

From the regression coefficients analysis (Table 5) we can see that both external shame and shame traumatic memory are statically significant predictors, in all steps of model. The interaction between these two variables points out to the existence of a moderator effect of shame traumatic memory on the relation between external shame and depression ($\beta = .60, t_{(810)} = 3.99, p < .001$).

Table 5: Regression coefficients for the three steps of the hierarchical multiple regression equation ($N = 811$)

Model	Predictors	β	t	p
1	OAS	.44	13.89	.000
2	OAS	.33	9.79	.000
	IES-R	.25	7.52	.000
3	OAS	.93	6.05	.000
	IES-R	.24	7.12	.000
	OASxIES-R	.60	3.99	.000

Note. IES-R = Impact of Event Scale-Revised; OAS = Other As Shamer; DASS = Depression Anxiety and Stress Scales.

With the purpose of better understanding the relation between external shame and depression with different levels of shame traumatic memory, we plotted a graphic (Figure 1) considering one curve for each the three shame traumatic memory (IES-R) levels (low, medium and high). This procedure is recommended to highlight this relation and can be done with centered and uncentered variables (Aiken & West, 1991; Cohen et al., 2003). We decided to use the uncentered variables to be the closest to the real values of the subjects as possible. To proceed with this representation, and since we didn't had theoretical cut points, we plotted the three curves taking into account the following cut-point values of IES-R variable on the x axis: one standard deviation below the mean, the mean and one standard deviation above the mean as recommended by Cohen and colleagues (2003).

We can observe that individuals with high levels of shame traumatic memory show a positive and high relation with depression comparing to those who have medium and low values. In these two cases the relation is less expressive, being noteworthy that individuals who have low levels of shame traumatic memory and high levels of external shame only show a small to moderate relation with depression (Figure 1).

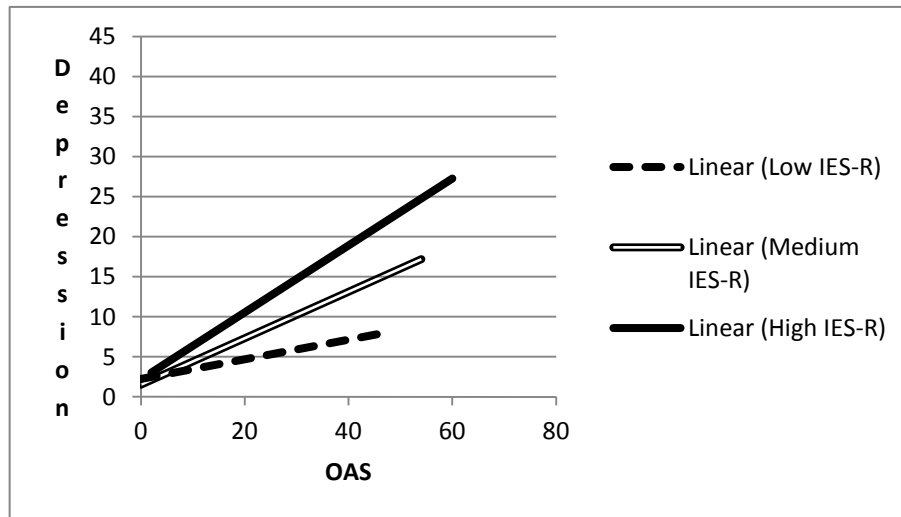


Figure 1. Graphic for the relation between External Shame (OAS) and Depression with different levels of Shame Traumatic Memory (IES-R)

Then, we replicated the same procedure to explore the relation between internal shame and depression moderated by shame traumatic memory (Table 6). We could also verify that the three steps of the regression model are statistically significant. Internal shame was entered on step one as a predictor and shame traumatic memory was further added as a predictor variable in step two. In both steps these predictors produced statistically significant models. The interaction terms were entered on the third step and produced a R^2 of .22 ($F_{(1,809)} = 77.35, p < .001$). Hence, there was a significant interaction of shame traumatic memory and internal shame on depression prediction.

Table 6: Model summary of the three steps hierarchical multiple regression using internal shame (ESS) to predict DASS depression having shame traumatic memory (IES-R) as moderator ($N = 811$)

Model	R	R^2	F	p
1	.40	.16	152.63	.000
2	.47	.22	112.62	.000
3	.47	.22	77.35	.000

Note. IES-R = Impact of Event Scale-Revised; ESS = Experience of Shame Scale; DASS = Depression Anxiety and Stress Scales.

The regression coefficients results (Table 7) reveal that both internal shame and shame traumatic memory are independent and significant predictors of depression. Moreover, the interaction of these two variables

indicates that shame traumatic memory has a moderator effect on the relationship between internal shame and depression ($\beta = .41, t_{(810)} = 2.35, p = .019$).

Table 7: Regression coefficients for the three steps of the hierarchical multiple regression equation ($N = 811$)

Model	Predictors	β	t	p
1	ESS	.40	12.35	.000
2	ESS	.28	8.02	.000
	IES-R	.27	7.83	.000
3	ESS	.68	3.89	.000
	IES-R	.26	7.59	.000
	ESSxIES-R	.41	2.35	.019

Note. IES-R = Impact of Event Scale-Revised; ESS = Experience of Shame Scale; DASS = Depression Anxiety and Stress Scales.

To enhance the understanding of the relation between internal shame and depression when we have different levels of shame traumatic memory, we plotted a graphic replicating the same procedure described above (Figure 2). In this case, we can also see that individuals with high levels of shame traumatic memory reveal a high and positive relation with depression when compared to those who have medium and low values, who show a less evident association with depression.

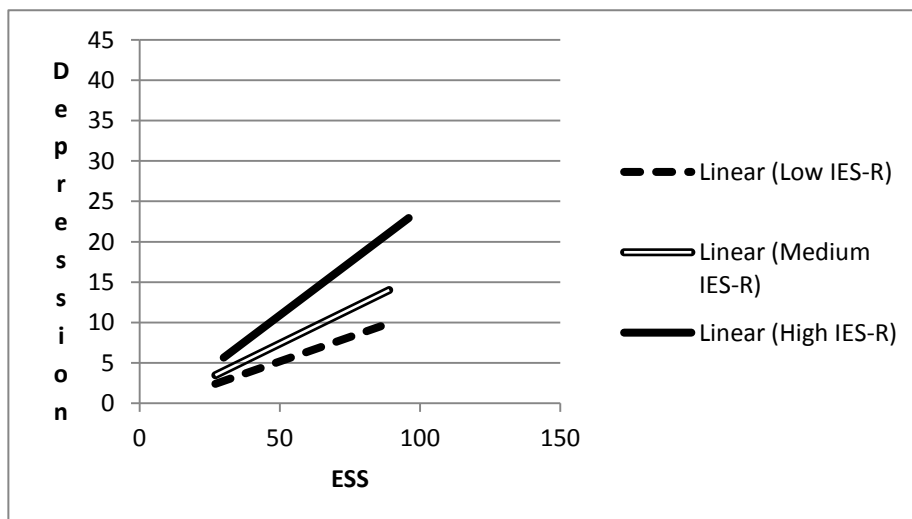


Figure 2. Graphic for the relation between Internal Shame (ESS) and Depression with different levels of Shame Traumatic Memory (IES-R)

Therefore, in both moderator analysis, when the interaction terms were entered on the regression models they produced a significant increase in R^2 , and also revealed an expressive and significant effect upon depression.

Analysis of the interaction terms implies that subjects who had more shame traumatic memory and scored higher on external shame/internal shame were found to be more depressed than those who had less shame traumatic memory: that is, for subjects with the same shame scores, those whose shame functions as a traumatic memory would tend to present more depressive symptoms. Therefore, an interaction effect between shame traumatic memory and shame (external and internal) was corroborated suggesting that shame traumatic memory moderates the effect of shame on depression.

Discussion

Clinical and empirical data suggest that early shame experiences might operate like traumatic memories in autobiographical memory, increasing the vulnerability to psychopathology (Claesson & Sohlberg, 2002; Gilbert, 2002a; Gilbert & Perris, 2000; Schore, 2001). The current study was designed to understand this traumatic nature of shame and its psychological implications.

Our first prediction was that early shame experiences could show characteristics of traumatic memory. In the present study, the recalled shame experiences from childhood and adolescence presented traumatic memory characteristics, particularly memory intrusion, avoidance and hyperarousal symptoms. So, our findings support this hypothesis and provide evidence for the theoretical suggestion that shame experiences are recorded in the autobiographical memory as emotional memories with characteristics of traumatic memories (Gilbert, 2002a, 2003; Kaufman, 1989; Lewis, 1992; Tomkins, 1987).

Our results demonstrate that traumatic memory of shame experiences and its characteristics of intrusion, avoidance and hyperarousal were positively and significantly associated with external shame and internal shame, that is, the recalled shame experiences from childhood or adolescence are related to current shame. We believe this probably means that individuals, whose early shame experiences are associated with trauma phenomenology, tend to believe others see and judge them as inferior or inadequate and also perceive and feel themselves as undesirable, bad or inadequate. These data corroborate our prediction that shame memories with traumatic characteristics were related to current shame. This is also in accordance to previous studies linking memories of early experiences of indifference, put-down, shaming, abandonment, emotional negligence and rejection to shame in adulthood (Claesson & Sohlberg, 2002; Gilbert et al., 1996; Lutwak & Ferrari, 1997; Stuewig & McCloskey, 2005).

In regard to the relationship between shame traumatic memory and psychopathology, in our study we found meaningful and positive correlations between shame traumatic memory characteristics: intrusion, avoidance and hyperarousal, and depression, anxiety and stress. Despite these significant linkages, in this research we were only interested on studying the interactions with depression. These data are consistent to our predictions and allow us to conclude that shame experiences from childhood and adolescence with traumatic memory characteristics are associated to psychopathology, especially depression, being the individuals whose shame memories have more traumatic characteristics those who tend to be more depressed.

These data of the present study are in line with prior studies that have already suggested adverse rearing experiences, in particular those of shaming, devaluation, abuse, abandonment, rejection, emotional negligence or emotional control, can significantly affect psychobiological maturation and functioning (Schore, 1998, 2001) and shape vulnerability to later psychopathology (Bifulco & Moran, 1998; Gilbert & Gerlsma, 1999; Gilbert & Perris, 2000; Gilbert, Cheung, Grandfield, Campey, & Irons, 2003; Gilbert et al., 1996; Rutter et al., 1997; Stuewig & McCloskey, 2005). On the other hand, this link we found between the traumatic memory of shame experiences and psychopathology is also in accordance with previous work on traumatic memory, that has reported that traumatic memories influence cognitive and emotional processing, are connected to emotional suffering and psychopathological symptoms, like depression and anxiety (Berntsen & Rubin, 2007, 2008; Brewin et al., 1999; Greenberg et al., 2005; Reynolds & Brewin, 1999; Rubin, & Siegler, 2004; Rubin et al., 2003). Furthermore, our results are in line with Brewin and colleagues work, who recently found that depressed patients were likely to experience intrusive memories, which were associated with high levels of distress, uncontrollability, and symptoms of re-experiencing. These intrusive memories were in some patients part of a wider network of key defining autobiographical memories, consistent with the idea that they are likely to play a significant role in maintaining the patient's depressive mood (Patel et al., 2007).

Besides, significant correlations were found in our study between external shame and depression and internal shame and depression. These data corroborate our hypothesis and are consistent with several prior studies (Andrews & Hunter, 1997; Andrews et al., 2002; Cheung et al., 2004; Harper & Arias, 2004; Thompson & Berenbaum, 2006; Webb et al., 2007). These authors, using clinical and non-clinical samples, have emphasized the importance of shame in the onset and course of depression. Particularly, the link between shame and chronic depression found by Andrews (1995) has been argued to be the result of trauma-based shame, despite this had never been empirically supported.

In addition, our study sought out to further explore the relationship between shame traumatic memory, shame and depression. Results from regression analysis not only revealed that external shame, traumatic memory and internal shame accounted for a significant proportion of the variance in depression but also accentuate that external shame was the best predictor of depression, followed by shame traumatic memory, with a unique and independent contribution to depression, and at last, internal shame, that added to depression prediction. Therefore, our data add to previous research by verifying the key and independent role external shame, followed by shame traumatic memory and internal shame had in explaining depressive symptomatology.

Given these previous conclusions, we predicted that shame traumatic memory might have a moderator effect on the relationship between shame and depression. Two hierarchical multiple regressions analyses with shame traumatic memory as the continuous moderator were conducted: one to test the effect of the interaction between external shame and shame traumatic memory on depression and the second to examine the effect of interaction between internal shame and shame traumatic memory on depression. Results from both hierarchical multiple regression analyses revealed that when the interaction between external shame and shame traumatic memory and the interaction between internal shame and shame traumatic memory were entered on the regression models, they produced a significant increase in the model prediction, and also showed an expressive and significant effect upon depression. The same is to say that it is mainly in those individuals with high levels of shame traumatic memories where the external shame and internal shame impact on depression is greater. We can also observe that in those individuals with low levels of shame traumatic memories, the high levels of external shame and internal shame have a negative impact on depression.

In conclusion, our study extends previous knowledge concerning the relation between shame and depression (Andrews, 1995; Andrews et al., 2002; Cheung et al., 2004; Thompson & Berenbaum, 2006) by suggesting that shame traumatic memories have a significant moderator effect on the relationship between shame and depression. Hence, to the same shame, individuals who experienced shame as more traumatic are the ones who show more depressive symptoms.

Clinical implications

Given shame key role to our intrapersonal and interpersonal adjustment and to psychopathology vulnerability, the current study may contribute to a better elucidation of shame genesis. Our findings reinforce the central role of early shame experiences, recorded in our memory system as traumatic memories, to the proneness to shame in adulthood and to the vulnerability to psychopathological symptoms. These shame memories seem to function as conditioned emotional memories (e.g. flashbacks) that, when triggered, generate high arousal and fear that interferes with processing (experience the memory 'as if it were happening now' and with the full impact of sensory emotional meaning assigned at the time of the experience; Gilbert, 2006a). In addition, this research may add to an enhanced understanding of this emotional experience that seems to have a traumatic impact and a central role to psychopathology vulnerability and maintenance.

In a therapeutic context, as proposed by Gilbert (2006a, 2007b, 2010; Gilbert & Irons, 2005) on his Compassion Focused Therapy, our results sustain the importance of assessing and intervening on shame. Particularly, therapists should recognize and address shame as a potential obstacle to therapeutic relationship and process (for example, shame-prone patients may be particularly reluctant to disclose potentially shameful information about their experiences, behaviour and perceived personal shortcomings); use therapeutic strategies to deal with external and internal shame, safety/defensive behaviours and self-criticism; work with shame traumatic memories that have an impact on client's problems; and use (self-)compassion as a shame antidote.

Limitations and future research

Our data should be evaluated considering some methodological limitations. The first limitation is the transversal nature of our study design, because it does not allow to determine the antecedent-consequent relation of the variables. Prospective studies should be developed in the future to better evaluate the causal relation between the studied variables.

Besides, participants were asked to recall past experiences from their childhood or adolescence in a self-report questionnaire, raising the limitations of self-report questionnaires and also the possibility of selective memories in their retrospective reports. Future research might benefit from the use of other non self-report measures (for instance, structured interviews) that enable, as well, a more profound, precise and complete exploration of shame experiences' memories.

In what concerns the use of retrospective reports, it is noteworthy that evidence reviewed by Brewin, Andrews and Gotlib (1993) suggests that claims that retrospective reports are inherently unreliable are exaggerated. These authors concluded that adult recollections of central features of an early experience are generally accurate and reasonably stable over time, pointing to a fundamental integrity to one's autobiographical recollections. Also, they noted that there is little support for the claim that recall childhood experiences is distorted by depressed mood.

Therefore, in order to overcome the limitations inherent to the use of self-report questionnaires and retrospective reports, we are now replicating this study using a semi-structured Shame Experiences Interview (Matos & Pinto-Gouveia, 2006a), more suited for research assessment of specific childhood experiences, and developed by us to deeper evaluate the phenomenology of shame experiences.

Another possible limitation to our study may be the fact that we used the Andrews and colleagues (2002) Experience of Shame Scale (ESS) to assess internal shame, but doubts can arise concerning this questionnaire as an external shame measure instead. Items such as *“Have you worried about what other people think when you do something wrong?”* add to this reservation. Future studies could replicate our findings using other measures to assess internal shame, like the Social Comparison Scale (SCS; Allan & Gilbert, 1995).

Finally, we used a general community sample, so these findings cannot be generalized to clinical populations. We are now replicating these findings using a clinical sample and future studies should replicate this investigation using diverse general population samples to enable more solid conclusions to be drawn.

Nevertheless, our study presents novel perspectives on the nature of shame and its relation to psychopathology, empirically supporting the proposal that shame memories have traumatic memory characteristics, that not only affect shame in adulthood but also seem to moderate the impact of shame on depression.

Aknowledgements

We would like to thank Professor Paul Gilbert for the encouragement and support given to our research. This research has been supported by the first author (Marcela Matos) Ph.D. Grant (SFRH/BD/36617/2007), sponsored by FCT (Portuguese Foundation for Science and Technology).

5 | Study II

Can shame memories become a key to identity?
The centrality of shame memories predicts psychopathology

Pinto-Gouveia, J. & Matos, M. (2011). Can shame memories become a key to identity? The centrality of shame memories predicts psychopathology. *Applied Cognitive Psychology, 25(2)*, 281-290. doi: 10.1002/acp.1689.

Can shame memories become a key to identity?

The centrality of shame memories predicts psychopathology

J. Pinto-Gouveia & M. Matos

Abstract

This study investigates the premise that a shame memory can become a central component of personal identity, a turning point in the life story and a reference point for everyday inferences. We assessed shame, centrality of shame memory, depression, anxiety, stress and traumatic stress reactions in 811 participants from the general population (481 undergraduate students and 330 subjects from normal population) to explore the interactions between these variables. Results show that early shame experiences do indeed reveal centrality of memory characteristics. Furthermore, the centrality of shame memories is associated with feelings of internal and external shame in adulthood. Key to our findings is that the centrality of shame memories shows a unique and independent contribution to depression, anxiety and stress prediction, even when controlling for the effect of shame measures. In addition, our results show that the centrality of shame memories is highly and positively associated with traumatic stress reactions.

Keywords: Shame; Centrality of event theory; Autobiographical memory; Psychopathology

Introduction

Shame

Shame is an emotion of outstanding social importance (Gilbert, 2003; Tangney & Dearing, 2002) and crucial implications to one's self-identity (Gilbert, 1998c; Kaufman, 1989; Nathanson, 1994). This rich and powerful human emotion has been associated with the internal experience of the self as undesirable, unattractive, defective, worthless and powerless (Gilbert, 1998c; Lewis, 1992; Nathanson, 1994, 1996) within a social world, under pressure to limit possible damage to self-presentation, through flight or appeasement (Gilbert, 1998c; Tangney & Fischer, 1995).

Although shame is often conceived as a self-focused and self-evaluative experience of being defective or inadequate in some way (Tangney & Dearing, 2002; Tracy & Robins, 2004), it is essentially an experience of the self related to how we think we exist in the minds of others (Gilbert & McGuire, 1998; Keltner & Harker, 1998). Gilbert (1998c, 2002a) argues that shame can be both an inner experience of the self that involves an involuntary affective-defensive response to the threat of, or an actual experience of social rejection or devaluation because one is (or has become) unattractive as a social agent.

Thus, shame can be a painful social experience (also defined as external shame), linked to the perception that one is being judged and seen as inferior, defective or unattractive in the eyes of others, and that might result in rejection or some form of put-down (Gilbert, 2002a; Kaufman, 1989). Shame can also be internalized, emerging as a private feeling (also designed as internal shame) related to our own negative personal judgements of our attributes, characteristics, feelings and fantasies and linked to self-directed affects (e.g., disgust, anger, anxiety; Cook, 1996; Gilbert, 2003). Therefore, shame can guide our behaviour in social contexts, influence our feelings about ourselves, shape a sense of our self-identity and feelings about our social acceptability and desirability (Gilbert 1998c; Tangney & Dearing, 2002).

The self-conscious emotion of shame arises from our early interactions with significant others (Lewis, 1995; Tangney & Dearing, 2002) and develops later than primary emotions (e.g. fear, joy) as it depends of certain unfolding mental abilities, namely symbolic representation, theory of mind, self-awareness and meta-cognition, which only mature around two years of age (Gilbert, 2002a, 2003; Tangney & Fisher, 1995; Schore, 1998).

During the past two decades, several empirical studies have systematically shown that shame is associated with a wide variety of psychopathological symptoms and disorders in clinical and non-clinical samples, particularly, depression (Andrews, 1995; Andrews & Hunter, 1997; Andrews, Qian & Valentine, 2002; Cheung, Gilbert, & Irons, 2004; Thompson & Berenbaum, 2006); anxiety (Irons & Gilbert, 2005; Tangney, Wagner, & Gramzow, 1992); social anxiety (Gilbert, 2000a; Grabhorn, Stenner, Stangier, & Kaufhold, 2006); post-traumatic stress disorder (PTSD; Lee, Scragg, & Turner, 2001; Leskela, Dieperink, & Thuras, 2002); eating disorders (Skarderud, 2007; Troop, Allan, Serpell, & Treasure, 2008); personality disorders, specially borderline personality disorder (Rüsh et al., 2007) and dissociation (Talbot, Talbot, & Xin Tu, 2004).

Emotional and autobiographical memory

Proneness to feel shame is an innate capacity (Gilbert & McGuire, 1998), however excessive shame-proneness is believed to emerge from internal negative self-representations of the self derived from previous experiences of being shamed (Lewis, 1992; Nathanson, 1994).

Moreover, empirical studies have shown that shame-proneness seems to have trauma-like origins in early negative rearing experiences, namely experiences of shaming, abandonment, rejection, emotional negligence or emotional control, and several forms of abusive, critical and/or harsh parental styles (Andrews, 2002; Claesson & Sohlberg, 2002; Gilbert & Gerlsma, 1999; Gilbert & Perris, 2000; Schore, 2001; Stuewig & McCloskey, 2005; Webb, Heisler, Call, Chickering, & Colburn, 2007). These shaming and devaluing experiences seem to have major effects on brain psychobiological maturation and have been linked not only to proneness to shame but also to vulnerability to psychopathology (Schore, 1998, 2001; Tangney, Burggraf, & Wagner, 1995).

Gilbert (2003) argues that these early (shaming) rearing experiences (where a child experiences the emotions of others being directed at himself) become the foundations for self-beliefs. They are recorded in autobiographical memory as emotionally textured experiences. These experiences can then become descriptors of the self, for example "*having elicited withdrawal in others and being treated as undesirable – therefore I am undesirable*" (p. 1222). Thus, vulnerability to shame-based problems is commonly rooted in *feeling memories* of being rejected, criticised and shamed (Tomkins, 1987; Gilbert, 1998c, 2002a) and/or abused (Andrews, 2002). The internalization of these experiences can result in seeing and evaluating the self in the same way others have, that it is flawed, inferior, rejectable and globally self-condemning (i.e., negative internal models of self and others; Gilbert, 1998c, 2002a; Mikulincer & Shaver, 2005).

In fact, some authors have suggested that shame experiences may be recorded in autobiographical memory as conditioned emotional responses, with an impact in the formation of self-relevant beliefs, in attentional and emotional processing, and with neurophysiologic correlates (Lewis, 1992, 2000; Gilbert, 2002a, 2003; Kaufman, 1989; Tomkins, 1987). Moreover, the nature of shame experience suggests that this emotion is sufficiently important, significant and distressful (Gilbert, 1998c, 2003; Kaufman, 1989, Lewis, 2000) to comprise the powerful characteristics of an autobiographical traumatic memory, central to one's life story and personal identity (Berntsen & Rubin, 2002; Brewin, Reynolds, & Tata, 1999; Ehlers & Clark, 2000; Gilbert & Procter, 2006; Rubin, 2005; Rubin & Siegler, 2004). In a recent study, Matos and Pinto-Gouveia (2010) found that early shame experiences do indeed reveal traumatic memory characteristics, that not only affect shame in adulthood but also seem to moderate the impact of shame on depression.

Furthermore, since shame experiences comprise a primary threat to the (social) self (Gilbert, 1998c, 2002a), shame memories can be seen as threat memories, that tend to have more powerful emotional pull than non-threat memories. In line with this, Dickerson and Kemeny (2004) showed that threats to self, especially uncontrollable social-evaluative threats, are one of the most powerful activators of cortisol. As well, Baumeister and colleagues (2001), in a broad empirical and clinical review, explain that threat events are more powerful than positive ones in a wide range of psychological phenomena.

Centrality of Event Theory

Memories of emotional events are an important part of our life story and identity and some emotional events may continue to cause distress throughout our lives (Bluck & Habermas, 2000; McAdams, 2001; Pillemer, 1998; Singer & Salovey, 1993). Actually, these highly accessible and vivid personal memories structure and give meaning to our life narratives and help to anchor and stabilize our conceptions of ourselves (Baerger & McAdams, 1999; Pillemer, 1998, 2003; Robinson & Taylor, 1998; Shum, 1998). Berntsen, Willert and Rubin (2003) argue that the consequences of these processes may be negative, if memories of negative or traumatic experiences become reference points for the organization of autobiographical knowledge with a continuous impact on the interpretation of less salient/non-traumatic experiences in a person's life and expectations for the future.

Following this idea, Berntsen and Rubin (2006, 2007) presented the centrality of event theory, proposing that a memory of a trauma or a negative emotional event can become central to one's life story and identity, and this may be related to increased levels of posttraumatic stress reactions, depression and anxiety. The authors advocate that there are three overlapping and mutually dependent functions in which a memory of a highly accessible emotional memory may be problematic, by becoming highly interconnected with other types of autobiographical information in the cognitive networks of a person. This includes an understanding of the memory as a reference point for everyday inferences and for generating expectations, as a turning point in the life story and as a central component of identity (Berntsen & Rubin, 2006, 2007).

First, if a traumatic memory becomes a central personal reference point that may influence the attribution of meaning to non-traumatic events and the generation of future expectations. So the individual may perceive as threats and react strongly to non-traumatic events and perceive an unrealistically high risk for future traumas (Berntsen & Rubin, 2007). Second, perceiving the traumatic memory as a salient turning point in the life story may lead to the oversimplification of the life narrative, as well as to disagreements between the life story and cultural norms (Berntsen & Rubin, 2004; Thomsen & Berntsen, 2008). Third, having a highly negative emotional memory as central to personal identity may mean that the negative event is seen as emblematic for the person's self and/or a symbol for persistent themes in the person's life story. This may lead to global, internal and stable attributions regarding negative events in general (e.g., "people will always reject me, because I'm flawed and unlovable"), which would be associated with increased negative affect (Berntsen & Rubin, 2006, 2007).

According to this theory, the re-experiencing symptoms typical of posttraumatic stress reactions are conceived as a result of the over-integration of the trauma memory, due to its extraordinary accessibility caused by a multitude of connections between this memory and other material in memory (Berntsen & Rubin, 2007). Thomsen and Berntsen (2008) point out that repeatedly re-experiencing the trauma may also contribute to over-integrating the memory into identity, because the repetitive re-experiencing makes the individual appraise the trauma memory as central to identity and connects the trauma memory to a range of other material. Some of the aspects of Berntsen and Rubin's theory overlap Tomkins's script theory (Kaufman, 1989; Tomkins, 1979, 1987) and are related to the retrieval competition theory (Brewin, 2006).

Berntsen and Rubin (2006) developed the centrality of event scale (CES) to measure the extent to which a stressful experience becomes central to life story and identity. Support for this theory was found using CES with student and general community samples (Bernsten & Rubin, 2007, 2008) and with individuals exposed to traumatic events (Thomsen & Berntsen, 2008). The findings suggest that traumatic memories

seem to have an enhanced integration in self-schemas, emerging as cognitive reference points for the organization of other memories and for generating expectations for the future. Moreover, these studies have shown that the extent to which a negative emotional memory is central to one's identity and life story is positively related to depression, anxiety and the severity of post-traumatic stress reactions.

Even though theoretical and empirical considerations may suggest that early shame experiences are recorded in the autobiographical memory system as powerful and distressful emotional memories, central to a person's life story and identity and with a profound impact on shame in adulthood and on psychopathology, these connections have not been investigated.

Aims

This study sets out to explore the nature of shame as an autobiographical memory, central to our life narrative and personal identity. Specifically, we propose to study the centrality of early shame experiences (from childhood and adolescence) and examine the relation between the centrality of shame memories and shame (external and internal) in adulthood. We should expect that memories of shame experiences would appear as salient reference points in our life story and identity, and that those individuals whose shame memories are central in autobiographical memory would reveal more current shame both externally and internally focused.

In addition, we aim at examining the linkages between the centrality of shame memories, external and internal shame and psychopathology, specifically depression, anxiety and stress. We hypothesize that individuals, whose shame memories emerge as central for the organization of autobiographical knowledge, would show increased symptoms of depression, anxiety and stress, even when controlling for measures of external and internal shame.

Finally, we intend to investigate the association between the centrality of shame memories and traumatic stress reactions. We should expect that individuals whose shame memories reveal centrality characteristics would display increased traumatic stress reactions concerning those particular emotional memories.

Method

Participants

Eight hundred and eleven subjects from general population, with 481 (59.3%) undergraduate students recruited from the University of Coimbra (Portugal) and 330 (40.7%) subjects recruited from the general population participated in this study. Sixty percent were females ($n = 486$), with a mean age of 28.82 ($SD = 11.08$), and 40% were males ($n = 325$), with a mean age of 26.35 ($SD = 10.61$). Seventy four per cent of the subjects were single ($n = 596$). Fifty nine per cent were students ($n = 481$) and 19% of the general population subjects had middle class professions ($n = 153$). The participants years of education mean was 14 ($SD = 3.21$). Both groups (the undergraduate students and the community sample) showed similar mean and standard deviation values on the research variables. Also, no significant differences were found

so between males and females on the research variables (see Table 1). Thus, the data analysis considered only one group.

Procedure

A battery of self-report questionnaires designed to measure external shame, internal shame, traumatic memory characteristics and psychopathology was provided to the participants. The questionnaires were administered by the author, MM, with assistance of undergraduate students. In the student sample, the battery was completed by the volunteers at the end of a lecture, with previous knowledge and authorization of the Professor in charge. In the general population, we used a convenience sample collected within the staff of institutions, namely schools and private corporations. Authorization from these institutions' boards was obtained and the self-report questionnaires were filled by volunteers in the presence of the researcher. In line with ethical requirements, it was emphasized that participants cooperation was voluntary and that their answers were confidential and only used for the purpose of the study.

Measures

All instruments used in this study were translated into Portuguese by a bilingual translator and the comparability of content was verified through stringent back-translation procedures.

Shame

Researchers have conceptualised and measured shame in different ways (Andrews, 1998; Gilbert, 1998c; Tangney, 1996). In this study we were interested in two aspects of shame. One was external shame, as assessed by the beliefs about what one thinks others think about the self (Allan, Gilbert, & Goss, 1994). The other was to measure internal shame, for which we used the Andrews, Qian and Valentine (2002) scale which, despite not being designed to measure internal shame, taps feelings of shame around three key domains of self: character, behaviour and body.

Other As Shamer scale (OAS) was developed by Allan et al. (1994) and Goss, Gilbert, and Allan (1994) and translated and adapted to Portuguese by Lopes, Pinto-Gouveia and Castilho (2005). The scale consists of 18 items measuring external shame (i.e., global judgements of how people think others view them). For example, respondents indicate the frequency on a 5-point scale (0–4) of their feelings and experiences to items such as “*I feel other people see me as not quite good enough*” and “*I think that other people look down on me*”. Higher scores on this scale reveal high external shame. In their study, Goss et al. (1994) found this scale to have a Cronbach's α of .92. In this study, the Cronbach's α was .91.

Experience of Shame Scale (ESS) was derived from Andrews and Hunter's (1997) interview measure of shame by Andrews et al. (2002) and translated and adapted to Portuguese by Lopes and Pinto-Gouveia (2005a). It consists of 27 items measuring three areas of shame: character (personal habits, manner with others, what sort of person you are and personal ability), behaviour (shame about doing something wrong, saying something stupid and failure in competitive situations) and body (feeling ashamed of one's body or parts of it). Each item indicates the frequency of experiencing, thinking and avoiding any of the three areas of shame in the past year and rated on a 4-point scale (1–4). In their study, Andrews et al.

(2002) found this scale to have a high internal consistency (Cronbach's $\alpha = .92$) with good test–retest reliability over 11 weeks ($r = .83$). In this study, we found the ESS total to have a Cronbach's α of .94. In the present research, only the total of the ESS was used.

Psychopathology

Depression, Anxiety and Stress Scales (DASS-42; Lovibond & Lovibond, 1995; Portuguese translation and adaptation: Pais-Ribeiro, Honrado & Leal, 2004) is a self-report measure composed of 42 items and designed to assess three dimensions of psychopathological symptoms: depression, anxiety and stress. The items indicate negative emotional symptoms and the respondents are asked to rate each item on a 4-point scale (0-3). On the original version, Lovibond and Lovibond (1995) found the subscales to have high internal consistency (Depression subscale Cronbach's $\alpha = .91$; anxiety subscale Cronbach's $\alpha = .84$; Stress subscale Cronbach's $\alpha = .90$). In the present study, the three subscales also shown high internal consistency (Depression subscale Cronbach's $\alpha = .94$; anxiety subscale Cronbach's $\alpha = .90$; Stress subscale Cronbach's $\alpha = .93$).

Centrality of shame memories

Centrality of Event Scale (CES; Berntsen & Rubin, 2006; Translated and adapted to Portuguese by Matos, Pinto-Gouveia, & Gomes, 2010) measures the extent to which a memory of a stressful event forms a reference point for personal identity and for the attribution of meaning to other experiences in a person's life. This self-report questionnaire consists of 20 items, rated on a 5-point Likert scale (1 = *Totally disagree*; 5 = *Totally agree*), that assess the three interdependent characteristics of highly negative emotional memories: reference points for everyday inferences (e.g., "*This event has colored the way I think and feel about other experiences.*"), turning points in life stories (e.g., "*I feel that this event has become a central part of my life story.*") and components of personal identity (e.g., "*I feel that this event has become part of my identity.*"). In its original study, CES reported a high internal consistency (Cronbach $\alpha = .94$). In this study, we also found CES to have an excellent internal consistency (Cronbach $\alpha = .96$).

Priming for a shame memory

In this study, we modified the instructions of the CES to prime participants with a shame memory and complete the scale with that memory as their focus. Participants were instructed to answer the questionnaire based on a significant and stressful shame experience they recalled from their childhood or adolescence. After a brief introduction about the concept of shame it was instructed: "*Now, try to recall a significant/stressful situation or experience in which you think you felt shame, during your childhood and/or adolescence. Please think back upon that significant shame event in your life and answer the following questions in an honest and sincere way, by circling a number from 1 to 5*".

We consider that this adjustment in the instructions doesn't seem to affect the validation of this scale, since the items' content is well suited for both instructions. Also, Perri and Keefe (2008) in a study on persistent pain have successfully used this scale with a change in the topic.

Traumatic stress reactions

Impact of Event Scale – Revised (IES-R; Weiss & Marmar, 1997; Portuguese version by Matos, Pinto-Gouveia, & Martins, 2011). The IES-R is a self-report measure designed to assess current subjective distress for any specific life event, in our study specifically, a shame experience from childhood or adolescence. The IES-R has 22 items, 7 items having been added to the original 15-item IES (Weiss & Marmar, 1997), each item is rated on a 5-point scale (0–4). This scale measures three aspects of traumatic stress reactions (corresponding to three theoretical subscales): avoidance (e.g., “*I stayed away from reminders of it*”), intrusion (e.g., “*Any reminder brought back feelings about it*”) and hyperarousal (e.g., “*I was jumpy and easily startled*”) that parallel the DSM-IV (American Psychiatric Association, APA, 1994) criteria for PTSD. Still, in our research, we were only interested on the IES-R total. In this study, participants were instructed to answer the questionnaire based on the impact throughout their lives that a significant shame experience from their childhood or adolescence had (the same memory primed for CES scale). In the original study, the Cronbach α 's of the subscales range from .87 to .92 for intrusion, .84 to .86 for avoidance and .79 to .90 for hyperarousal (Weiss & Marmar, 1997). In our research, we found the total of the IES-R and its subscales to have high internal consistency (IES-R Total Cronbach's α = .96; Intrusion subscale Cronbach's α = .94; Avoidance subscale Cronbach's α = .88; Hyperarousal subscale Cronbach's α = .91).

Results

Study: Shame, centrality of shame memories and psychopathology

Descriptives

The means and standard deviations for this study are presented on Table 1.

The descriptive statistics for the variables studied are similar to previous studies (e.g., Andrews et al., 2002; Berntsen & Rubin, 2006, 2007; Goss et al., 1994; Weiss & Marmar, 1997). No gender, age or population (student and non-student) differences were found concerning the variables under consideration.

Table 1: Means and standard deviations for all subjects ($N = 811$) and t -test differences between males ($n = 325$) and females ($n = 486$)

Variables	Total ($N = 811$)		Males ($n = 325$)		Females ($n = 486$)		t	p
	M	SD	M	SD	M	SD		
<i>Psychopathology</i>								
DASS Depression	7.65	7.75	8.08	7.37	7.36	7.99	1.30	.195
DASS Anxiety	7.29	6.69	7.69	6.24	7.02	6.97	1.39	.164
DASS Stress	12.38	8.12	11.95	7.59	12.67	8.45	-1.24	.216
<i>Shame</i>								
Other As Shamer (OAS)	19.76	9.32	20.02	8.69	19.59	9.72	0.67	.506
Experience of Shame Scale (ESS)	48.94	13.41	48.25	13.22	49.40	13.55	-1.20	.232
<i>Centrality of shame memories</i>								
Centrality of Event Scale (CES)	44.52	18.20	45.75	18.00	43.70	18.31	1.56	.116
<i>Traumatic stress reactions</i>								
Impact of Event Scale-Revised Total (IES-R)	3.76	2.57	3.70	2.47	3.79	2.64	-0.53	.598
IES-R Intrusion	1.25	0.90	1.22	0.86	1.26	0.92	-0.67	.530
IES-R Avoidance	1.41	0.88	1.39	0.86	1.45	0.90	-0.95	.343
IES-R Hyperarousal	1.08	0.96	1.09	0.92	1.09	0.99	-0.09	.932

Shame and centrality of shame memories

To explore the relationship between variables, Pearson product-moment correlations were conducted (see Table 2). Concerning the linkage between shame and the centrality of shame memories, results show that the centrality of shame memories is moderately and positively associated with both external shame ($r = .34, p < .001$) and internal shame ($r = .32, p < .001$). That is, individuals whose shame memories from childhood and adolescence appear as a reference point to one's life story and identity tend to show more external shame and internal shame in adulthood.

Shame, centrality of shame memories and psychopathology

The Pearson product-moment correlation coefficients (Table 2) showed that the centrality of shame memories is moderately and positively correlated with depression ($r = .31, p < .001$) and anxiety ($r = .32, p < .001$) and significantly correlated with stress ($r = .23, p < .001$). As found in previous studies (Andrews, et al., 2002; Cheung et al. 2004; Gilbert, 2000a; Gilbert, Allan & Goss, 1996; Gilbert & Gerlsma, 1999), external shame and internal shame were also found to be significantly correlated with depression, anxiety and stress.

Table 2: Correlations (two-tailed Pearson's *r*) between External Shame, Internal Shame, Centrality of shame memory and Psychopathology (*N* = 811)

Variables	OAS	ESS	DASS Depression	DASS Anxiety	DASS Stress
OAS			.44*	.38*	.33*
ESS	.52*		.40*	.37*	.40*
CES	.34*	.32*	.31*	.32*	.23*

* $p < .001$

Note. OAS = External shame; ESS = Internal shame; CES = Centrality of shame memory.

We further explored these data multiple regression analysis in order to understand the linear relation between external shame, internal shame and the centrality of shame memories and the three criterion variables (Cohen, Cohen, West, & Aiken, 2003; Tabachnick & Fidell, 2007). We conducted three separate multiple regressions, with depression, anxiety and stress as the criterion variables (see Tables 3 and 4). For each, external shame, internal shame and centrality of shame memory were entered simultaneously as predictors.

Table 3: Model summary of the three regression analyses using external shame (OAS) internal shame (ESS) and centrality of shame memory (CES; independent variables) to predict DASS depression, anxiety and stress (criterion variables; Standard method)

Criterion variables	<i>R</i>	<i>R</i> ²	<i>F</i>	<i>p</i>
DASS depression	.50	.25	89.48	.000
DASS anxiety	.46	.21	71.58	.000
DASS stress	.43	.19	61.58	.000

Depression

Regression analysis results revealed that the predictor variables produce a significant model ($R^2 = .25$, $F_{(3,807)} = 89.48$; $p < .001$), accounting for 25% of the variance in depression. Additionally, these results showed that external shame, internal shame and centrality of shame memory have a significant and independent contribution on the prediction of depression. Thus, considering the beta values and semi-partial correlations, external shame emerged as the best global predictor ($\beta = .28$, $p < .001$) of depressive symptoms, followed by internal shame ($\beta = .21$, $p < .001$) and centrality of shame memory ($\beta = .14$, $p < .001$; Tables 3 and 4).

Table 4: β values and semi-partial correlations for external shame (OAS) internal shame (ESS) and centrality of shame memory (CES) on the criterion variables (DASS depression, DASS anxiety and DASS stress)

	Criterion variables					
	DASS depression		DASS anxiety		DASS stress	
	β	<i>sr</i>	β	<i>sr</i>	β	<i>sr</i>
OAS	.28**	.23	.21**	.17	.15**	.13
ESS	.21**	.17	.21**	.17	.29**	.24
CES	.14**	.13	.18**	.17	.09*	.08

Note. β = Standardized regression coefficient; *sr* = semi-partial correlation.

OAS = External shame; ESS = Internal shame; CES = Centrality of shame memory.

* $p < .010$; ** $p < .001$

Anxiety

External shame, internal shame and centrality of shame memory generate a significant model ($R^2 = .21$, $F_{(3,807)} = 71.58$, $p < .001$), accounting for 21% of anxiety variance. It can be seen that internal shame and external shame are responsible for the highest beta values but that the centrality of shame memories also makes a significantly independent contribution ($\beta = .18$, $p < .001$) to anxiety symptoms prediction, higher than on depression prediction (Tables 3 and 4).

Stress

Shame and centrality of shame memory variables produce a significant model ($R^2 = .19$, $F_{(3,807)} = 61.58$, $p < .001$), accounting for 19% of the variance in stress. Moreover, internal shame appears as the best global predictor ($\beta = .29$, $p < .001$), followed by external shame ($\beta = .15$; $p < .001$) allowing for the beta values and semi-partial correlations. In addition, the centrality of shame memory makes a less expressive but still significantly independent contribution, although the effect size is rather small ($\beta = .09$, $p < .010$; Tables 3 and 4).

Centrality of shame memories and traumatic stress reactions

Lastly, with the purpose of exploring the relationship between the centrality of shame memories and traumatic stress reactions, we used the IES-R to measure the extent to which an individual displayed traumatic stress symptoms in response to the shame memory from childhood and adolescence primed for CES. Results from the Pearson product-moment correlation coefficients showed that the centrality of shame memories is highly and positively correlated with traumatic stress reactions ($r = .63$, $p < .001$) and in particular with the intrusion ($r = .63$, $p < .001$), hyperarousal ($r = .59$, $p < .001$) and avoidance ($r = .54$, $p < .001$) subscales. Hence individuals whose shame memories reveal centrality characteristics tend to show more traumatic stress reactions, namely intrusion, hyperarousal and avoidance, concerning those particular emotional memories.

Discussion

There is empirical and clinical data implying that early shame experiences might be recorded in the autobiographical memory system as emotional distressful memories, functioning as central reference points to our identity and life story, with an effect on the vulnerability to psychopathology (Gilbert, 2003; Pillemer, 1998; Schore, 1998). The present study was aimed at investigating the centrality of shame memories and its connection to a variety of psychopathological symptoms.

Our first prediction was that memories of shame experiences could emerge as central in our life narratives and self-identity. In the current study, the evoked shame experiences from childhood and adolescence appear as central emotional memories, perceived as reference points for everyday inferences and for generating future expectations, as turning points in the life story and as central components of identity. These findings corroborate our hypothesis and empirically support what Berntsen and Rubin (2006, 2007) proposed on their centrality of event theory: That memories of highly negative emotional events can become central to one's identity, life story, and to everyday inferences and future expectations. These data on the centrality of shame memories also append to other authors' reflections that highly accessible personal memories help to anchor and stabilize our conceptions of ourselves and provide turning points in the life story, structuring our life narratives (Bluck & Habemas, 2000; McAdams, 2001; Pillemer 2003).

In addition, our results show that the centrality of shame memories is positively and significantly associated to both external shame and internal shame. That is to say, individuals whose shame memories from childhood and adolescence are salient reference points for the organization of autobiographical knowledge tend to reveal more external shame and internal shame in adulthood. So, it seems that individuals whose shame memories function as turning points in the life story, as crucial components of their personal identity and as reference points to everyday inferences, tend to believe they exist in the minds of others as undesirable, inferior or defective and to feel and judge themselves as inferior, bad or inadequate.

This is in line with prior studies that have associated shame in adulthood with memories of negative early experiences of shaming, rejection, abandonment or emotional negligence and control (Andrews, 2002; Claesson & Sohlberg, 2002; Gilbert et al., 1996; Stuewig & McCloskey, 2005). Furthermore, our data sustains the theoretical suggestion that early shame experiences are recorded as emotionally textured memories in autobiographical memory and can then become the foundations for negative self-relevant beliefs (in which one evaluates the self the same way others have: as flawed, inferior, rejectable) and increase shame-proneness (Gilbert, 2003; Lewis, 1992; Mikulincer & Shaver, 2005). According to Berntsen and Rubin (2006, 2007), having a highly negative emotional (or traumatic) event as central to personal identity probably means that this event is seen as representative for the person's self and a symbol for constant themes in the person's life story. This might lead to internal global and stable attributions, with the trauma being seen as causally related to characteristics of the self that pertain across situations. Our results provide support for this view and led us to believe that when early shame experiences function as anchoring events for our sense of self-identity, as turning points in our life narratives and as cognitive reference points for the organization of other memories and for generating future expectations, they shape not only our negative perceptions of the way we exist in the minds of others (external shame) but also our own negative personal judgments of our characteristics, feelings or fantasies (internal shame).

In what concerns the relationship between the centrality of shame memories and psychopathology, we found expressive and positive correlations between the centrality of the recalled shame experiences to one's identity and life story and depression, anxiety and stress symptoms. These results are consistent

with our hypothesis and allow us to conclude that individuals whose shame memories emerge as central for the organization of autobiographical knowledge tend to reveal more symptoms of depression, anxiety and stress. These data are in accordance with previous studies that proposed adverse rearing experiences, such as shaming ones, can affect the maturation and functioning of psychobiological mechanisms (Schoore, 1998, 2001) and influence vulnerability to psychopathology (Bifulco, & Moran, 1998; Gilbert, Cheung, Grandfield, Campey, & Irons, 2003; Gilbert & Gerlsma, 1999; Rutter et. al, 1997; Stuewig, & McCloskey, 2005). Additionally, our results are in line with Berntsen and Rubin (2006, 2007), that reported the centrality of a negative emotional event to be moderately and positively associated with measures of depression and anxiety. Our findings also substantiate former studies that indicate that autobiographical memories of traumatic or highly negative emotional events influence cognitive and emotional processing, and are related to psychopathological symptoms, such as depression and anxiety (Brewin, et al., 1999; Greenberg, Rice, Cooper, Cabeza, Rubin & LaBar, 2005; Patel, Brewin, Wheatley, Wells, Fisher, & Myers, 2007; Reynolds & Brewin, 1999; Rubin, Schrauf, & Greenberg, 2003).

Besides, in our study, moderate and significant correlations were found between external shame and internal shame and depression, anxiety and stress symptoms. These data support our prediction and are consistent with several prior studies that have highlighted the relation between shame and psychopathological symptoms, such as depression (Andrews & Hunter, 1997; Cheung et al., 2004; Thompson & Berenbaum, 2006) and anxiety (Irons & Gilbert, 2005; Tangney et al., 1992).

Furthermore, we sought to explore the relation between shame, the centrality of shame memories and psychopathology. The multiple regressions analyses indicated that external shame, internal shame and the centrality of shame memories accounted for a significant proportion of the variance in depression, anxiety and stress. Our data showed that all three were significant and independent predictors. Nevertheless, in depression, external shame emerged as best global predictor, while in anxiety and stress internal shame was responsible for the highest beta and semi-partial correlation values. In addition, it is notable that the centrality of shame memories showed a unique and independent contribution to depression, anxiety and stress symptoms, even when controlling for the effect of external and internal shame. These results emphasize that, when controlling for current external and internal shame, it is the extent to which a shame memory is central to one's identity, life story and for everyday inferences that is linked to symptoms of depression, anxiety and stress.

The findings presented here add to previous knowledge concerning the relationship between shame and psychopathology (Andrews et al., 2002; Tangney et al., 1995) by suggesting that, in individuals with external and internal shame, the fact that a shame experience becomes a personal reference point for the attribution of meaning to other events, a salient turning point in the life story and a central component of a person's identity and self-understanding, may increase the vulnerability to experience depressive, anxiety and stress symptoms. This idea can be viewed in light of the centrality of event theory, according to which when a highly negative emotional memory forms a cognitive reference point in a person's self-schemata it becomes highly accessible and interconnected in the cognitive networks to other autobiographical information, leading to several problems, such as traumatic stress reactions, anxiety and depression (Berntsen & Rubin, 2006, 2007).

Finally, pertaining to the association between the centrality of shame memories and traumatic stress reactions, we found that the centrality of shame memories was highly and positively correlated with traumatic stress reactions, particularly with symptoms of intrusion, hyperarousal and avoidance, concerning those specific emotional memories. Thus, it seems that individuals whose shame memories appear as key components of personal identity, as turning points that help structure their life story and as

reference points for everyday inferences, tend to show more traumatic stress reactions to those memories.

These findings corroborate our predictions and uphold Berntsen and Rubin's view (2006, 2007) on the importance the centrality of a highly emotionally negative event in the overall cognitive organization to the development and maintenance of PTSD symptoms. In fact, rather than being poorly integrated, as suggested by many PTSD theorists (Horowitz, 1986; for a review, see Dalgleish, 2004), these authors have shown that an emotionally negative (or traumatic) memory tends to form a cognitive reference point for the organization of autobiographical knowledge and for the perception of the self and the world, appearing to be well integrated in a person's cognitive networks instead (Berntsen & Rubin, 2006, 2007; Thomsen & Berntsen, 2008). In addition, our results are in accordance to Berntsen and Rubin's (2007) remarks that traumatic stress symptoms may arise in response to stressful negative events involving a wide range of emotions (e.g., shame), as long as that particular emotionally negative memory has become sufficiently central for one's self-understanding and view of the world, even if it doesn't fulfill the formal diagnostic criteria for a trauma according to the DSM-IV (APA, 1994). So, it seems that some characteristics of a stressful event, such as the emotional arousal (e.g., in our study, the emotional intensity of the shame experience), are likely to influence the subsequent centrality of the memory, and the relation between the CES and traumatic stress symptoms is neither determined by the severity or type of the traumatic/stressful event, nor it is limited to severe traumas.

In conclusion, taken together these findings suggest that the extent to which a shame memory becomes a key component to personal identity, a salient turning point in the life story and a reference point for meaning attribution to other events, may influence not only shame in adulthood but may also have an important and independent impact on psychopathology, increasing the vulnerability to symptoms of depression, anxiety and stress, and to traumatic stress reactions to that particular shame experience.

Clinical implications

The current research may contribute to a better elucidation of shame origins and to an enhanced understanding of this emotional experience, which seems to form a central reference point to one's self-identity and understanding of the world, and plays a crucial role in psychopathology' vulnerability and maintenance.

Therapeutically, our results emphasize the importance of evaluating and dealing with shame and shame memories, as proposed by Gilbert (2006a, 2007b, 2009a; Gilbert & Irons, 2005), in his Compassion Focused Therapy. In addition, our findings suggest the relevance of therapeutically reconstruct the autobiographical meaning associated with shame experiences so that their centrality to understanding one's past, expected future, and current self, is adaptively reevaluated (Robinson, 1996; Robinson & Taylor, 1998).

Limitations and future research

The findings presented here should be considered taking into account some methodological limitations. One is the correlational design of our study, since no causal conclusions can be drawn from our findings, only theoretically sustained interpretations. In the future, prospective studies should be carried out to enhance the understanding on the causal relations between the variables.

Besides, our findings cannot be generalized to clinical populations given that we used a general community sample. At the moment, we are replicating this study using a clinical sample and future studies should replicate this investigation using diverse general population samples to enable more firm conclusions to be drawn.

In addition, the fact that participants were requested to evoke experiences from their childhood or adolescence in two self-report questionnaires might have brought along the limitations of this type of measures and the prospect of selective memories in their retrospective reports (for a review, see Brewin, Andrews, & Gotlib, 1993). Future research might profit from the use of other non self-report instruments (such as, structured interviews) that also allow a more insightful, accurate and comprehensive exploration of shame memories. In an attempt to overcome these limitations, we are currently replicating this study using a semi-structured interview, the *Shame Experiences Interview* (Matos & Pinto-Gouveia, 2006a), more appropriate for assessing specific early shame experiences, and developed by us to evaluate in detail the phenomenology of shame experiences and memories.

At last, there are some reservations regarding the use of the Experience of Shame Scale (Andrews et al, 2002) to assess internal shame, since it comprises a few items that might be related to external shame (e.g., “*Have you worried about what other people think of the sort of person you are?*”). In the future, studies should seek out to replicate the present findings using other instruments to measure internal shame, such as the Internalized Shame Scale (Cook, 1994/2001) or the Social Comparison Scale (SCS; Allan & Gilbert, 1995).

Nonetheless, the current study adds to a recently growing body of research into the role of shame in the aetiology and course of psychopathology, and presents novel perspectives on the nature of shame, empirically supporting the proposal that shame memories can become central to personal identity and life story, influencing shame in adulthood and vulnerability to psychopathology.

Acknowledgements

We would like to thank Professor Paul Gilbert for the encouragement and support given to our research. This research has been supported by the second author (Marcela Matos) Ph.D. Grant (SFRH/BD/36617/2007), sponsored by FCT (Portuguese Foundation for Science and Technology).

5 | Study III

**Shame memories that shape who we are:
The moderator effect of centrality of shame memory between
shame and depression**

Matos, M. & Pinto-Gouveia, J. (2011). Shame memories that shape who we are: The moderator effect of centrality of shame memory between shame and depression. (*Manuscript submitted for publication in an international scientific journal with peer review*).

**Shame memories that shape who we are:
The moderator effect of centrality of shame memory
between shame and depression**

M. Matos & J.Pinto-Gouveia

Abstract

Theoretical and empirical accounts have posited that regarding an early shame experience as central to one's identity leads to greater emotional difficulties and psychopathological symptoms. The present study aimed at extending this line of research by exploring the moderator effect of centrality of shame memories on the association between shame and depression.

A sample of 385 undergraduate students completed measures of centrality of shame memory, external shame, internal shame and depressive symptoms.

Results showed that shame memories construed as central to personal identity and life story were associated with increased shame feelings in adulthood as well as with high levels of depressive symptoms. Key in this study was the finding that centrality of shame memory moderated the relationship between external and internal shame and depressive symptoms.

These data add to existent research and to literature on shame and autobiographical memory, suggesting that the extent to which a shame memory shapes one's self-identity, structures one's life narrative and gives meaning to other experiences, amplifies the link between shame feelings and depression.

Keywords: Autobiographical memory; Shame memory; Centrality of event theory Shame; Depression; Moderator effect

Introduction

Autobiographical emotional memories embrace the experiences in our lives that define and shape who we are. Emotional events that become highly accessible memories can have a profound impact on how we anchor and stabilize our conceptions of ourselves, structure our life narratives and give meaning to our past and current experiences (Bluck & Habermas, 2000; Conway & Pleydell-Pearce, 2000; McAdams, 2001; McAdams & Olson, 2010; Pillemer, 1998; Singer & Salovey, 1993). Such memories have been referred to as 'self-defining memories' (Conway, Singer, & Tagini, 2004; Singer, 1995) in that they give meaning and continuity to one's sense of self and life story (McAdams, Josselson, & Lieblich, 2006) and guide one's goals and behaviour (Sutin & Robins, 2008). These self-defining memories are usually very vivid, affectively intense, repeatedly rehearsed and linked to other similar memories (Baglov & Singer, 2004; Singer, 2005; Singer & Salovey, 1993).

In this realm, there is growing interest in the centrality of event theory, an approach to autobiographical and traumatic memory proposed by Berntsen and Rubin (2006, 2007). According to this view, a memory of an extremely negative emotional or traumatic event can become a central component of personal identity, a turning point in the life story, and form a reference point to attribute meaning to other experiences and to generate future expectations. Thus, these vivid and affectively intense emotional memories, by becoming highly accessible and interconnected to other memories and to autobiographical knowledge, may have harmful effects on one's well-being and mental health (Bernsten & Rubin, 2006, 2007; Berntsen, Willert, & Rubin, 2003). There is increasing evidence that centrality of negative events is associated with increased depression, post traumatic symptoms, anxiety and dissociation (Berntsen & Rubin, 2006, 2007, 2008; Berntsen, Rubin, & Siegler, 2011; Boals, 2010; Boals & Schuettler, 2011; Robinaugh & McNally, 2010, 2011; Rubin, Boals, & Berntsen, 2008; Thomsen & Berntsen, 2009), worse overall physical health, greater emotional intensity and greater visceral reactions (Boals, 2010), complicated grief (Boelen, 2009), maladaptive coping styles and cognitive processing of the trauma (Boals & Schuettler, 2011), among samples of traumatized or non traumatized individuals. Hence, construing a trauma as central to one's identity is related to multiple psychological difficulties.

A specific type of emotional event that has been studied in light of the centrality of event theory is shame. Shame has long been recognized to be an aversive, pervasive and powerful self-conscious emotion (Gilbert, 1998c; Kaufman, 1989; H.B. Lewis, 1971; Nathanson, 1994; Tangney & Dearing, 2002; Tracy, Robins, & Tangney, 2007), associated with a number of clinical problems, including depression (e.g., Andrews, Qian, & Valentine, 2002; Cheung, Gilbert, & Irons, 2004; Matos & Pinto-Gouveia, 2010; Tangney, Stuewig, & Mashek, 2007a; for a review see Kim, Thibodeau, & Jorgensen, 2011), and post traumatic stress disorder (e.g., Andrews, Brewin, Rose, & Kirk, 2000; Harman & Lee, 2010; Lee, Scragg, & Turner, 2001).

Several theorists converge on the notion that shame is a vital emotion to one's sense of self and self-identity (Gilbert, 1998c, 2007a; M. Lewis, 1992; Tangney & Dearing, 2002; Tracy & Robins, 2004). In light of the evolutionary biopsychosocial model (Gilbert, 1992, 1998c, 2002a, 2007a), shame is fundamentally a socially-focused emotion that emerges in instances of threats to the 'social' self, alerting individuals to disruptions in their social rank and social relationships and motivating behaviours aimed at repairing damage to one's social standing and social bonds. This emotion is then thought to have evolved as a

warning of possible damage to our sense of self and social reputation, that is, as a strategy to keep the self safe (e.g., from rejection, exclusion, marginalization). Thus, the experience of shame is linked to the experience of threat or loss of abilities to create desirable images of oneself in the mind of the other (i.e., being seen as an unattractive social agent, looked down, criticized or held in contempt) so that others may reject, exclude or harm the self (Gilbert, 1998c, 2002a, 2007a). This sense of self as flawed, inferior, inadequate or worthless in the eyes of the others, has been referred to as *external shame* (Gilbert, 1997, 1998c, 2003). External shame is when our attention and cognitive processing are focused outwardly, on what is going on in the mind of the other about the self and is related to having negative aspects of the self exposed (M. Lewis, 1992, 2003). This experience of the self as existing negatively for others can be internalized, resulting in negative self-evaluations and feelings. This has been labelled as *internal shame*, where our attention and cognitive processing are attuned inwardly, to our emotions, personal characteristics and behaviour (Gilbert, 1998c, 2002a, 2003). Internal shame, as an inner sense of the self as flawed, inferior, inadequate, powerless or personally unattractive, is powered by emotional memories of previous shame episodes and is typically associated with self-monitoring and self-criticism (Gilbert, 1998c, 2003). This internalized shame response is therefore aimed at restoring one's image and defending the self against possible attacks and rejection from others.

Shame experiences commonly involve both external and internal shame, since these are intimately linked and fuel one another (Gilbert, 1998c, 2002a, 2010; Kim et al., 2011). There is now robust evidence that external and internal shame are associated with the development and maintenance of psychopathological symptoms, especially depression (Alexander, Brewin, Vearnals, Wolff, & Leff, 1999; Andrews et al., 2002; Ashby, Rice, & Martin, 2006; Cheung et al., 2004; Matos, Pinto-Gouveia, & Duarte, 2011c, 2011e, 2011f; Tangney & Dearing, 2002; Tangney et al., 2007a; Thompson & Berenbaum, 2006; for a review see Kim et al., 2011).

Since early in life, shame experiences arise in our interactions with others and can go from being criticized by a parent, bullied by peers, rejected by a lover, failing at something important, to being neglected, sexually or physically abused. The variety of shame episodes we experience throughout our lives may engender a negative sense of self as felt by others, leading to self-devaluations and feelings.

Thus, shame experiences represent a threat to the social self and self-identity. Recent research has indeed found that early shame experiences can be recorded in autobiographical memory as central emotional memories, shaping personal identity, structuring the life narrative and forming a salient reference point to give meaning to other events (Pinto-Gouveia & Matos, 2011). Shame memories from childhood and adolescence were also found to reveal traumatic memory features, capable of eliciting intrusions, strong emotional avoidance and hyperarousal symptoms, acting as threat-activating memories (Matos & Pinto-Gouveia, 2010).

Therefore, shame memories construed as central and traumatic autobiographical memories seem to operate as self-defining memories in the self-memory system (Conway, 2005; Conway, & Pleydell-Pearce, 2000; Matos, Pinto-Gouveia, & Gilbert, 2012; Singer & Salovey, 1993) in that they give meaning and continuity to one's sense of self and life story (McAdams, 2001; McAdams et al., 2006), and influence behaviour and goals (Sutin & Robins, 2008). In addition, by forming highly accessible reference points for the organization of autobiographical knowledge and becoming interconnected to other memories, central shame memories can influence attentional, emotional and cognitive processing (Berntsen, & Rubin, 2006, 2007; Matos, Pinto-Gouveia & Costa, 2011). In this sense, shame memories may constitute the emotional foundations for negative internal working models of self (e.g., as being defective, inferior, and so on, and negatively evaluated by others) and others (e.g., as critical, threatening, hostile that may criticize, reject,

exclude or harm the self), influencing emotional and social responses to negative self-defining events (Bowlby, 1969, 1973; Baldwin & Dandeneau, 2005; Mikulincer, & Shaver, 2005; Pinto-Gouveia & Matos, 2011). Thus, they may integrate interpersonal schemas that guide expectations of how others will view and respond to the self (Baldwin, 1997; Baldwin & Holmes, 1987; Gilbert, 2007a).

Furthermore, recent research has established that centrality of shame memories was linked to increased external and internal shame, heightened traumatic stress reactions and to higher depression, anxiety and stress symptoms, after controlling for shame measures (Pinto-Gouveia & Matos, 2011). Besides, shame traumatic memories were found to be a moderator on the relationship between shame and depression, amplifying external and internal shame impact on depressive symptoms (Matos & Pinto-Gouveia, 2010). To date, however, no study has examined whether shame memories central to self-identity and life story have a moderator effect on the association between current shame feelings and depression.

The current study was thus designed to extend our earlier work on shame memory (Matos & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011), and test the moderator effect of centrality of shame memory on the relationship between external and internal shame and depressive symptoms. Taken together theoretical accounts on emotional autobiographical memories and our prior findings, we hypothesize that centrality of shame memory would be positively associated with current external and internal shame and depressive symptoms. Moreover, we predict that shame memories that anchor one's self-conceptions and give meaning to one's life narrative would increase and strengthen the link between external and internal shame and depressive symptoms.

Method

Participants

A total of 385 undergraduate students (47 males, 338 females) from the University of Coimbra completed a set of four self-report measures at the end of their lecture. Participants were aged 18-56 years ($M = 22.83$, $SD = 6.16$) and their years of education' mean was 14.36 ($SD = 1.49$). Ninety per cent of the subjects were single ($n = 349$). Questionnaires were completed in the same order and at one time point by all participants.

Measures

Centrality of Event Scale (CES; Berntsen & Rubin, 2006; Portuguese version by Matos, Pinto-Gouveia, & Gomes, 2010) assesses the extent to which a memory for a stressful event forms a reference point for personal identity and to attribution of meaning to other experiences in a person's life. This self-report questionnaire consists of 20 items, rated on 5-point Likert scale (1-5), that measure three interdependent characteristics of a highly negative emotional event that load on to a single underlying factor: the extent to which the event is a central component of one's personal identity (e.g., "I feel that this event has become part of my identity."), is viewed as a landmark in one's life story (e.g., "I feel that this event has become a central part of my life story.") and acts as a reference point for inferences and attributions in everyday life (e.g., "This event has coloured the way I think and feel about other experiences."). In its

original study and Portuguese version, CES showed sound psychometric properties with a high internal consistency (Cronbach $\alpha = .94$ and $.96$ respectively). In this study, CES also revealed an excellent internal consistency (Cronbach $\alpha = .96$).

Priming for a shame memory

In this study, instructions of the CES were modified to prime participants with a shame memory and complete the scale with that memory as their focus. After a brief introduction on the concept of shame, participants were instructed to answer the questionnaire based on a significant and stressful shame experience they recalled from their childhood or adolescence. This adjustment in the instructions has been made in other studies (Pinto-Gouveia & Matos, 2011; Pinto-Gouveia, Castilho, Matos, & Xavier, 2011; Robinaugh & McNally, 2010) and it does not seem to affect the validity of this measure, since the items' content is well suited for both instructions.

Other As Shamer (OAS; Goss, Gilbert, & Allan, 1994; Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011c). The scale consists of 18 items measuring external shame (i.e., global judgments of how people think others view them). Respondents indicate the frequency on a 5-point scale (0–4) of their feelings and experiences to items such as '*I feel other people see me as not quite good enough*' and '*I think that other people look down on me*'. Higher scores on this scale reveal high external shame. Both in its original and Portuguese version studies, OAS revealed an excellent internal consistency (Cronbach's $\alpha = .92$ and $.91$ respectively). In this study the Cronbach' alpha was $.91$.

Internalized Shame Scale (ISS; Cook, 1994, 2001; Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011e) comprises a 24-item measure of internal shame, consisting of negatively worded items (e.g., "*compared with other people, I feel like I somehow never measure up*") assessing the frequency in which people experience feelings of shame and a 6-item scale consisting of positively worded items (e.g., "*all in all, I am inclined to feel that I am a success*") assessing self-esteem. All of the items are rated on a scale of "0," meaning "never," to "4," meaning "almost always." The shame subscale items were based on phenomenological descriptions of shame feelings, whereas the self-esteem subscale items were taken from the Rosenberg Self-Esteem Scale (Rosenberg, 1965). In this study, only the shame subscale was used as a measure of internal shame. Previous studies (Cook, 1996; Matos, Pinto-Gouveia, & Duarte, 2011e) have reported good psychometric properties and high internal consistency (Cronbach's $\alpha = .92$). In the current study Cronbach alpha was $.95$.

Depression, Anxiety and Stress Scales (DASS-42; Lovibond & Lovibond, 1995; Portuguese version by Pais-Ribeiro, Honrado, & Leal, 2004) is a self-report measure composed of 42 items and designed to assess three dimensions of psychopathological symptoms: depression, anxiety and stress. The items indicate negative emotional symptoms and the respondents are asked to rate each item on a 4-point scale (0-3). On the original version, Lovibond and Lovibond (1995) found the subscales to have high internal consistency (Depression subscale Cronbach's $\alpha = .91$; Anxiety subscale Cronbach's $\alpha = .84$; Stress subscale Cronbach's $\alpha = .90$). In the present research, only the Depression subscale was used (Cronbach's $\alpha = .95$).

Results

Data analysis

Data were analyzed using PASW (Predictive Analytics Software), version 18 (SPSS Inc., Chicago, IL, USA) for PCs.

A cross sectional study was conducted to examine the moderator effect of centrality of shame memory on the relationship between measures of shame and depressive symptoms. The independent variables were external shame (as measured by OAS) and internal shame (as measured by ISS) and centrality of shame memory (CES). The dependent variable was depression (as measured by DASS-42 Depression subscale).

Pearson correlation coefficients were conducted to explore the association between independent variables, outcome variable and the moderator (Howel, 2006).

A series of *hierarchical multiple hierarchical regression analyses* were conducted in order to analyze the moderation effect of centrality of shame memory between the shame variables and depression. In such analyses we considered the interaction of a continuous predictor (Cohen, Cohen, West, & Aiken, 2003). In an attempt to reduce the error associated with multicollinearity, a standardized procedure was used, centering the values of the predictors (OAS, ISS) and the moderator (CES) and then obtained the interaction product by multiplying the created variables (Aiken & West, 1991).

Finally, with the purpose of better understanding the relation between the independent variables (OAS, ISS) and depression with different levels of the moderator variable (CES), we plotted two graphics considering one curve for each of the three levels of the moderator (low, medium and high). This procedure is recommended to illustrate this relation and can be done with centered and uncentered variables (Aiken & West, 1991; Cohen et al, 2003). In this graphical representation, and since we didn't had theoretical cut points, we plotted the three curves taking into account the following cut-point values of the moderator variable on the x axis: one standard deviation below the mean, the mean and one standard deviation above the mean as recommended by Cohen and colleagues (2003).

Preliminary data analysis

The suitability of the current data for regression analyses was examined. The analysis of residuals scatter plots was conducted, providing a test of assumptions of normality, linearity and homoscedasticity between dependent variables scores and errors of prediction. Results showed that the residuals were normally distributed, had linearity and homoscedasticity. Besides, the independence of the errors was analyzed and validated through graphic analysis and the value of *Durbin-Watson* (values ranged between 1.988 and 1.995). There was no evidence of the presence of multicollinearity or singularity amongst the variables, since *Variance Inflation Factor (VIF)* values ($VIF < 5$) indicated the absence of β estimation problems. Overall, these data are adequate for regression analyses.

Descriptives

The means and standard deviations of the variables studied are reported in Table 1. The means and standard deviations for these variables are similar to those obtained in previous studies (Del Rosario & White, 2006; Goss et al., 1994; Pinto-Gouveia & Matos, 2011; Matos, Pinto-Gouveia, & Gilbert, 2012). No significant gender differences were found.

Table 1: Means (*M*), Standard Deviations (*SD*) and Intercorrelation scores on self-report measures (*N* = 385)

Measures	<i>M</i>	<i>SD</i>	CES	OAS	ISS
CES	46.53	17.07	-		
OAS	20.07	9.20	.43*	-	
ISS	33.42	16.25	.47*	.77*	-
Depression	6.15	7.47	.33*	.54*	.66*

* $p < .001$

Note. CES = Centrality of shame memory; OAS = External shame; ISS = Internal shame.

Correlations

Pearson product-moment correlations for all variables are reported in Table 1. Centrality of shame memory was significantly and moderately correlated with external shame, internal shame and depressive symptoms. External shame and internal shame were highly correlated with each other and with depression.

Multiple regression analyses

Given the previous findings and the proposed hypotheses, we intended to explore whether centrality of shame memory increased the impact of external shame and internal shame on depressive symptoms.

The moderator effect of centrality of shame memory on the relationship between external shame and depression

External shame was entered as a predictor in the first step of the regression model (Table 2). On step two we further included centrality of shame memory as a predictor variable. In both steps the predictors entered produced statistically significant models [Step 1: $R^2 = .29$, $F_{(1, 383)} = 157.81$, $p < .001$; Step 2: $R^2 = .30$, $F_{(1, 382)} = 6.17$, $p = .013$]. The third step, where the interaction terms were entered, presents a R^2 of .31 [$F_{(1, 381)} = 5.50$; $p = .019$]. Thus, there was a significant interaction of early memories of warmth and safeness and centrality of shame memory on predicting depression.

From the regression coefficients analysis (Table 2) we can observe that both external shame and centrality of shame memory are statically significant predictors, in all steps of model. The interaction between these two variables suggests the the existence of a moderator effect of centrality of shame memory on the relation between external shame and depression [$\beta = .10$; $t_{(381)} = 2.35$, $p = .019$].

Table 2: Hierarchical multiple regression using external shame to predict DASS depression having centrality of shame memory (CES) as moderator ($N = 385$)

Predictor	Depression	
	ΔR^2	β
Step 1	.29***	
OAS		.54***
Step 2	.01*	
OAS		.49***
CES		.12*
Step 3	.01*	
OAS		.47***
CES		.12*
OASxCES		.10*
Total R^2	.31*	

* $p < .050$. ** $p < .010$. *** $p < .001$.

Note. CES = Centrality of shame memory; OAS = External shame.

To better understand the relationship between external shame and depression with different levels of centrality of shame memory, we plotted a graphic (Figure 1) considering one curve for each the three centrality of shame memory (CES) levels (low, medium and high). We can observe that individuals with high levels of centrality of shame memory show a positive and high relation with depression in comparison to those who have medium and low values. In these two cases the relation is less expressive, being noteworthy that individuals who have low levels of centrality of shame memory and medium or high levels of external shame only show a small to moderate relation with depression (Figure 1). So, amongst individuals with the same levels of external shame, those whose shame memories operate as central components of their personal identity and turning points in life story are the ones who reveal more depressive symptoms (Figure 1).

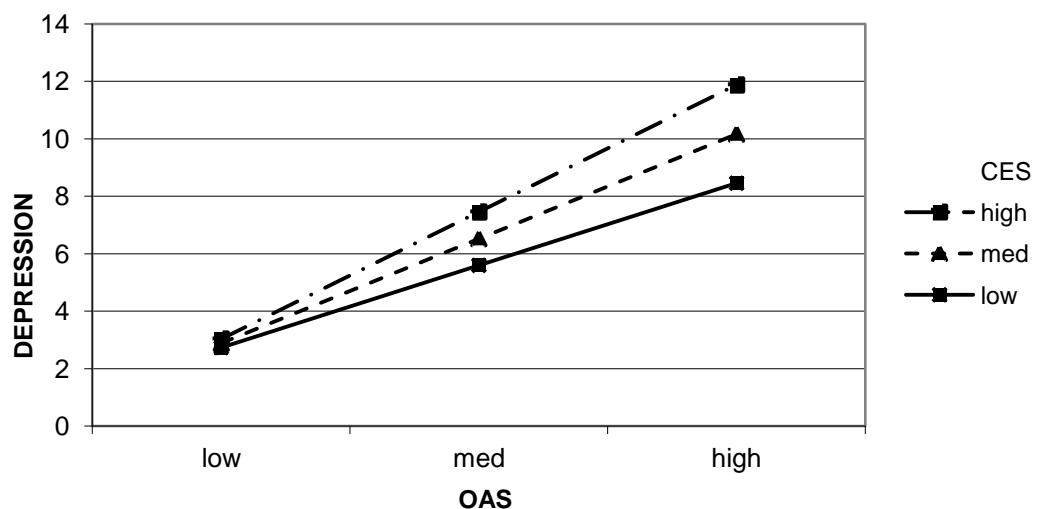


Figure 1. Graphic for the relation between external shame (OAS) and depression with different levels of centrality of shame memory (CES)

The moderator effect of centrality of shame memory on the relationship between external shame and depression

The same procedure was conducted to explore the relationship between internal shame and depression moderated by centrality of shame memory (Table 3). We could also verify that all three steps of the regression model are statistically significant. Internal shame was entered in step one as a predictor and centrality of shame memory was further added as a predictor variable in step two. Only the first step produced a statistically significant model [Step 1: $R^2 = .43$, $F_{(1, 383)} = 292.43$, $p < .001$; Step 2: $R^2 = .43$, $F_{(1, 382)} = .44$, $p = .507$]. The interaction terms were entered on the third step and the model accounted for 45% of depression variance ($F_{(1, 381)} = 10.89$, $p < .001$). Hence, results confirm that there was a significant interaction of centrality of shame memory and internal shame on depression prediction.

Regression coefficients analysis (Table 3) reveals that in the first two steps only internal shame emerges a significant global predictor of depression. However, the interaction of two variables indicates that the centrality of shame memory has moderator effect on the relation between internal shame and depression ($\beta = .13$, $t_{(381)} = 3.30$, $p < .001$).

Table 3: Hierarchical multiple regression using internal shame (ISS) to predict DASS depression having centrality of shame memory (CES) as moderator ($N = 385$)

Predictor	Depression	
	ΔR^2	β
Step 1	.43***	
ISS		.66***
Step 2	.00	
ISS		.64***
CES		.03
Step 3	.02***	
ISS		.63***
CES		.02
ISSxCES		.13***
Total R^2	.44***	

* $p < .050$. ** $p < .010$. *** $p < .001$.

Note. CES = Centrality of shame memory; ISS = Internal shame.

Figure 2 illustrates the relation between internal shame and depression with different levels of centrality of shame memory (CES) (low, medium and high). In this case, we can see that in individuals presenting medium to high levels of internal shame, those who score higher on perceiving the shame memory as central to their identity reveal a high and positive relation with depression. However, in those individuals who have low to medium scores of internal shame the effect of centrality of shame memory on this association seems to be less pronounced. So, only when internal shame levels are medium or high, centrality of shame memory amplifies its impact on depressive symptoms. Finally, individuals with high levels of internal shame even when having low levels of centrality of shame memory they tend to present depressive symptoms.

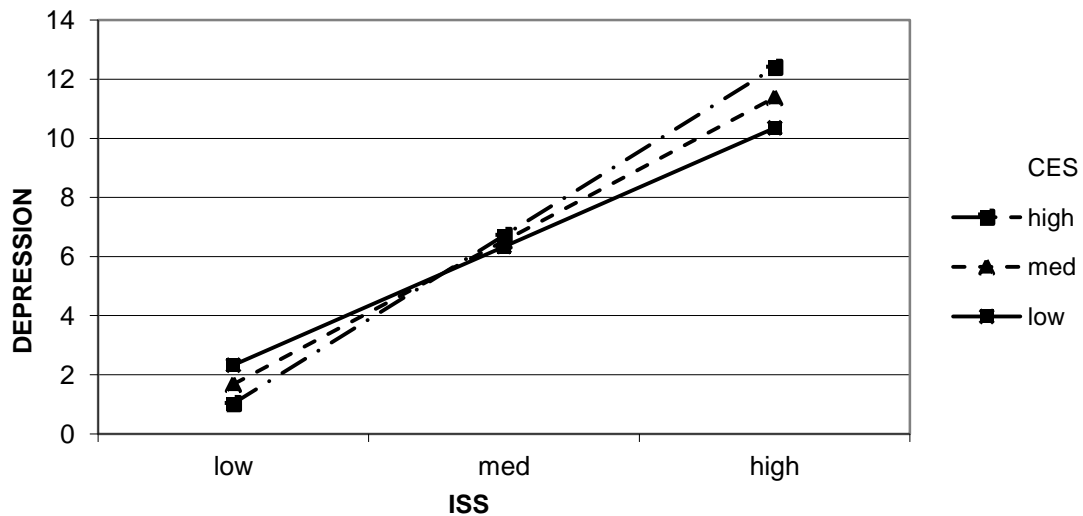


Figure 2. Graphic for the relation between internal shame (ISS) and depression with different levels of centrality of shame memory (CES)

Therefore, in both moderator analysis, when the interaction terms were entered on the regression models they produced a significant increase in R^2 , and also revealed an expressive and significant effect upon depression.

Analysis of the interaction terms implies that subjects who had more centrality of shame memory and scored higher on external and internal shame were found to be more depressed than those who had less centrality of shame memory: that is, for subjects with the same shame scores, those whose shame functions as a central memory to one's identity and life story would tend to present more depressive symptoms. Therefore, an interaction effect between centrality of shame memory and shame (external and internal) was corroborated suggesting that centrality of shame memory moderates the effect of shame on depression.

Discussion

Theoretical and empirical evidence have suggested that shame is a transdiagnostic problem with pathogenic effects on mental health (Gilbert, 1998c, 2007a; Kaufman, 1989; M. Lewis, 1992; Tangney & Dearing, 2002; for a review see Kim et al, 2011) and that shame traumatic memories and those that become central to self-identity and life story are associated with psychopathology (Matos & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011). The purpose of the current study was to extend these findings investigating the moderator effect of centrality of shame memories on the relationship between shame and depression.

In accordance with our predictions and prior research (Pinto-Gouveia & Matos, 2011), centrality of shame memory was associated with higher levels of external and internal shame and depressive symptoms. This means that individuals who appraise a shame memory from childhood and adolescence as a central part of their identity, a turning point in their life story and a reference point for meaning attribution, tend to believe they exist in the minds of the others someone with negative characteristics (e.g., as inferior,

defective or unattractive) and to engage in negative self-evaluations and feelings. Also, these individuals, having a shame memory highly accessible, interconnected with other memories and colouring autobiographical knowledge, may be more prone to experience defeat states (i.e., depressive symptoms) when facing aversive life events (e.g., loss of social status, loss of resources).

The key finding in the present study was that centrality of shame memory was a moderator on the relationship between shame and depression. When the interactions between external or internal shame and centrality of shame memory were entered in the regression analyses there was an increase in the amount of depression variance explained and these interactions had a significant and expressive effect upon depressive symptoms. Moderation graphic analyses revealed that, for both external and internal shame, individuals who presented medium to high levels of shame and scored higher on assessing a shame memory as central to their self-identity and life story, revealed a high and positive association with depression. Specifically, in individuals with the same levels of external shame, those whose shame memories were regarded as crucial to self-understanding and life story, tended to present elevated depressive symptomatology. Of note was that, even if individuals had medium or high scores in external shame but low levels of centrality of shame memory, the relationship with depression was only small to moderate. In turn, it was only when individuals had medium or high levels of internal shame that construing a shame memory as key to self-identity and life narrative amplified internal shame impact on depressive symptoms. In instances where individuals had high internal shame but low centrality of shame memory, internal shame was still strongly linked to depression.

These findings corroborate our hypothesis and may be understood in light of the evolutionary models of shame and depression (Gilbert, 1992, 1998c, 2007a; Price, Sloman, Gardner, Gilbert, & Rohde, 1994; Sloman, Gilbert, & Hasey, 2003). Our results suggest that when one feels unable to compete in the social arenas and is trapped in a sense of self as existing negatively in the eyes of the others and as globally flawed, undesirable or bad, perceiving a shame memory as central to self-identity and as a landmark of his life story, may magnify one's proneness to activate involuntary defeat strategies in face of social defeat or loss, rendering one more vulnerable to experience depressive symptoms. However, individuals who have already internalized these shame experiences into a highly negative sense of self (i.e., high internal shame), may experience greater and harsher self-criticism (e.g., self-persecuting) and negative self-directed emotions (e.g. self-hatred). These, in turn, may increase the triggering of defeat states and elevate vulnerability to depressive symptoms, even in the absence of shame memories appraised as central to identity. Future research could investigate these assumptions looking at self-criticism or seeking out to replicate these findings in a sample of depressed patients.

The current results reflect Berntsen and Rubin (2006, 2007) conceptualization on the harmful psychological effects of negative emotional memories that become central to personal identity and life story, adding support to the findings of several studies within this framework (e.g., Berntsen, Rubin, & Siegler, 2011; Boals, 2010; Robinaugh & McNally, 2010, 2011; Rubin et al., 2008; Thomsen & Berntsen, 2009).

The present data further sustain theoretical accounts that, when in early interactions a child experiences the self as being unable to create positive affect and desirable images in the mind of the others, this can become the basis for self-relevant beliefs and self-other schema (e.g., beliefs one is inferior, worthless, unlovable, and others are critical, threatening and powerful). These negative internal working models influence subsequent attentional, thought and affect processing, and social behaviour, placing one at risk to suffer from emotional and psychological difficulties (Baldwin & Dandeneau, 2005; Bowlby, 1969, 1973; Gilbert, 2007; Mikulincer & Shaver, 2005). Also consistent with our findings is research reporting a link

between adverse rearing experiences (e.g., devaluation, threat, submission, rejection, neglect, abandonment, abuse), feelings of shame in adulthood and vulnerability to psychopathology (Andrews, 2002; Bifulco & Moran, 1998; Claesson & Sohlberg, 2002; Gilbert, Cheung, Grandfield, Campey, & Irons, 2003; Gilbert & Gerlsma, 1999; Stuewig & McCloskey, 2005).

Nevertheless, given the correlational design of our study, we cannot draw causal conclusions from our findings. So, it is also conceivable that, people who currently experience higher levels of shame and suffer from depressive symptoms may be more inclined to judge a shame related childhood memory as central to their life story and identity. Several studies give support for this view suggesting that people's memories for their past emotional responses can be partially reconstructed based on their current appraisals of events (for a review, see Levine & Pizarro, 2004). However, the fact that these findings mirror a significant amount of research showing that centrality of negative emotional events predicts multiple psychological outcomes (e.g., Berntsen & Rubin, 2007; Berntsen et al., 2011; Boals, 2010; Robinaugh & McNally, 2010) and that shame traumatic and central memories predict psychopathology (Matos & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011), supports our interpretation. Another limitation of this research, that limits the generalization of results to other populations, is the use of a predominantly female student sample. Nonetheless, we should note that shame and shame memories are common to all humans and across clinical and non-clinical samples. Additionally, non-clinical samples are widely used in autobiographical and traumatic memory research since trauma exposure in college student population is similar to community samples and these provide a wide range of adverse and traumatic events (Bernat, Ronfeldt, Calhoun, & Arias, 1998; Schuetler & Boals, 2011; Smyth, Hockemeyer, Heron, Wonderlich, & Pennebaker, 2008).

The data presented here has significant clinical implications, particularly for therapists working with high shame individuals suffering from depressive symptoms. In these cases it might be relevant to employ tailored therapeutic strategies designed to assess shame and shame memories (e.g., through structured clinical interviews, such as the Shame Experiences Interview, Matos & Pinto-Gouveia, 2006a) and to work with these patients shame memories that emerge as central to their identity and life story. Reconstructing the meaning associated with these memories and lessening their centrality to self-understanding and meaning attribution might help to decrease these patients' shame feelings, hence reducing depressive symptoms. These suggestions could be incorporated into already existent clinical approaches, such as the Compassion Focused Therapy (Gilbert, 2005a, 2009a, 2010), designed to help people suffering from high shame and self-criticism acknowledge the evolved function of their current symptoms and develop self-compassion.

Taken together, the current findings extend past research (Pinto-Gouveia & Matos, 2011) and add to autobiographical and traumatic memory literature (Berntsen & Rubin, 2006, 2007; Robinaugh & McNally, 2010), implying that the extent to which a shame memory operates as a self-defining memory, shaping the conceptions of ourselves, structuring the way we construe our life narrative and giving meaning to other experiences, strengthens and magnifies the link between shame feelings and depression.

Acknowledgements

This research has been supported by the first author (Marcela Matos) Ph.D. grant number SFRH/BD/36617/2007, sponsored by FCT (Portuguese Foundation for Science and Technology).

5 | Study IV

**Shame autobiographical memory:
An integrative model for the relations among
autobiographical, traumatic and central shame memory
features, shame feelings and psychopathology**

Matos, M. & Pinto-Gouveia, J. (2011). Shame autobiographical memory: An integrative model for the relations among autobiographical, traumatic and central shame memory features, shame feelings and psychopathology. *(Manuscript submitted for publication in an international scientific journal with peer review)*

Shame autobiographical memory:

An integrative model for the relations among autobiographical, traumatic and central shame memory features, shame feelings and psychopathology

M. Matos & J. Pinto-Gouveia

Abstract

Recent evidence shows that early shame experiences can function as traumatic and central memories to self-identity and life story, increasing current shame feelings and vulnerability to psychopathology. The present study extended this research by exploring the phenomenological properties of shame autobiographical memories and how these relate to their traumatic and centrality features and to shame and psychopathological symptoms, using a sample of 412 participants from the general population.

Results showed that several AM properties were related to traumatic and centrality qualities of the shame memory, shame feelings and psychopathology. Across analyses strength of recollection, reliving and similarity of emotions, importance to self and rehearsal AM properties were the best predictors of measures of traumatic and centrality features of shame memory, external and internal shame and psychopathology. Path analysis results revealed a complex mediational chain where reliving of emotions, importance to self and rehearsal properties of shame autobiographical memory indirectly predicted heightened external and internal shame and elevated symptoms of depression, anxiety and stress through increased traumatic and centrality qualities of shame memory.

These findings offer insight towards an integrative model of shame autobiographical memory, its traumatic and centrality qualities, shame feelings and psychopathological symptoms, with implications to current conceptualizations of shame and autobiographical memory, and to clinical work. Limitations and directions for future research are discussed.

Keywords: Autobiographical memory; Traumatic memory; Centrality of event theory; Shame; Psychopathology; Path analysis

Introduction

In the last decades, shame has assumed a central position in several fields in psychology, from personality to psychotherapy research and theory, all converging on the vital but also potentially deleterious effects of this emotion (Andrews, Qian, & Valentine, 2002; Dearing & Tangney, 2011; Gilbert, 1998c, 2002a; Kaufman, 1989; H. B. Lewis, 1971; M. Lewis, 1992; Retzinger, 1998; Tangney & Fisher, 1995; Tangney & Dearing, 2002).

Many theorists agree on the notion that shame is a self-conscious but socially shaped emotion, in that it involves self-focused evaluations of the self as inferior, flawed or globally bad (Gilbert, 1998c; H.B. Lewis, 1971; Tangney & Dearing, 2002; Tangney & Fisher, 1995), which are typically related to experience of having devaluing aspects of the self exposed to others (Lewis, 1992, 2003), so they may feel contempt or ridicule for various aspects of the self (Gilbert, 1998c, 2002a). Hence, shame is linked to a sense of defectiveness, inferiority and aloneness that derives from feeling unattractive in the eyes of the others and out of tune in social interactions (Gilbert, 2007a; Gilbert & McGuire, 2008; Nathanson, 1994; Tomkins, 1995; Tangney & Dearing, 2002). For this reason, this emotion is crucial to our perception of ourselves and self-identity as social agents, permeating our interactions with others.

Among the diverse theories of shame, the evolutionary biopsychosocial model (Gilbert, 1992, 1998c, 2002a, 2007a) has posited that shame is rooted in humans evolved strategies to be socially attractive and engage others in social relationships that are beneficial to reproductive interests (e.g., attracting friends, lovers, allies, helpful authorities) increasing one's chance of survival and welfare. A critical idea is that shame is an affective-defensive response to threats or losses of social attractiveness (e.g., devaluation, loss of social status) and/or disruptions to social bonds (e.g., social rejection), because one is (or has become) an unattractive social agent and exists negatively in the minds of the others. Gilbert (1997, 1998c, 2002a) labelled this external shame, as it relates to the externally focused (on the social world) experience of self as unattractive, inferior, inadequate, defective, worthless in the eyes of the others. Although intimately linked, external shame can be distinguished from the inwardly focused (e.g., to one's emotions, personal attributes, behaviour) experience of internal shame. Internal shame is about a sense of self as flawed, inferior or undesirable in his/her own eyes (Gilbert, 2002a, 2003; H.B. Lewis, 1971; Tangney & Dearing, 2002; Tracy & Robins, 2004) and is commonly associated with self-monitoring and self-blaming and submissive responses. These self-focused responses are ultimately aimed at restoring one's image for others and repairing damage to one's social bonds, in order to keep the self safe from possible attacks or rejection from others (Gilbert, 1998c, 2002a, 2003).

A robust body of research has suggested that shame (external and internal) is linked to emotional difficulties and mental health problems, particularly depression (Andrews et al., 2002; Ashby, Rice, & Martin, 2006; Cheung, Gilbert & Irons, 2004; Matos, Pinto-Gouveia, & Duarte, 2011c, 2011e, 2011f; Tangney, Stuewig, & Mashek, 2007a; Thompson & Berenbaum, 2006; for a review see Kim, Thibodeau, & Jorgensen, 2011) and anxiety (Irons & Gilbert, 2005; Matos, Pinto-Gouveia, & Duarte, 2011c, 2011e, 2011f; Pinto-Gouveia & Matos, 2011; Tangney, Wagner, & Gramzow, 1992).

Shame events as traumatic and central memories

Shame experiences usually involve both feelings of external and internal shame and take place throughout our lives. From our early interactions within the family to experiences in the wider social domain later in life (e.g., peers, teachers, lovers), shame may arise and foster painful self-devaluations and feelings, having enduring effects on our sense of self and social relationships.

Therefore, shame experiences are often highly negative emotional events that comprise a primary threat to the one's sense of self and self-identity as a social agent. These experiences may then be conceptualized as social traumas (e.g., social rejection, abuse, bullying), as opposed to non social traumas (e.g., physical injuries, natural catastrophes, life threatening illnesses). Notably, research has demonstrated that social traumas, in particular those involving uncontrollable social evaluative threats to the self, are strongly linked to stress responses (e.g., cortisol; Dickerson & Kemeny, 2004).

In fact, shame memories entail important traumatic memory qualities, eliciting intrusions, hyper arousal symptoms and strong emotional avoidance (Matos & Pinto-Gouveia, 2010). Shame memories may thus engender a sense of current threat to one's sense of self and psychological integrity, leaving one to feel inferior, defective, socially unattractive or powerless (Ehlers & Clark, 2000; Harman & Lee, 2010). Furthermore, these threat memories can texture the whole sense of self and become central to self-identity, structure one's life narrative and form a highly available reference point to attribute meaning to past, current and future experiences, well interconnected with other autobiographical knowledge (Berntsen & Rubin, 2006, 2007; Matos & Pinto-Gouveia, 2011b; Pinto-Gouveia & Matos, 2011). Such memories can be seen as 'self-defining memories' (Conway, Singer, & Tagini, 2004; Singer, 1995), given that they give meaning and continuity to one's sense of self and life story (McAdams, Josselson, & Lieblich, 2006), and guide one's goals and behaviour (Sutin & Robins, 2008). Thus, shame memories may influence the formation of negative internal working models of self (e.g., as existing negatively in the mind of the others and as globally inferior, unworthy, unattractive for the self) and others (e.g., as critical, threatening or rejecting). These may then guide attention, cognitive, emotional and self-other processing and translate into emotional and psychological problems (Baldwin & Dandeneau, 2005; Matos & Pinto-Gouveia, 2011a; Mikulincer & Shaver, 2005).

Consistent with this view, recent research has found that shame experiences from childhood and adolescence that function as traumatic and central memories are associated with increased feelings of external and internal shame in adulthood and with elevated vulnerability to depression, anxiety, stress, social anxiety and paranoid symptoms (Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Pinto-Gouveia & Matos, 2011; Matos, Pinto-Gouveia & Duarte, 2012; Matos, Pinto-Gouveia & Gilbert, 2012). Moreover, it has been argued that shame traumatic and central memories impact upon depression through increased feelings of shame (specifically, internal shame; Matos, Pinto-Gouveia & Duarte, 2011b).

The autobiographical memory properties of shame memories and how these relate to the traumatic and centrality features of these emotional memories are, however, yet to be empirically determined.

Autobiographical memory

Autobiographical memory (AM) consists of memories for personal life events and "constitutes a major crossroads in human cognition where considerations relating to the self, emotion, goals, and personal meanings all intersect" (Conway & Rubin, 1993, p. 103). This uniquely human form of memory

corresponds to the memory of the self interacting with others and serves both short-term and long term goals that shape who we are and define our lives and purpose in the world (Conway et al., 2004; Fivush, 2008, 2010; McAdams, 1992, 2001; Pillemer, 1998).

According to the basis-systems model (Rubin, 2005; Rubin, Schrauf, & Greenberg, 2003), AMs are products of an integration of component processes, each occurring in separate behaviourally and neuronally defined systems (Daselaar, Rice, Greenberg, Cabeza, LaBar, & Rubin, 2008; Greenberg, Rice, Cooper, Cabeza, Rubin, & LaBar, 2005; Greenberg & Rubin, 2003; Rubin, 2002, 2005; Rubin, Feldman, & Beckham, 2004; Rubin, Schrauf et al., 2003; Schrauf & Rubin, 1998, 2000). Hence, events recalled as AMs are usually multimodal (i.e., involving individual senses, such as vision, hearing, smell, taste, body sense or kinaesthesia), and fluctuate in emotional, spatial, temporal and narrative content and context, being personally relevant. These component processes form an integrative memory system, imagery in individual sensory modalities and multimodal spatial imagery, language, narrative reasoning and emotions (Rubin, 2005; Rubin et al., 2003).

The basic systems model has proposed several basic properties of AMs, which have been systematically studied using the Autobiographical Memory Questionnaire (AMQ, see detailed description in Methods section; Greenberg et al., 2005; Rubin, 2005; Rubin, Boals, & Berntsen, 2008; Rubin, Burt, & Fifield, 2003; Rubin, Feldman et al., 2004; Rubin, Schrauf et al., 2003; Sheen, Kemp, & Rubin, 2001; Talarico, LaBar, & Rubin, 2004). These properties of AM may be conceptualized in the three clusters: cognitive meta-judgments of *recollection* and *belief*; imagery, language, narrative and emotion *component processes*; and *reported properties of events and memories*.

Two phenomenological properties of central relevance to AM are the sense of *recollection* and the *belief* that memories are accurate (Rubin, 2005; Rubin, Schrauf et al., 2003). *Recollection*, or a sense of reliving of the original experience, is a fundamental feature of AM (Baddeley, 1992; Brewer, 1996; Greenberg & Rubin, 2003; Rubin, Schrauf et al., 2003). Also defined as auto-noetic consciousness (Tulving, 1983, 1985; Wheeler, Stuss, & Tulving, 1997), this property distinguishes AM from other conscious states (e.g., dreaming or imagining) and from merely retrieving facts about the self. It comprises a sense of reliving and travelling back in time to the original experience as well as remembering the event rather than just knowing it happened. Another basic feature of AM is *belief* in the accuracy of the memories. This involves a sense of confidence that the event really occurred as it is remembered, the idea that the memory is accurate, and that one could not be persuaded to change that memory and would testify on that memory (Rubin, Schrauf et al., 2003). Thus, understanding what AM properties lead to recollection and belief in shame memory is important, because these features may affect how one experiences and acts on the memory, and how it becomes integrated in one's cognitive networks, informing self-other schema and influencing subsequent processing.

Component processes include imagery, language, narrative and emotion processes (Greenberg et al., 2005; Rubin, 1995, 2005; Rubin, Schrauf et al., 2003; Rubin & Siegler, 2004). Imagery processes respect to the perceptual and sensory detail in AM. Visual imagery encompasses two systems: descriptive imagery, referring to the extent the event can be *seen* in the mind; and spatial imagery, involving the recollection of *setting* and *spatial* layout of the event. Auditory imagery is also essential in AM and is linked to whether the memory can be *heard* in the mind. Two other properties of AM that have an auditory imagery component are related to language, and these include whether people are *talking* in the memory and whether the memory comes to one's mind *in words*. These imagery components are related to the vividness of AMs, and memory vividness has been linked to emotional intensity and negative emotionality in general (Bluck & Li, 2001; Talarico et al., 2004). Because narrative coherence is important in traumatic

memories (Berntsen, Willert, & Rubin, 2003; Rubin, Feldman et al., 2004), another component process of AM relates to whether the memory is a coherent *story*. Furthermore, emotion is known to play a crucial role in AM, in that it modulates memory (Rasmussen & Berntsen, 2009; Rubin, 2005; Rubin & Berntsen, 2003; Talarico, et al., 2004; for a review, see Holland & Kesinger, 2010). For this reason, *emotion* is an important component process in our study, defined as the reliving of emotions in terms of similarity and intensity of emotion at the time of the event and as it is remembered.

Reported properties of events include the *importance* of the remembered event as an anchor to the self and turning point is one's life (a concept that parallels the one of centrality of event, Berntsen & Rubin, 2006, 2007) and the extent in which the event is *rehearsed*, by thinking or talking about the memory. The specificity of the event, referring to whether the AM concerns a specific event that occurred once or whether it captures multiple similar occurrences, and the *age* of the memory are also properties of AM relevant to the current study (Greenberg et al., 2005; Rubin, 1995, 2005; Rubin, Schrauf et al., 2003; Rubin & Siegler, 2004).

These AM properties have been systematically investigated in regard to different types of memories. Namely, emotional and non-emotional memories (Greenberg et al., 2005; Rubin, Schrauf et al., 2003; Rubin, Schrauf & Greenberg, 2004; Rubin & Siegler, 2004; Talarico & Rubin, 2003; Talarico et al., 2004), positive and negative memories (Boals, 2010; Rasmussen & Berntsen, 2009; Rubin & Berntsen, 2003; Rubin, Schrauf et al., 2003; Rubin et al., 2008), voluntary and involuntary memories (Rubin & Berntsen, 2009; Rubin, Schrauf et al., 2004; Rubin, Feldman et al, 2004; Rubin et al., 2008), and traumatic and non traumatic events (Berntsen & Rubin, 2008; Rubin, Feldman et al, 2004; Rubin et al., 2008). In addition, AM has been studied in the context of clinical disorders, such as post traumatic stress disorder (Berntsen et al., 2003; Rubin, Berntsen, & Bohni, 2008; Rubin, Feldman et al., 2004; Rubin et al, 2008), anxiety (Wenzel & Jordan, 2005; Wenzel, Pinna, & Rubin, 2004), social anxiety (Field, Psychol, & Morgan, 2004; Morgan, 2010), or depression (Brewin, Reynolds, & Tata, 1999; Kremers, Spinhoven, van der Does, 2004; Williams, 1996).

Yet, the question remains as to what AM properties characterize shame memories recalled from childhood or adolescence. Furthermore, the extent to which these AM properties are related to traumatic and centrality qualities of shame memories and to feelings of shame and psychopathological symptoms in adulthood is still unclear. In addition, taken together past findings on relationship between shame memories, shame and psychopathology and AM theoretical and empirical accounts, a key research question is whether shame AM properties impact upon current shame feelings and psychopathology through their effect upon shame memory traumatic and centrality features.

The current study

The aim of the present study is therefore to provide a more detailed picture of the phenomenological properties of shame AM, and how these relate to traumatic and centrality qualities of the shame memory, current of external and internal shame feelings and psychopathological symptoms.

First, we investigate what properties of AM predict the degree to which a memory will be recollected or believed. Based upon findings from AM research (Rubin, Schrauf et al., 2003; Rubin & Siegler, 2004), we hypothesize that the strength of recollection would be predicted by the vividness of visual and auditory imagery, emotion and narrative coherence, whereas the degree of belief in the accuracy of the memory would be predicted by spatial imagery components and by narrative coherence.

In addition, we explore AM properties of shame memories in relation to their traumatic and centrality features. We hypothesize that individuals, whose shame memories reveal greater traumatic characteristics and are regarded as central to self-identity and life story, would present enhanced AM properties for the shame event recalled. In other words, they would show higher levels of recollection and belief, heightened sensory, emotion and narrative component processes, greater importance and rehearsal. The relationships between AM properties and current shame feelings and psychopathological symptoms are also explored. Again, we expect that enhanced properties of AM for the shame memory would be linked to increased external and internal shame and elevated depression, anxiety and stress symptoms.

Finally, we test an integrative model exploring a mediational chain between the best predictive properties of shame AM (derived from prior findings in this study), shame traumatic memory, centrality of shame memory, external and internal shame and depression (see Figure 1). We hypothesize that properties of shame AM would indirectly impact upon depression, anxiety and stress through their effect upon traumatic and centrality of shame memory features, and through their indirect effect upon shame feelings. In turn, shame traumatic memory and centrality of shame memory would impact upon depression indirectly through their effect upon current external and internal shame.

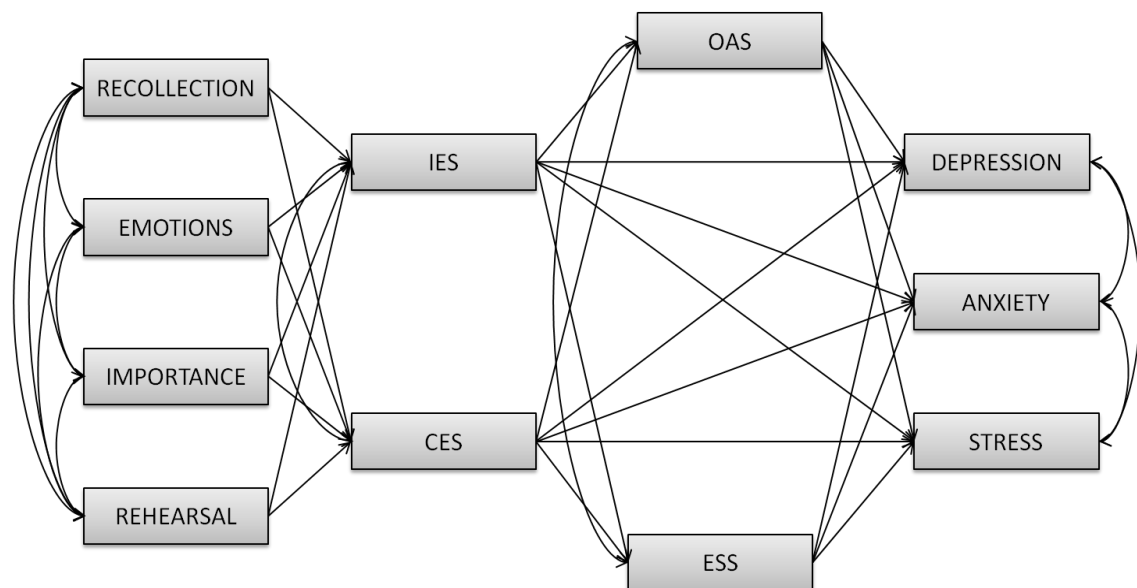


Figure 1. The theoretical model for the relationships among recollection, emotions, importance and rehearsal properties of shame autobiographical memory (AMQ), shame traumatic memory (IES-R), centrality of shame memory (CES), external shame (OAS), internal shame (ESS), depression, anxiety and stress (DASS-42).

Method

Participants

Four hundred and twelve participants (121 men and 291 women) took part in this study, 240 (58.3%) were college students recruited from the University of Coimbra, and 172 (41.7%) subjects recruited from the general community population. The age range of the participants was 18-60, with a mean age of 28.51 ($SD = 10.78$). Most participants were single (72.8%; $n = 300$) and 18.8% ($n = 78$) married. In the general community sample, 23.5% ($n = 97$) had upper class professions (e.g., medical doctors, lawyers, CEOs) and 13.3% ($n = 55$) had middle class professions (e.g., academics, teachers, social workers, engineers, managers, nurses, middle-level administrators). The participants mean of years of education was 14.48 ($SD = 3.29$). The data analysis treated the samples as a single population because both the college students and the community sample, and males and females, showed similar means and standard deviations for the research variables.

Procedure

A series of self-report questionnaires was administered to the respondents by the author, MM, with assistance of undergraduate students. In the student sample, the questionnaires were completed by the volunteers at the end of a lecture, with previous knowledge and authorization of the Professor in charge. In the general population, we used a convenience sample collected within the staff of institutions, namely schools and private corporations. Authorization from these institutions' boards was obtained and the self-report questionnaires were completed by volunteers in the presence of the researcher. In line with ethical requirements, it was emphasized that participants co-operation was voluntary and that their answers were confidential and only used for the purpose of the study.

Measures

Priming for the shame memory

Before completing the measures, participants were given a brief introduction on the concept of shame and were asked to recall a significant and stressful shame experience from their childhood or adolescence. They were then asked to briefly provide a description of shame event and instructed to answer the three shame memory related questionnaires based on that experience. This adjustment in the instructions has been made in other studies (Matos & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011) and it does not seem to affect the validity of this measure, since the items' content is well suited for both instructions.

Shame autobiographical memory

Autobiographical Memory Questionnaire (AMQ; Rubin, Burt et al., 2003; Rubin, Schrauf et al., 2003; Sheen et al., 2001; Portuguese translation and adaptation by Matos & Pinto-Gouveia) was derived from various existing autobiographical and general memory theories and is sensitive to the conscious experience of

remembering. It comprises a set of questions (which may vary according to the research aims) that assess a variety of autobiographical memory properties of a particular event, in this case, the shame memory nominated by participants. A brief description of the items used in this study is provided in Table 1. The full questions and rating scales are given in Appendix. For questions 1 through 6 and 14 the scales ranged from 1 (not at all), to 3 (vaguely), to 5 (distinctly), to 7 (as clearly as if it were happening right now). For questions 8 through 12 and 15, the scales ranged from 1 (not at all), to 3 (vaguely), to 5 (distinctly), to 7 (as much as any memory). Questions 7, 13, and 16 through 19 had unique scales, which follow each of these questions. Because they measure different aspects of autobiographical memory, most scales were considered individually. In addition, we calculated an overall measure of *recollection* equal to the average of relive and back in time, and an overall measure of *belief* equal to (real/imagine + accurate + testify + (8 - Persuade)/4).

Table 1. Autobiographical Memory Questionnaire variables

Variable	Brief description of the item
<i>Recollection and Belief</i>	
Reliving	I am reliving the original event.
Back in time	I travel back to the time when it happened.
Remember/Know	I can remember it rather than just knowing that it happened.
Real/Imagine	I believe the event in my memory really occurred.
Accurate	Distorted versus as accurate as a neutral observer.
Testify	Would you be confident to testify in a court?
Persuade	I could be persuaded that your memory was wrong
<i>Component processes</i>	
See	I can see it in my mind.
Setting	I can recall the setting where it occurred.
Spacial	I know its spatial layout.
Hear	I can hear it in my mind.
Talk	I or other people are talking.
In words	It comes to me in words.
Story	It comes to me as a coherent story
Emotions	I can feel now the emotions that I felt then.
<i>Related properties of events or memories</i>	
Importance	It is significant for my life
Rehearsal	I have thought or talked about this event
Once/many	It occurred once at one particular time and place,
Merged/extended	A merging of events versus an extended event.
Age of memory	19. Please date the memory (month/day/year).

Shame traumatic memory

Impact of Event Scale – Revised (IES-R; Weiss & Marmar, 1997; Portuguese version by Matos, Pinto-Gouveia, & Martins, 2011). The IES-R is a self-report instrument designed to measure current subjective distress for any specific life event, and specifically in this study in relation to the shame memory described by the participants. This scale has 22 items rated on a 5-point Likert scale (0–4). The IES-R is composed by three subscales that measure the three main characteristics of traumatic memories: avoidance (e.g., “I stayed away from reminders of it”), intrusion (e.g., “Any reminder brought back feelings about it”) and hyperarousal (e.g., “I was jumpy and easily startled”) that parallel the DSM-IV criteria for PTSD. In the

original study, Cronbach alphas of the subscales ranged from .87 to .92 for intrusion, .84 to .86 for avoidance and .79 to .90 for hyperarousal (Weiss & Marmar, 1997). The Portuguese version study found a one-dimensional structure with sound psychometric properties, with a Cronbach' alpha of .96 (Matos, Pinto-Gouveia, & Martins, 2011). In this study, the total of IES-R revealed a high internal consistency (Cronbach's $\alpha = .96$).

Centrality of shame memory

Centrality of Event Scale (CES; Berntsen & Rubin, 2006; Portuguese version by Matos, Pinto-Gouveia, & Gomes, 2010) assesses the extent to which a memory for a stressful event (in this case a shame experience reported by each participant) forms a reference point for personal identity and to attribution of meaning to other experiences in a person's life. This self-report questionnaire consists of 20 items, rated on 5-point Likert scale (1-5), that measure three interdependent characteristics of a highly negative emotional event that load on to a single underlying factor: the extent to which the event is a central component of one's personal identity (e.g. "*I feel that this event has become part of my identity.*"), is viewed as a landmark in one's life story (e.g. "*I feel that this event has become a central part of my life story.*") and acts as a reference point for inferences and attributions in everyday life (e.g. "*This event has coloured the way I think and feel about other experiences.*"). In its original study and Portuguese version, CES showed sound psychometric properties with a high internal consistency (Cronbach $\alpha = .94$ and .96 respectively). Cronbach' alpha for this measure in the current study was .97.

External shame

Other As Shamer (OAS; Goss, Gilbert, & Allan, 1994; Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011c). This 18 item scale measures external shame (global judgements of how people think others view them). Respondents rate on a 5-point Likert scale (0–4) the frequency of their feelings and experiences, for example, "*I feel other people see me as not quite good enough*" and "*I think that other people look down on me*". Scores can range from 0 to 72 with higher scores on this scale indicative of higher external shame. A Cronbach alpha of .92 was reported in the original study of this scale Goss et al. (1994). The Cronbach alpha for this study was .91.

Internal shame

Experience of Shame Scale (ESS; Andrews, Qian & Valentine, 2002; Portuguese version by Matos & Pinto-Gouveia, 2011d) is a 27 item scale that, although not designed to specifically measure internal shame, taps feelings of shame around three key domains of self: character (personal habits, manner with others, what sort of person you are and personal ability), behaviour (shame about doing something wrong, saying something stupid and failure in competitive situations) and body (feeling ashamed of one's body or parts of it). Each item indicates the frequency of experiencing, thinking and avoiding any of the three areas of shame in the past year and is rated on a 4-point Likert scale (1–4). Only the total of the ESS was used in this study. Andrews et al. (2002) found this scale to have a high internal consistency (Cronbach $\alpha = .92$) and in the present study, ESS showed a Cronbach alpha of .95.

Psychopathology

Depression, Anxiety and Stress Scales (DASS-42; Lovibond & Lovibond, 1995; Portuguese version by Pais-Ribeiro, Honrado & Leal, 2004) is a self-report measure composed of 42 items and designed to assess

three dimensions of psychopathological symptoms: depression, anxiety and stress. The items indicate negative emotional symptoms and are rated on a 4-point Likert scale (0-3). On the original version, Lovibond and Lovibond (1995) found the subscales to have high internal consistency (Depression subscale Cronbach's $\alpha = .91$; Anxiety subscale Cronbach's $\alpha = .84$; Stress subscale Cronbach's $\alpha = .90$). In the present study, these subscales also revealed a very good reliability (Depression subscale Cronbach's $\alpha = .92$; Anxiety subscale Cronbach's $\alpha = .86$; Stress subscale Cronbach's $\alpha = .90$).

Results

Data analysis

Data analyses were conducted using PASW (Predictive Analytics Software), version 18 (SPSS Inc., Chicago, IL, USA) for PCs, and AMOS (Analysis of Moment Structures) version 18 (Amos Development Corporation, Crawfordville, FL, USA) was used to estimate path analyses.

Descriptives were computed to explore means and standard deviations for the phenomenological properties of shame autobiographical memory and for other study variables. Multiple regression analyses were calculated to investigate which properties of autobiographical memory predicted the degree in which the shame memory was recollected or believed (Cohen, Cohen, West & Aiken, 2003; Tabachnick & Fidell, 2007). Dichotomous high and low groups for shame traumatic memory and centrality of shame memory were created based on these variables median scores. Independent Samples *t* Tests were then conducted to estimate mean differences in the high and low groups on shame autobiographical memory variables, external and internal shame and psychopathology measures. The significance of these mean differences was further confirmed through bootstrap resampling method using 1000 samples and 95% confidence intervals. Pearson correlation coefficients were performed to explore the association between shame autobiographical memory properties, shame traumatic memory, centrality of shame memory, external and internal shame and depressive, anxiety and stress symptoms. Multiple regression analysis were used to examine the predictive power of shame autobiographical memory properties on shame traumatic memory, centrality of shame memory, external and internal shame and depressive, anxiety and stress symptoms. Given the large number of AMQ variables, this procedure allowed us to identify the best predictors of outcome/mediator variables, to be used in the mediation analyses (Cohen et al., 2003; Tabachnick & Fidell, 2007).

Finally, we conducted a mediational study, in which we tested whether shame traumatic memory (IES-R) and centrality of shame memory (CES; mediator variables) mediated the effect of shame autobiographical memory properties (AMQ; independent, exogenous variables) on external shame (OAS), internal shame (ESS), depression, anxiety and stress (DASS-42 subscales; dependent, endogenous variables). Simultaneously, we tested whether the effects of shame traumatic memory (IES-R) and centrality of shame memory (CES) on psychopathology variables (DASS-42 subscales) were mediated by external shame (OAS) and internal shame (ESS; mediator variables).

A path analysis was carried out to test for the mediator effects described above. This technique is a special case of structural equation modeling (SEM) and considers hypothetical causal relations between variables that have already been defined. A Maximum Likelihood method was used to evaluate the regression coefficients significance. SEM procedure estimates the optimal effect of one set of variables on another set of variables in the same equation, controlling for error (Byrne, 2010; Kline, 2005). Multivariate outliers

were screened using Mahalanobis squared distance (D2) method and uni and multivariate normality was assessed by skewness and kurtosis coefficients. There was no severe violation of normal distribution ($|Sk| < 3$ and $|Ku| < 8-10$; Kline, 2005). The significance of direct, indirect and total effects was assessed using χ^2 tests (Kline, 2005). Bootstrapping resampling method was further used to test the significance of the meditational paths, using 1000 bootstrap samples and 95% confidence intervals (CIs; Kline, 2005).

Effects with $p < .050$ were considered statistically significant.

Descriptives

Means and standard deviations for all variables are shown in Table 2. Autobiographical memory properties for the recalled shame experience from childhood or adolescence generally presented slightly lower mean scores than the ones reported for memories elicited using neutral or emotionally charged cue words (e.g., Rubin et al., 2008; Rubin, Schrauf et al., 2003; Rubin & Siegler, 2004), memories generated without cue words or restrictions (Rubin, Schrauf et al., 2004), memories nominated for negative, positive or important events memories (Rubin et al., 2008; Talarico et al., 2004) and voluntary and involuntary memories (Rubin et al., 2008). However, and even though none of these differences were tested for statistical significance, the linguistic component in words, importance to self and life story and age mean scores were on the whole higher than the ones reported in the aforementioned studies. The descriptive statistics for shame traumatic memory, centrality of shame memory, external and internal shame and psychopathology variables were comparable to the ones presented in prior studies conducted in similar samples (Andrews et al., 2002; Goss et al., 1994; Matos & Pinto-Gouveia, 2010, 2011b, 2011c, 2011e; Pinto-Gouveia & Matos, 2011).

Table 2. Means (*M*), standard deviations (*SD*) for shame autobiographical memory variables, shame trauma memory, centrality of shame memory, external shame, internal shame, and psychopathology variables and mean differences for High and Low shame traumatic memory groups and High and Low centrality of shame memory groups

Variable	Total (<i>N</i> = 412)		Low IES-R (<i>n</i> = 216)		High IES-R (<i>n</i> = 196)		<i>t</i> ₍₄₁₀₎	Low CES (<i>n</i> = 230)		High CES (<i>n</i> = 182)		<i>t</i> ₍₄₁₀₎
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
AMQ												
Recollection	4.14	1.44	3.61	1.42	4.73	1.22	8.63***	3.79	1.45	4.59	1.30	5.87***
Reliving	4.27	1.59	3.76	1.52	4.83	1.47	7.25***	3.89	1.54	4.75	1.52	5.69***
Back in time	4.01	1.66	3.45	1.67	4.64	1.42	7.74***	3.68	1.76	4.43	1.44	4.67***
Remember/know	4.73	1.47	4.44	1.57	5.06	1.29	4.37***	4.52	1.53	4.99	1.35	3.28***
Belief	4.11	.67	3.99	.69	4.24	.64	3.68***	4.04	.69	4.20	.65	2.35*
Real/Imagine	5.16	1.68	5.08	1.72	5.24	1.64	0.95	5.17	1.74	5.15	1.61	0.10
Accurate	3.45	1.35	3.52	1.35	3.37	1.35	1.10	3.49	1.39	3.40	1.30	0.65
Testify	4.58	1.61	4.30	1.64	4.89	1.52	3.81***	4.40	1.67	4.80	1.49	2.58*
Persuade	3.25	1.36	3.08	1.33	3.44	1.37	2.70**	3.11	1.35	3.43	1.36	2.38*
See	4.55	1.64	3.99	1.66	5.16	1.39	7.77***	4.17	1.64	5.02	1.52	5.45***
Setting	4.83	1.57	4.37	1.63	5.34	1.33	6.55***	4.58	1.64	5.16	1.42	3.79***
Spatial	4.76	1.45	4.51	1.58	5.04	1.24	3.74***	4.60	1.53	4.98	1.32	2.68**
Hear	3.94	1.68	3.41	1.63	4.53	1.53	7.15***	3.60	1.64	4.38	1.62	4.85***
Talk	3.60	1.63	3.19	1.57	4.07	1.56	5.70***	3.32	1.59	3.97	1.61	4.10***
In words	3.86	1.60	3.42	1.60	4.34	1.44	6.17***	3.60	1.62	4.19	1.50	3.83***
Story	4.18	1.58	3.75	1.63	4.67	1.38	6.08***	3.89	1.62	4.55	1.39	4.35***
Emotions	4.01	1.69	3.32	1.52	4.77	1.53	9.60***	3.52	1.63	4.63	1.56	7.03***
Importance	3.98	1.72	3.47	1.79	4.55	1.44	6.66***	3.49	1.79	4.61	1.40	6.95***
Rehearsal	4.70	1.89	5.14	1.87	4.20	1.79	5.23***	5.13	1.86	4.14	1.78	5.51***
Once/specific	0.07	0.25	0.03	0.77	0.11	0.32	3.20***	0.02	0.15	0.13	0.34	4.43***
Merged/extended	0.38	0.49	0.35	0.48	0.41	0.49	1.26	0.31	0.46	0.49	0.50	3.70***
Age of memory	4752	4192	4863	4111	4630	4287	0.56	4889	4181	4580	4212	0.74
IES-R	3.69	2.59	1.65	1.10	5.92	1.79	29.53***	2.45	2.07	5.24	2.33	12.84***
CES	44.27	18.47	34.78	13.95	54.73	17.17	13.00***	30.57	7.77	61.58	12.60	30.68***
OAS	19.82	9.73	16.27	8.03	23.74	9.95	8.42***	16.97	8.78	23.42	9.71	6.98***
ESS	49.48	14.07	43.98	11.57	55.54	14.10	9.13***	45.72	12.27	54.23	14.77	6.39***
Depression	7.27	7.65	5.38	6.35	9.34	8.40	5.42***	6.03	6.74	8.83	8.44	3.75***
Anxiety	6.74	6.59	4.80	4.88	8.89	7.52	6.61***	5.27	5.16	8.60	7.67	5.25***
Stress	12.25	7.94	10.22	6.88	14.49	8.43	5.66***	11.12	7.61	13.70	8.13	3.31***

* $p < .050$. ** $p < .010$. *** $p < .001$.*Note.* AMQ = Shame autobiographical memory properties; IES-R = Shame traumatic memory; CES = Centrality of shame memory; OAS = External shame; ESS = Internal shame.

How autobiographical memory properties predict the strength of recollection and belief in accuracy of the shame memory

First, we aimed at exploring what properties of autobiographical memory predicted the degree in which the shame memory was recollected or believed. Two multiple regression analyses were conducted using component processes of visual (*see, setting, spatial*) and auditory (*hear, talk, in words*) imagery, *story coherence*, similarity and intensity of reinstated *emotions, importance* to self and life story and *rehearsal* as predictors. In *recollection*, this set of variables accounted for 71% of the variance [$R = .84$, $F_{(10,401)} = 98.83$, $p < .001$], with *hear* auditory component ($\beta = .35$, $p < .001$) emerging as the best global predictor, followed by *emotions* ($\beta = .27$, $p < .001$), *story* ($\beta = .18$, $p < .001$) and *in words* ($\beta = .08$, $p = .049$). In *belief*, however, the model accounted for a significant smaller proportion of variance [$R = .48$, $R^2 = .23$, $F_{(10,401)} = 12.01$, $p < .001$], with *story coherence* ($\beta = .19$, $p = .001$), *importance* ($\beta = .16$, $p = .004$) and the *spatial* component ($\beta = .15$, $p = .009$) emerging as significant predictors.

How shame autobiographical memory properties relate to shame traumatic memory and centrality of shame memory

One main purpose of this study was to investigate how properties of shame autobiographical memory are associated with shame memory variables and varied according the degree of traumatic memory and centrality characteristics of the shame memory.

Table 2 presents the *mean differences* using Independent Samples *t* Tests on the study variables for high and low shame traumatic memory and centrality of shame memory groups. Results showed that shame autobiographical memory properties significantly differed between the high and low groups. Individuals high in shame traumatic memory and centrality of the shame memory presented significantly higher scores in almost all autobiographical memory properties, specifically in *recollection* measures, *remember/know* and total of *belief, component processes*, namely the vividness of visual (*see*), spatial (*setting, spatial*) and auditory (*hear, talk, in words*) imagery, *story coherence, emotions, importance* and *once/many*, and scored lower in *rehearsal*. The high centrality of shame memory group also scored significantly higher in *merged/extended* than the low group. No significant differences were found between high and low groups regarding *real/imagine, accurate* and *age of memory*. The significance of these mean differences was confirmed in bootstrap results.

The association between properties of autobiographical memory and traumatic and centrality of shame memory characteristics was further explored through *correlation analyses* (see Table 3). Similarly, results indicated that *recollection* properties, *remember/know*, total of *belief, sensory and emotional component processes, importance, once/many* and *merged/extended* were significantly and positively linked to shame traumatic memory and centrality of shame memory, with *rehearsal* showing a significant and negative association. Higher magnitude correlations were found regarding similarity and intensity of *emotions, recollection* properties, vividness of visual and auditory imagery components (i.e., *see, hear*), and *importance* to self and life story. No significant correlations were found for *real/imagine* and *accurate* belief measures and for *age of memory*.

In order to better understand these findings and investigate the predictive effect of autobiographical properties in relation to shame traumatic memory and centrality of shame memory, we conducted *multiple regression analyses*. Separate regression equations were performed for each set of autobiographical memory properties: *recollection* and *belief, component processes* and *reported properties of memory*. This procedure was adopted because, according to autobiographical memory

literature (Rubin et al., 2003; Rubin & Siegler, 2004), each of these correspond to different general categories of autobiographical memory properties and, this way, clarity in data analysis was enhanced. Results are presented in Table 4.

Table 3. Correlations (two-tailed Pearson r) between shame autobiographical memory variables and shame traumatic memory, centrality of shame memory, External Shame, Internal Shame, Depression, Anxiety, Stress ($N = 412$)

AMQ	IES-R	CES	OAS	ESS	Depression	Anxiety	Stress
Recollection	.42**	.34**	.21**	.21**	.15**	.19**	.18**
Reliving	.37**	.30**	.20**	.19**	.11*	.15**	.16**
Back in time	.38**	.30**	.18**	.18**	.15**	.17**	.16**
Remember/know	.23**	.19**	.09	.15**	.02	.05	.10*
Belief	.23**	.20**	.04	.07	-.01	-.04	.08
Real/Imagine	.07	.04	-.06	.03	-.02	-.01	.00
Accurate	-.07	-.05	-.05	-.04	-.03	-.07	-.04
Testify	.20**	.18**	.04	-.00	-.04	-.01	.00
Persuade	.19**	.19**	.15**	.14**	.07	.10*	.07
See	.39**	.31**	.21**	.23**	.15**	.18**	.19**
Setting	.32**	.22**	.16**	.17**	.14**	.12*	.24**
Spatial	.24**	.17**	.11*	.17**	.06	.05	.17**
Hear	.36**	.30**	.22**	.19**	.16**	.21**	.19**
Talk	.32**	.25**	.19**	.18**	.09	.12*	.10*
In words	.32**	.26**	.17**	.18**	.16**	.20**	.21**
Story	.33**	.26**	.16**	.18**	.07	.12*	.10*
Emotions	.48**	.39**	.31**	.31**	.20**	.21**	.21**
Importance	.35**	.41**	.14**	.18**	-.01	.07	.07
Rehearsal	-.25**	-.32**	-.19**	-.15**	-.08	-.11*	-.08
Once/many	.19**	.19**	.03	-.02	.05	.09	.07
Merged/extended	.11*	.22**	.22**	.11*	.19**	.16**	.09
Age of memory	-.09	-.09	-.06	-.08	-.09	-.12*	-.11*

Note. AMQ = Shame autobiographical memory properties; IES-R = Shame traumatic memory; CES = Centrality of shame memory; OAS = External shame; ESS = Internal shame.

** $p < .010$. * $p < .050$.

The first regression model, with *recollection*, *remember/know* and *belief* as predictors, accounted for 18% of the variance in shame traumatic memory and 12% in centrality of shame memory. Only *recollection* (i.e., a sense of reliving and traveling back to the shame event) emerged as a significant global predictor (see Table 4).

The second regression model accounted for a largest proportion of variance, with *component processes* explaining 26% of shame traumatic memory and 17% of centrality of shame memory variances. For shame traumatic memory, *emotions* emerged as the best global predictor, followed by *story* coherence. *Emotions* (i.e., experiencing and reliving the same emotions felt in the shame event) was the only significant predictor of centrality of shame memory, when controlling for the other component processes.

In the third regression equation, *importance* and *rehearsal* accounted for 14% of variance in shame traumatic memory and 20% in centrality of shame memory. In both regressions, *importance* (i.e., the significance of memory in one's life as it conveys important meaning to the self and represents an anchor or turning point in life story) emerged as the best global predictor, followed by *rehearsal* (i.e., thinking and talking about the event), that inversely predicted the two criterion variables.

Table 4. Multiple regression analyses using properties of shame autobiographical memory (AMQ) to predict shame traumatic memory (IES-R) and centrality of shame memory (CES) ($N = 412$)

Predictors	Shame trauma memory				Centrality of shame memory			
	R	R^2	F	β	R	R^2	F	β
Equation 1	.43	.18	30.51***		.35	.12	18.56***	
Recollection				.39***				.30***
Remember/know				.01				.02
Belief				.08				.09
Equation 2	.51	.26	17.27***		.42	.17	10.57***	
See				.09				.09
Setting				-.01				-.08
Spatial				-.03				-.04
Hear				.01				.04
Talk				-.01				-.03
In words				.05				.04
Story				.12*				.10
Emotions				.37***				.32***
Equation 3	.37	.14	32.17***		.44	.20	49.44***	
Importance				.30***				.34***
Rehearse				-.12*				-.17***

*** $p < .001$; ** $p < .010$; * $p < .050$. β = Standardized regression coefficient

How shame autobiographical memory properties relate to external and internal shame

Another aim of the current study was to investigate the association between properties of shame autobiographical memory and feelings of external and internal shame. *Correlation analyses* results (see Table 3) indicated that *recollection* properties *persuade*, sensory and emotional *component processes*, *importance* and *merged/extended* were positively associated with external and internal shame. *Rehearsal* showed a negative correlation with these measures and *remember/know* was only related to internal shame. Overall, the magnitude of these correlations was lower than the ones found for shame traumatic memory and centrality of shame memory, with *emotions* presenting the higher correlation coefficient.

In addition, *multiple regression analyses* were conducted, following the procedure described above, to explore the contribution of autobiographical memory properties to the prediction of external and internal shame. The first regression equation, using *recollection*, *remember/know* and *belief* as predictors, accounted for a small proportion of variance, 5% in external shame [$R = .22$, $F_{(3,408)} = 6.75$, $p < .001$] and

internal shame [$R = .21$, $F_{(3,408)} = 6.55$, $p < .001$]. *Recollection* was the only significant global predictor ($\beta = .23$, $p < .001$; $\beta = .18$, $p = .002$, respectively).

The second regression model, where sensory and emotional *component processes* were entered as predictors, explained 10% of external shame [$R = .32$, $F_{(8,403)} = 5.75$, $p < .001$] and internal shame [$R = .32$, $F_{(8,403)} = 5.82$, $p < .001$] variances. In both models, *emotions* was the only significant predictor ($\beta = .30$, $p < .001$; $\beta = .28$, $p < .001$, respectively).

In the final regression equation, *importance* and *rehearsal* only accounted for 4% of variance in external shame [$R = .20$, $F_{(2,409)} = 8.64$, $p < .001$] and internal shame [$R = .19$, $F_{(2,409)} = 7.96$, $p < .001$]. *Importance* emerged as the only global predictor of internal shame ($\beta = .13$, $p = .015$) and rehearsal was the only negative predictor of external shame ($\beta = -.16$, $p = .004$).

How shame autobiographical memory properties relate to depression, anxiety and stress

In addition, the relationship between properties of shame autobiographical memory and depressive, anxiety and stress symptoms was explored. Results from *correlation analyses* (see Table 3) showed that *recollection*, *reliving*, *back in time*, *see*, *setting*, *hear*, *in words* and *emotions* were positively correlated with the three psychopathology variables. *Merged/extended* was positively linked to depression and anxiety. *Talk* and *story* were positively related to anxiety and stress and *age of memory* showed a negative correlation with these two measures. Stress was also correlated with *remember/know* and *spatial*, and *persuade* was positively associated with anxiety. The magnitude of all these correlations was, however, low.

Again, *multiple regression analyses* were performed to investigate the contribution of autobiographical memory properties to the prediction of depression, anxiety and stress. No regression analyses were performed with importance and rehearsal (since no significant correlations were found for these variables). In all regression models the amount of variance explained by autobiographical properties was very low, although significant (for depression: $R^2 = .03$, $.06$; for anxiety: $R^2 = .04$, $.06$; for stress: $R^2 = .04$, $.08$). In depression, *recollection* ($\beta = .20$, $p < .001$) and *emotions* ($\beta = .28$, $p = .008$) emerged as the significant predictors. In anxiety, the significant predictors were *recollection* ($\beta = .24$, $p < .001$), *emotions* ($\beta = .16$, $p = .016$) and *in words* ($\beta = .15$, $p = .036$), and in stress, *recollection* ($\beta = .19$, $p < .001$), *setting* ($\beta = .15$, $p = .042$) and *in words* ($\beta = .15$, $p = .050$).

How shame traumatic and central memories relate to shame and psychopathology

In addition, we examined the association between shame traumatic and central memories, shame and psychopathology variables. In accordance to what has been reported in past research (Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Pinto-Gouveia & Matos, 2011), individuals whose shame memories operate as traumatic memories and who regard the shame memory as central to their self-identity and life story presented significantly higher levels of traumatic and centrality of memory characteristics, increased feelings of external and internal shame and greater depressive, anxiety and stress symptoms (see Table 2). Bootstrap results corroborated the significance of these differences.

Correlation analyses produced similar results, with shame traumatic memory and centrality of shame memory presenting significant correlations with each other ($r = .67$, $p < .001$), with measures of external ($r_{IES-R} = .48$, $p < .001$; $r_{CES} = .41$, $p < .001$) and internal shame ($r_{IES-R} = .54$, $p < .001$; $r_{CES} = .39$, $p < .001$) and depressive ($r_{IES-R} = .35$, $p < .001$; $r_{CES} = .25$, $p < .001$) anxiety ($r_{IES-R} = .42$, $p < .001$; $r_{CES} = .30$, $p < .001$) and

stress ($r_{IES-R} = .37, p < .001$; $r_{CES} = .21, p < .001$) symptoms. As expected, external and internal shame were also associated with each other ($r = .57, p < .001$) and with depression ($r_{OAS} = .40, p < .001$; $r_{ESS} = .38, p < .001$), anxiety ($r_{OAS} = .38, p < .001$; $r_{ESS} = .38, p < .001$) and stress ($r_{OAS} = .31, p < .001$; $r_{ESS} = .39, p < .001$).

An integrative mediational model of the relationships among properties of shame autobiographical memory, traumatic and centrality of shame memory characteristics, shame and psychopathology

Given the previous findings and the proposed hypotheses, we intended to test an integrative mediation model in which we investigated whether the impact of properties of shame autobiographical memory (specifically, the best predictors of our outcome and mediator variables: *recollection*, *emotions*, *importance* and *rehearsal*) on external and internal shame and on depressive, anxiety and stress symptoms was mediated by shame traumatic memory and centrality of shame memory. In turn, we tested whether the effect of shame traumatic memory and centrality of shame memory upon depressive, anxiety and stress symptoms was partially mediated by external and internal shame. Because of strong associations among certain variables (e.g., external and internal shame, shame traumatic memory and centrality of shame memory; Matos & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011), it was important to control for these associations. Therefore, in the path model we covaried autobiographical memory properties with one another, shame traumatic memory and centrality of shame memory, external and internal shame, and depression, anxiety and stress among each other.

The hypothesized path model (Figure 1), consisting of 57 parameters, was used to examine mediational paths. The model produced a very good fit to the data, with a non significant chi-square [$\chi^2_{(20)} = 27.710, p = .116$] and excellent goodness of fit indices (CMIN/DF = 1.385; CFI = .996; TLI = .990; NFI = .987; RMSEA = .031) (Kline, 2005). However, the following paths were not significant: the direct effects of recollection on shame traumatic memory ($b = .166$; $SE_b = .109$; $Z = 1.524$; $p = .128$; $\beta = .092$) and on centrality of shame memory ($b = -.157$; $SE_b = .788$; $Z = -.200$; $p = .842$; $\beta = -.012$), the direct effect of rehearsal on shame traumatic memory ($b = -.098$; $SE_b = .065$; $Z = -1.516$; $p = .129$; $\beta = -.072$), the direct effects of centrality of shame memory on internal shame ($b = .029$; $SE_b = .043$; $Z = .684$; $p = .494$; $\beta = .038$), depression ($b = -.008$; $SE_b = .025$; $Z = -.314$; $p = .753$; $\beta = -.019$), anxiety ($b = .002$; $SE_b = .021$; $Z = .117$; $p = .907$; $\beta = .007$) and stress ($b = -.037$; $SE_b = .026$; $Z = -1.441$; $p = .150$; $\beta = -.087$) and the direct effect of external shame on stress ($b = .064$; $SE_b = .046$; $Z = 1.404$; $p = .160$; $\beta = .079$).

Hence, the variable recollection was then excluded and the non significant paths were removed and the model, consisting of 44 parameters, was recalculated (see Figure 2). In the evaluation of the final adjusted model [$\chi^2_{(21)} = 33.607, p = .040$], the analysis of well-known and recommended goodness of fit indices (Kline, 2005) indicated an excellent model fit (CMIN/DF = 1.600; CFI = .993; TLI = .985; NFI = .982; RMSEA = .038). All the paths were statistically significant and the significance of indirect mediational paths was further confirmed using bootstrap resampling method. The model accounted for 27% of shame traumatic memory, 25% of centrality of shame memory, 24% of external shame, 27% of internal shame, 20% of depression, 22% of anxiety and 19% of stress variances.

Indirect mediational test results indicated that *emotions* predicted increased feelings of external shame (OAS) fully through heightened shame traumatic memory (IES-R) and centrality traumatic memory (CES) ($b = .195$, 95% CI = .136 to .257). *Emotions* predicted greater internal shame (ESS) only through increased shame traumatic memory ($b = .220$, 95% CI = .162 to .281), as contrary to our expectation, centrality of shame memory (CES) did not significantly predict internal shame (ESS). Similarly, *importance* indirectly predicted elevated external shame (OAS) fully through increased shame traumatic memory (IES-R) and centrality of shame memory (CES) ($b = .220$, 95% CI = .162 to .281), and predicted greater internal shame

(ESS) through increased shame traumatic memory ($b = .220$, 95% CI = .162 to .281). *Rehearsal* indirectly predicted lesser external shame fully through diminished centrality of shame memory ($b = -.015$, 95% CI = -.037 to -.001).

In addition, we found that centrality of shame memory indirectly predicted elevated depression ($b = .027$, 95% CI = .006 to .058) and anxiety ($b = .017$, 95% CI = .002 to .042) fully through increased feelings of external shame (OAS). Shame traumatic memory indirectly predicted higher symptoms of depression ($b = .027$, 95% CI = .006 to .116), anxiety ($b = .027$, 95% CI = .006 to .116) and stress ($b = .027$, 95% CI = .006 to .116) partially through greater external (OAS) and internal shame (ESS), while also showing a direct effect upon depression ($b = .162$), anxiety ($b = .272$) and stress ($b = .225$).

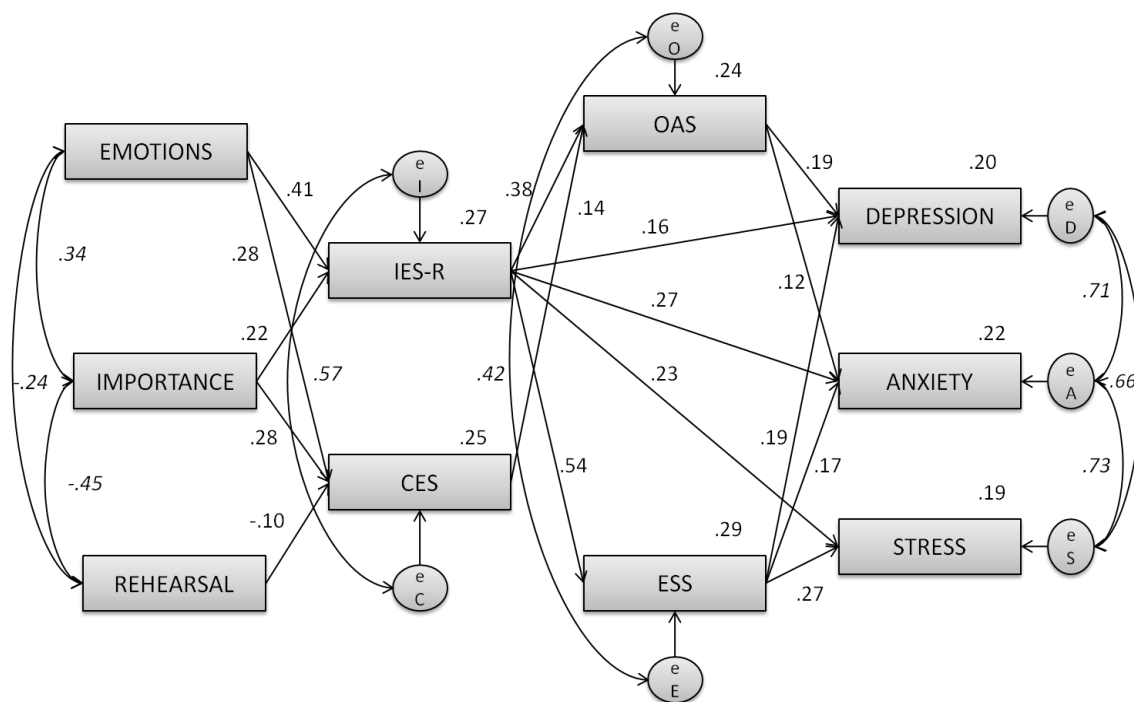


Figure 2. Results of mediation path analysis showing the relationships among emotions, importance and rehearsal properties of shame autobiographical memory (AMQ), shame traumatic memory (IES-R), centrality of shame memory (CES), external shame (OAS), internal shame (ESS), depression, anxiety and stress (DASS-42), with standardized estimates, square multiple correlations and covariances (in italics) ($N = 412$)

A complex mediational chain predicting depression, anxiety and stress was found in which *emotions*, *importance* and *rehearsal* properties of shame autobiographical memory predicted increased psychopathological symptoms through traumatic and central shame memory features and current shame feelings. That is, *emotions* indirectly predicted increased depression ($b = .195$, 95% CI = .136 to .257) and anxiety ($b = .195$, 95% CI = .136 to .257), and this was mediated through greater shame traumatic memory (IES-R) and higher centrality of shame memory (CES) and through increased feelings of external (OAS) and internal shame (ESS). *Emotions* also indirectly predicted higher stress symptoms ($b = .195$, 95% CI = .136 to .257) through increased shame traumatic memory. Similar to *emotions*, results suggest that *importance*

predicted increased depression ($b = .079$, 95% CI = .048 to .116) and anxiety ($b = .093$, 95% CI = .056 to .132) through elevated shame traumatic memory (IES-R) and elevated centrality of shame memory (CES) and also through increased feelings of external (OAS) and internal shame (ESS). Again, *importance* predicted increased stress ($b = .080$, 95% CI = .044 to .118) through elevated shame traumatic memory. Finally, *rehearsal* indirectly predicted lesser depression ($b = -.002$, 95% CI = -.008 to .000) and anxiety symptoms ($b = -.003$, 95% CI = -.006 to .000) through diminished centrality of shame memory (CES) and lowered feelings of external shame (OAS).

In conclusion, these findings suggest that *emotions*, *importance* and *rehearsal* properties of shame autobiographical memory impact upon internal and external shame fully through their effects upon traumatic and central shame memory features. In turn, these shame autobiographical memory properties impact upon depression, anxiety and stress fully through their direct effect upon traumatic and central shame memory features and through their indirect effect upon internal and external shame.

Discussion

The current study examined the phenomenological properties of AM in shame memories and how these relate to their traumatic and centrality features and to indicators of emotional difficulties and psychological distress.

Our findings indicate that, in general, shame memories reveal lower levels of basic AM properties than the ones reported in AM research (Rubin et al., 2008; Rubin, Schrauf et al., 2003), even though this was not the case in the linguistic component in words, importance to self and life story and age of memory, where means in our study tended to higher. These data are consistent with studies on AM for emotional memories suggesting that negative emotional memories present lower scores on all AM properties than positive memories (Talarico et al., 2004). In the same line, basic properties of AM of social phobia and worry were rated lower in degree of recollection and belief, vividness of visual, spatial and auditory imagery than were memories of panic, trauma or contentment (Wenzel et al., 2004). A possible explanation for these findings may be related to the age of memory. In fact, the shame memories elicited by participants corresponded to recollections from childhood and adolescence and, thus, were considerably older than the ones usually reported in AM research. For these reason, and as suggested by Rubin, Schrauf et al. (2003), older memories might be less intense on all scales due to forgetting.

Consistent with our predictions, we found that strength of recollection in shame memories was mainly predicted by the vividness of auditory imagery and the intensity of reinstated emotions, and to a lesser extent by in words, a language component related to auditory imagery. These results partially confirm prior studies, where visual imagery was also found to be an important predictor of recollection, along with measures of auditory imagery, emotion and narrative coherence (Rubin, Schrauf et al., 2003; Rubin & Siegler, 2004). Even so it is possible that, because in the case of shame memories one might recall others being critical, rejecting or abusive towards the self, and remember being shouted at, called names in hostile emotional tones, ridiculed or diminished through language, the auditory and language components of the memories are particularly important. So, beyond the reliving of the emotions felt in the shame episode, it is the vividness of hearing the memory in the mind and recalling the words that, for instance, others used to label the self then, that is key to the sense of reliving and travelling back in time to the shame experience. We also found that the degree of belief in the accuracy of the shame memory was better predicted by measures of narrative coherence, the importance of the memory to self and life story

and spatial imagery. This is in line with our prediction and extends past research (Rubin, Schrauf et al., 2003; Rubin & Siegler, 2004), since in shame memories it is not only the coherence of the narrative in the memory and the vividness of spatial context that are relevant to the strength of belief in the memory, but also its importance as an anchor to the self and a turning point in life. These results add to our previous work on the pathogenic effects of shame memories that function as traumatic ones and become central to one's sense of self and life narrative, shedding light on what shame AM properties influence the strength of recollection and belief in the shame memory (Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Pinto-Gouveia & Matos, 2011). The finding that belief was more poorly explained than recollection mirrors the aforementioned AM studies and might be due to individual differences not associated with AMs themselves. Future studies could look at other possible factors accounting for the degree of belief in shame memories.

Noteworthy in our study was the finding that for participants with high, compared to low, levels of shame traumatic memory and centrality of shame memory, shame AM had stronger sense of recollection, involving the experience of reliving the original event, traveling back in time and remember it really happened rather than just knowing, and greater belief in the accuracy of the memory, particularly in that one would testify on it and could not be persuaded it was inaccurate. Furthermore, significant differences were found in component processes and reported properties. In participants high in shame memory traumatic and centrality features, shame AM properties presented heightened vividness of visual, spatial, and auditory imagery, enhanced language components (in words and talk), increased narrative coherence, elevated reliving of emotions, greater importance, and higher specificity of the shame memory, when compared to the AMs of those low in shame memory traumatic and centrality features. The same pattern of results emerged in correlation analyses, with the reinstating of emotions, strength of recollection, vividness of visual and auditory imagery components and the importance to self and life story showing the strongest associations with traumatic memory features and centrality of shame memory.

These results corroborate our hypothesis, suggesting that shame AM properties are enhanced in individuals whose shame memories function as traumatic memories, eliciting intrusions, hyperarousal and avoidance, and operate as central components of self-identity and life narrative. These data are consistent with research on AM for highly emotional, negative, important, intrusive or traumatic memories (Berntsen et al., 2003; Rubin et al., 2008; Rubin, Feldman et al., 2004; Talarico et al., 2004), supporting the view that higher levels of recollection, stronger visual imagery and auditory imagery, reliving of emotions and importance are linked to memories of trauma and highly intense emotional events (Berntsen et al., 2003; Rubin et al., 2008; Talarico et al., 2004).

Contrary to our prediction and to evidence from AM literature (Rubin, Schrauf et al., 2003; Talarico et al., 2004), rehearsal was found to be negatively associated with the traumatic and centrality features of the shame memory. The same is to say that the less the memory is talked or thought about the more it acts as a traumatic and central memory. Although this might seem surprising at first glance, the nature of shame itself might account for this finding. Because shame is an emotion associated with secrecy and non disclosure (especially of shame episodes and self-relevant information; Gilbert, 1998c; MacDonald, 1998; MacDonald & Morley, 2001), and talking about shame typically triggers and intensifies the same painful affects (Gilbert, 1998c, 2002a; M. Lewis, 1992, 2003; Retzinger, 1998; Tangney & Dearing, 2002), it might be that individuals with intense early shame experiences engage in avoidance processes, both at social communicative and cognitive levels. These attempts to avoid the activation of shame related memories and feelings may, in turn, compromise the reconstruction of the meaning associated with these shame memories and prevent shame from being repaired, thus facilitating they become key to personal identity and life story. By forming highly available reference points in one's cognitive networks these memories

may become greatly integrated in one's AM, with increased potential to create intrusions, arousal and avoidance symptoms. This view is also consistent with recent research on shame memories and centrality of event theory literature (Berntsen & Rubin, 2006, 2007, 2008; Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Pinto-Gouveia & Matos, 2011; Rubin et al., 2008).

In addition, multiple regression analyses indicated that stronger sense of recollection, heightened reliving of the emotions similar to the ones felt in the shame event, importance of the memory as an anchor to the self and life story and, to a lesser extent, greater coherence and diminished rehearsal of the memory were particularly important in predicting elevated traumatic memory and centrality qualities of the shame memory. This is a key finding that adds to existing literature on shame and AM (Berntsen & Rubin, 2006, 2007; Harman & Lee, 2010; Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Pinto-Gouveia & Matos, 2011; Rubin et al., 2008), since it suggests that certain AM properties are key in how shame memories come to be structured as traumatic and central to personal identity and life story. Thus, these AM properties, mainly the reinstating of intense and similar emotions, vividness of reliving and importance to the sense of self, seem to confer a flashback quality to shame memories. These emotional memories seem to function as conditioned emotional experiences, as if one is reinfected again with the shame experience when the memory is triggered, creating a sense of current threat to one's social attractiveness and psychological integrity, and this is important in explaining shame memories traumatic and centrality characteristics.

Furthermore, analogous results were found regarding the association between shame AM properties and feelings of external and internal shame and psychopathological symptoms. Overall, stronger sense of recollection, reliving of similar emotions, vividness of visual and auditory imagery and language components and the extent in which the memory corresponded to a merging of several shame events, were related to an increased sense of self as inferior, unattractive and flawed as seen by the others and judged by the self, and to elevated symptoms of depression, anxiety and stress. Greater importance to the self and lowered rehearsal of the memory were further linked to external and internal shame and anxiety symptoms, and more recent memories were associated with higher levels of anxiety and stress.

Moreover, multiple regression analyses again showed that the strength of the recollection experience and the reliving and similarity of emotions, were the AM properties that best accounted for external and internal shame feelings. Greater importance of the memory to the self also predicted negative self-evaluations and feelings, and attempts to avoid thinking and talking about the shame memory (rehearsal) further intensified feelings of inferiority and unattractiveness of the self in the eyes of the others (external shame). In terms of psychopathology, the sense of recollection was a common predictor of depressive, anxiety and stress symptoms. However, reliving and similarity of emotions further accounted for depression and anxiety, and vividness of visual imagery and language components of auditory imagery also explained anxiety and stress. In spite of the less expressive amount of variance explained by these properties in these variables, these results extend our earlier work on shame and shame memories and their relation to psychopathological facets, advancing our knowledge on how AM properties relate to the emotional experience of the self later in life and elevate vulnerability to psychopathology. In line with this, theorists of AM (Conway, 1990, 2005; Rubin, 2005; Talarico et al., 2004) have argued that memories of past emotional experiences are usually used to recreate current emotional states and empirical evidence has established the relevance of basic properties of AM to psychological difficulties and mental health problems (Berntsen et al., 2003; Field et al., 2004; Kremers et al., 2004; Rubin, 2005; Rubin, Schrauf et al., 2003; Rubin et al., 2008; Wenzel & Jordan, 2005; Wenzel et al., 2004; Williams, 1996).

Two processes associated with to the degree of belief in accuracy of the memory - real/imagine and accurate – were unrelated to measures of shame traumatic memory, centrality of shame memory, current

shame feelings and psychopathology symptoms across analyses. Only the total of belief and two related properties - testify and persuade - were associated with shame memory traumatic and centrality qualities. Age of memory, by lessening one's confidence in its accuracy, might account for these results. Nonetheless, these data might also suggest that, while the strength of recollection is important to how shame AMs are structured into traumatic and central memories and influence shame feelings and psychopathological symptoms, the degree of belief in the memory, especially from trusting it to be real and accurate, does not seem to have an impact on shame memory features nor on emotional psychological difficulties. This counters past evidence arguing that memories of highly intense, negative events are held with more confidence than are memories of neutral events (Rubin, Schrauf et al., 2003; Talarico & Rubin, 2003; Talarico et al., 2004).

Finally, we tested a mediational model built upon our earlier work on shame and shame memories and incorporating the results of the present study into a more complex model. We examined whether shame AM properties indirectly impact upon shame and psychopathology through their effect upon traumatic and centrality qualities of the shame memory. In agreement with predictions, path analyses results indicated that enhanced reliving and similarity of emotions in the shame memory, greater importance of the memory to the sense of self and diminished rehearsal were indirectly related to amplified feelings of external and internal shame through increased traumatic and centrality qualities of the shame memory. At the same time, these shame AM properties were indirectly linked to elevated depression, anxiety and stress symptoms through increased traumatic and centrality features of the shame memory and further through amplified feelings of external and internal shame.

These findings extend past research (Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Matos et al., 2011b; Pinto-Gouveia & Matos, 2011) and might be viewed in light of existing models of shame (Gilbert, 1998c, 2002a, 2003, 2007a), and current conceptualizations of autobiographical and traumatic memory (Berntsen & Rubin, 2006, 2007; Ehlers & Clark, 2000; Harman & Lee, 2010; Rubin, 2005; Rubin et al., 2008). Our results suggest the existence of a complex mediational chain among properties of shame AM, traumatic and centrality of memory features, external and internal shame and psychopathological indicators. The same is to say that vividness and reliving of emotions, the importance given to the shame experience and the sense of self put in the memory, and less rehearsal properties of shame AM, may engender flashback qualities and conditioned emotional memory characteristics, and make one socially wary (e.g., feeling one cannot trust others because they let the self down, hurt, rejected, criticized or abused the self), hence influencing how these emotional memories become structured as traumatic and central memories to self-identity and life story. By creating an ongoing sense of threat to one's social attractiveness, shame traumatic and central memories may in turn increase one's proneness to experience a sense of self as existing negatively for others as a worthless, inferior or unattractive social agent. When these shame memories are capable of eliciting intrusions, arousal and avoidance they may further intensify a sense of self as globally inferior, defective or bad and elevate vulnerability to enter defeat and threat related emotional states, such as depression, anxiety and stress. Additionally, these shame traumatic and central memories are indirectly linked to increased psychopathological symptoms through heightened feelings of shame, which may render one more vulnerable to experience defeat and threat (i.e., depressive, anxiety and stress) when facing adverse or challenging life events. In this sense, the way shame AM properties (i.e., reliving emotions, importance to self and rehearsal) relate to feelings of shame constellated around a sense of self as existing negatively in the minds of others and as globally inferior, unattractive or defective, and to psychopathological symptoms, is ultimately through their ability to produce traumatic memory qualities, triggering intrusions, hyperarousal and strong emotional avoidance, and to strengthen the centrality of the shame memory to self-identity and life story.

An unexpected finding was the non significant paths of recollection to shame memory traumatic and centrality features, when the other AM properties were considered simultaneously in the path model. One potential explanation for this finding may be found in the abovementioned results and in AM literature (Rubin, 2005; Rubin, Schrauf et al., 2003). These suggest that the strength of recollection is predicted by other AM properties, such as the reliving of emotions or imagery vividness. It might be that this meta-cognitive judgment of AM fails to be significant in the model when AM component processes and properties are considered at the same time, as reliving of emotions might contain (and explain) the degree of recollection itself. Future studies should try to better understand these results, both replicating the present findings and testing other path models in which recollection is predicted, rather than covariate, by AM component processes and properties.

Contrary to previous empirical evidence (Matos et al., 2011b) and to our hypothesis, the extent to which a shame memory becomes central to personal identity and life story, failed to be significantly associated with internal shame, when all variables were considered simultaneously in the path model. This result might mean that shame memories that become central to identity and life story are especially related to a sense of self as an unattractive and undesirable social agent that exists negatively in the mind of the others. As noted by several shame and attachment theorists (Bowlby, 1969/1982; Cooley, 1902; Gilbert, 1998c, 2002a; Kaufman, 1989; Kohut, 1977), self-identity, and the way we experience ourselves, mainly derives from how we feel we exist for others. This co-construction of the self is linked to emotionally textured experiences of having elicited negative emotions in others directed at the self (e.g., contempt, anger, withdraw; Gilbert, 2003; Tomkins, 1987). The notion that early interactions can lay down emotional memories of how others view and respond to the self, which may anchor one's conceptions of the self (Baldwin, 1997; Gilbert, 2003, 2007a), might further help to make sense of this finding. Even so, we draw attention to a methodological limitation that may underlie this finding. The measure used here to assess internal shame (ESS) was not designed to assess negative self-evaluations. Furthermore, previous findings (Matos et al., 2011b) were based in another self-report scale, the Internalized Shame Scale (ISS; Cook, 1994, 2001), specifically developed to evaluate the internal dimension of shame. For this reason, comparisons between results derived from these two scales might not be reliable. Future studies should then seek to clarify these inconsistencies, replicating this study using the ISS, a better suited self-report scale for this research purposes.

It is important to note some other methodological limitations when interpreting the above findings. First, a cross-sectional methodology was used in the present study, limiting confidence in the causal conclusions proposed. Despite current emotional states might influence how memories are retrieved (Levine & Pizarro, 2004), AM properties seem to be fairly stable over time (Rubin et al., 2004) and findings from our past work on shame memories parallel the present data (Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Matos et al., 2011b). Still, future research would benefit from using a prospective design to examine the relations among constructs over time. Second, despite we used a heterogeneous sample from the general community population, providing a broad variety of shame experiences, and shame and shame memories are common in clinical and non-clinical samples, the non clinical nature of our sample may constrain the generalization of results to clinical populations. In addition, these results rely on self-report on shame and shame memories which may carry some methodological concerns. For these reasons, in an attempt to counter these limitations we have begun investigate these topics on an heterogeneous clinical sample combining structured interviews (namely, the Shame Experience Interview, Matos & Pinto-Gouveia, 2006a) with self-reports, to provide converging evidence.

Despite these limitations, this study points to the potential clinical importance of assessing shame AM and whether they function as traumatic and central memories to personal identity and life story.

Therapeutically addressing these memories' autobiographical and traumatic memory properties and reconstructing their meaning to self-identity and life narrative might be particularly important when working with high shame patients suffering from depression, anxiety, or stress symptoms.

In conclusion, we hope that the findings offered here shed light on a more complex and integrative model on the relations among the phenomenological properties of shame autobiographical memories, their traumatic and centrality qualities, shame feelings and diverse psychopathological symptoms, expanding existing theory and research on shame and AM.

Acknowledgements

This research has been supported by the first author (Marcela Matos) Ph.D. grant number SFRH/BD/36617/2007, sponsored by FCT (Portuguese Foundation for Science and Technology).

APPENDIX

Autobiographical Memory Questionnaire variables

Variable	Item and rating scale
<i>Recollection and belief</i>	
Reliving	1. As I remember the event, I feel as though I am <i>reliving</i> the original event.
Back in time	11. As I remember the event, I feel that I <i>travel back to the time when it happened</i> , that I am a participant in it again, rather than an outside observer tied to the present.
Remember/Know	8. Sometimes people know something happened to them without being able to actually remember it. As I think about the event, I can actually <i>remember</i> it rather than just knowing that it happened.
Real/Imagine	17. I believe the event in my memory <i>really occurred</i> in the way I remember it and that I have not imagined or fabricated anything that did not occur. (Scale: 1 = 100% imaginary; 7 = 100% real)
Accurate	7. To what extent is your memory of the event distorted by your beliefs, motives, and expectations rather than an <i>accurate</i> reflection of the event as a neutral observer would report it. (Scale: 1 = 100% distorted; 7 = 100% accurate)
Testify	10. Would you be confident enough in your memory of the event to <i>testify</i> in a court of law.
Persuade	13. If another witness to the event, who you generally trusted, existed and told you a very different account of the event to what extent could you be <i>persuaded</i> that your memory was wrong. (Scale: 1 = not at all; 3 = in some details; 5 = in some main points; 7 = completely; reverse scored as 8 - value given)
<i>Component processes</i>	
See	3. As I remember the event, I can <i>see</i> it in my mind.
Setting	6. As I remember the event, I can recall the <i>setting</i> where it occurred.
Spacial	14. As I remember the event, I know its <i>spatial layout</i> .
Hear	2. As I remember the event, I can <i>hear</i> it in my mind..
Talk	4. As I remember the event, I or other people are <i>talking</i> .
In words	9. As I remember the event, it comes to me <i>in words</i> .
Story	12. As I remember the event, it comes to me in words or in pictures as a <i>coherent story or episode</i> and not as an isolated fact, observation, or scene.
Emotions	5. As I remember the event, I can feel now the <i>emotions</i> that I felt then.
<i>Related properties of events or memories</i>	
Importance	15. This memory is <i>significant</i> for my life because it imparts an important message for me or represents an anchor, critical juncture, or a turning point.
Rehearsal	16. Since it happened, I have <i>thought or talked about</i> this event. (Scale: 1 = not at all; 7 = as often as any event in my life)
Once/many	18. To the best of your knowledge, is the memory of an event that occurred <i>once</i> at one particular time and place, a <i>summary or merging</i> of many similar or related events, or a for events that occurred over a fairly <i>continuous extended period</i> of time lasting more than a day. (Scale: 1 = once; 2 = merging; 3 = extended) Responses to this question were recoded to produce two scales. Once/many had a value of 1 if the subject judged the memory to take place within a single day and 0 if it took longer. Merged/extended had a value of 0 if the event lasted longer than a day and was extended in a fairly continuous manner over a period of time and 1 if it was the merging of many discrete events.
Merged/extended	
Age of memory	19. Please <i>date the memory</i> (month/day/year) as accurately as you can. Please fill in a month, day, and year even if you must estimate. If the memory extended over a period of time, report the approximate middle of the period. (Scored as retention interval in days).

5 | Study V

The effect of shame and shame memories on paranoid ideation and social anxiety

Matos, M., Pinto-Gouveia, J., & Gilbert, P. (2012). The effect of shame and shame memories on paranoid ideation and social anxiety. *Clinical Psychology and Psychotherapy*. doi: 10.1002/cpp.1766.

The effect of shame and shame memories on paranoid ideation and social anxiety

M. Matos, J. Pinto-Gouveia, & P. Gilbert

Abstract

Background: Social wariness and anxiety can take different forms. Paranoid anxiety focuses on the malevolence of others, while social anxiety focuses on the inadequacies in the self in competing for social position and social acceptance. This study investigates whether shame and shame memories are differently associated with paranoid and social anxieties.

Method: Shame, traumatic impact of shame memory, centrality of shame memory, paranoia and social anxiety were assessed using self-report questionnaires in 328 participants recruited from the general population.

Results: Results from path analyses show that external shame is specifically associated with paranoid anxiety. In contrast, internal shame is specifically associated with social anxiety. In addition, shame memories, which function like traumatic memories, or that are a central reference point to the individual's self-identity and life story, are significantly associated with paranoid anxiety, even when current external and internal shame are considered at the same time. Thus, traumatic impact of shame memory and centrality of shame memory predict paranoid ideation (but not social anxiety) even when considering for current feelings of shame.

Conclusion: Our study supports the evolutionary model suggesting there are two different types of 'conspecific' anxiety, with different evolutionary histories, functions and psychological processes. Paranoia, but less so social anxiety, is associated with traumatic impact and the centrality of shame memories. Researchers and clinicians should distinguish between types of shame memory, particularly those where the self might have felt vulnerable and subordinate and perceived others as threatening and hostile, holding malevolent intentions towards the self.

Keywords: Shame; Shame memory; Autobiographical memory; Paranoia; Social Anxiety; Path analysis

Key Practitioner Message:

- Shame and shame memories are distinctively related to paranoia and social anxiety.
- External shame is especially associated with paranoid ideation whereas internal shame is specifically linked to social anxiety.
- The historical route of shame memories, especially those structured as traumatic and central memories to personal identity and life story, may play a significant role in paranoia, perhaps more so than in social anxiety
- Therapy for paranoia or social anxiety should integrate strategies to work with shame.
- Therapeutic interventions with patients experiencing paranoid anxiety should evaluate and address their shame memories, particularly those that function as traumatic and central memories to their self-identity and life narrative.

Introduction

Evolutionary models have explored social fears and shame, which permeate the social dynamics of human life and represent a major source of suffering.

Fear of conspecifics is common throughout the animal world (Honest & Marin, 2006). However, for many mammals, especially humans, there are different types of social fear. For example, in the infant-parent relationship fear of separation is an adaptive process that maintains proximity between the carer and cared for (Bowlby, 1969/1982). Humans also gain significant advantages by forming alliances, friendships and a sense of group belonging (Baumeister & Leary, 1995) and in these contexts social fears can relate to exclusion and rejection (MacDonald, & Leary, 2005). Gilbert et al (2007) note that some fears of exclusion or marginalisation can be linked to being passively ignored or 'not chosen' because one lacks certain qualities of attractiveness, but other forms of social exclusion are linked to active rejection involving criticism, harassment and bullying. Dugnan, Trower and Gilbert, (2002) explored two types of social threat related to *exclusion and intrusion*. In threats of exclusion, fear is focused on displays that *fail* to impress others or attract much interest. A prominent focus becomes on the *deficits* of self (in comparison with others). Fear of intrusion, however, is when others get too close; if one does not want to be seen, and it is the potential revelation of something negative about the self that is feared (M. Lewis, 1992).

Common to nearly all animals is, of course, the fear of physical injury related to the hostile intent of others, where the self is the focus of that intent. Typically regarded as paranoid fears, these fears can be linked to in-group social rank anxieties where dominants can threaten and injure subordinates, but subordinates can protect themselves by being avoidant and duly submissive or signalling 'no threat' to dominants (Gilbert, 2001a). Although, in many primates, fights between conspecifics are often ritualised, injuries and even deaths are not uncommon (Higley et al., 1996). In addition, intense anxieties of other people can also arise from group dynamics where individuals can be injured or killed simply because they are members of a different group; this behaviour has even been noted in chimpanzees (Goodall, 1990). In group conflicts, subordination and submissiveness may not prevent injury and death; for example in gangs and between armies defeated 'enemies' can be killed and injured, even though clearly submitting. In addition, humans are known to plot against and pursue their enemies across time and territories. Paranoid anxieties may be regarded as being related to these conflicts, in that people with paranoia tend to be more distrusting and suspicious of others in general, and have difficulties forming affiliative relationships, even with those who may be of equal status to themselves.

Paranoid anxiety

Against this background of different social needs and fears of humans there is considerable evidence that conflicts and fear of conflicts have a range of psychological and physiological effects (Honest & Marin, 2006).

Paranoid anxiety is related to being in the attentional field of others, being negatively evaluated by others (Chadwick & Trower, 1997) and typically focuses on the harmfulness and hostile intent and/or power of others (Freeman & Garety, 2004; Gilbert, Boxall, Cheung, & Irons, 2005). The evolutionary value of

paranoia can be linked to the detection of threats to the self from potentially harmful others using the “better safe than sorry” rule (Gilbert, 1998b; Gilbert et al., 2005). Behavioural, psychophysiological and neuropsychological research supports the idea of evolved, specialised systems focused on the detection of social threat being involved in paranoia (Green & Phillips, 2004).

Fenigstein and Venable (1992) and Ellet, Lopes, and Chadwick (2003) proposed that paranoia is an ‘ordinary’ psychological process characterised by a perception of planned intentions of harm by others towards the self rather than implying mental illness. Freeman et al. (2005) also suggest paranoid experiences are common for many people, being almost as common as anxiety and depression. There has been considerable work linking proneness of paranoia to low, unstable or vulnerable self-esteem and attachment difficulties (Pickering, Simpson, & Bentall, 2008).

In an evolutionary framework, it has been argued that representations of the self as inferior, weak, different or subordinate, that is, as a vulnerable self (see Salvatore, Lysaker, Popolo, Procacci, Carcione, & Dimaggio, 2011 for a discussion on the phenomenological nature of the vulnerable self in paranoia), and of the others as dominant, powerful, devious and threatening, are common features in individuals with paranoid symptoms, particularly those suffering from persecutory delusions (Freeman, 2007; Freeman, Bentall, & Garety, 2008; Freeman, Garety, Kuipers, Fowler, & Bebbington, 2002; Gilbert et al., 2005; Salvatore et al., 2011). In fact, Gilbert et al. (2005) and Freeman et al. (2005) found paranoia was associated with submissive behaviour, negative social comparisons and perceptions of inferior social rank. Individuals who perceive themselves as inferior to others (particularly feeling left out) may then feel more vulnerable to rejection and attacks, which might contribute to the occurrence of paranoia. These negative perceptions of the self as vulnerable and of others as a potential threat seem to occur in the context of an overactivation of the threat-based social mentality system and an underdevelopment of the safeness system, with an inability to feel safe and tone down distress when facing perceived danger (Gilbert, 2002b; Liotti & Gilbert, 2011; Salvatore et al., 2011; see Gilbert, 2009a, 2010 for a discussion on threat and safeness affect regulation systems).

In addition, theoretical and empirical accounts in schizophrenia have suggested that some paranoid individuals have deficits in theory of mind, that is, an impaired or altered understanding of others’ minds (e.g., of others’ intentions, emotions, or thoughts about the self) (Bentall, Rowse, Shryane et al., 2009; Corcoran & Kaiser, 2008; Corcoran, Mercer, & Frith, 2005; Frith, 1992, 1994; Lysaker et al., 2010; Salvatore et al., 2011).

Social Anxiety

Most psychiatric classifications distinguish between paranoid conditions and those of social anxiety on the basis that paranoid conditions are focused on malevolent intents of others whereas social anxiety focuses on deficits in the self and becomes particularly prominent when people have to act in some way in front of others. For the most part, social anxiety is defined as a fear of creating negative impressions in the minds of others and being negatively judged by them, what will lead to rejection or exclusion (Leary, 1995; Gilbert & Trower, 2001). For example, a socially anxious person might recognise that others might be kind or pleasant but still not want them for the job, on the team or as a close friend or lover. The fear of being seen as inferior, compared to others, is related to self-presentations and was central to an early model of social anxiety (Leary, 1995; Schlenker & Leary 1982). It is this focus on the self as (un)attractive, and devalued in the eyes of others, with fear of being negatively judged by them, and high self-focus, that links

social anxiety to shame (Clark & Wells, 1995; Gilbert, 2001a; Gilbert & McGuire, 1998; Gilbert & Trower, 1990, 2001; Hackman, Surawy & Clark, 1998; Keltner & Harker, 1998; Pinto-Gouveia, 1999). In the cognitive model of social anxiety (Clark & Wells, 1995), the anxiety is believed to arise from the over monitoring of one's social behaviour and making assumptions about how one is viewed by others (e.g., as boring, odd). The focus is on the self as unattractive and unable to impress others, so that they will not choose in one's favour (Gilbert, 2001a), and not on the malevolent intent of others.

This means that social anxiety and paranoia can have overlapping features in that both are concerned with how the self 'exists in the mind of others'. Both can be worried about social presentations and both can have concerns about deficits within the self. However, in social anxiety the focus is on our abilities to be attractive to others in competing for social places and avoid negative judgments and rejection, whilst in paranoid anxiety, the focus is on the vulnerabilities of the self in face of dominant and threatening others, with the attribution of motivation in the minds of others being much more malevolent.

Shame

Therefore, there are many forms of 'social' fear that do not involve the perceived malevolent intent of others, but rather eliciting desirable images and positive feelings about the self in the mind of others so that we are accepted, valued, wanted and chosen. In fact, during the course of mammalian and, in particular, human evolution, there have been major adaptations to the nature of social competition. Interestingly, human competition rarely involves aggression, it is far more focused on competing for social place and position by appearing attractive to others, to be liked, valued and wanted by others (Gilbert, 1997, 1998c, 2009a; Gilbert, Price, & Allan, 1995).

Given these needs to *compete* for social places by creating positive images of our 'selves' in the mind of others (i.e., being an attractive social agent) and thus advance the chances for inclusion, belonging, and being wanted (Etcoff, 1999; Gilbert, 1997; Gilbert & McGuire, 1998; Keltner & Harker, 1998; Leary, 1995), shame can act as a warning that we 'live in the minds of others' as someone with negative characteristics, or lack of positive ones, and thus are at risk of their rejection, exclusion, being passed by or even persecuted (Gilbert, 2002a, 2007a). Indeed, these are common fears associated with concerns of being seen as inferior to others, as an unattractive social agent (Gilbert et al., 2007). So, shame emerges from our complex evolved mental abilities to be aware of 'how we exist for others,' and make predictions of what they think and feel about us (Gilbert, 2002b, 2003; M. Lewis, 1992). Hence shame can be an experience of the self related to how we think we exist in the minds of others (Gilbert & McGuire, 1998; Keltner & Harker, 1998), linked to the exposure of negative aspects of the self (e.g., deficits, failures and flaws) to others and to the experience of the others feeling contempt or ridicule for the self ; that is to say, shame is about being seen as an unattractive and undesirable self (Gilbert, 2007a; M. Lewis, 1992, 2003; Tangney & Dearing, 2002).

Many researchers of shame also highlight the fact that a sense of self involves a range of evolved high level cognitive, meta-cognitive and symbolic abilities that not only give rise to self-awareness and experiences of the self (Tracy & Robins, 2004), but also make humans extremely sensitive, focused and responsive to what others think and feel about the self (e.g., theory of mind, Byrne, 1995; Gilbert, 2002a, 2007a). Shame therefore belongs to a family of emotions that are called self-conscious emotions (Tangney & Fischer, 1995), which play a central role in motivating and regulating people's thoughts (e.g. self and other representations), feelings, and behaviours (Tracy & Robins, 2004, 2007).

Shame, however, can also be distinguished in terms of its attention focus, thoughts and behaviour (Gilbert, 1998c, 2003). External shame is a term used to focus on the shame we experience when we believe we are held negatively in the mind of others. In external shame our attention is focused on the mind of the other, our behaviour might be orientated towards trying to influence our image in the minds of others by appeasing or displaying qualities we hope will find favour. Internal shame, on the other hand, is focused on the self; we are both judge and judged. Our attention is focused inwardly, on our mistakes and self deficits and we are commonly self-critical. Even in the context of other people feeling positively about us, we can still have negative views about ourselves and feel inferior and inadequate in comparison to others (Gilbert 1998c, 2002a, 2007a).

Autobiographical memory, paranoia and social anxiety

Sensitivity to both paranoid and social anxiety may arise from aversive experiences with other people in childhood. However, it is unknown whether shame experiences that function as traumatic and central autobiographical memories may orientate a person to a malevolent form of anxiety focused on others' intentions towards the self (paranoia) or to a form of social fear focused on the inadequacies of self (social anxiety).

Autobiographical memory (AM) is of crucial importance to one sense of self and view of others (Conway & Pleydell-Pearce, 2000; Conway, Singer, & Tagini, 2004). AM can be defined as the "memory for the events of one's life" that "constitutes a major crossroads in human cognition where considerations relating to the self, emotion, goals, and personal meanings all intersect" (Conway & Rubin, 1993, p. 103).

A recent model of AM, the Self Memory System (Conway, 2005; Conway & Pleydell-Pearce, 2000; Conway, Singer, & Tagini, 2004), highlights the interconnectedness of the self, defined as a complex set of goals and associated self-images (i.e., the working self), and memory, viewed as the data base of the self. When the working self and the autobiographical memory knowledge base interconnect in acts of remembering, autobiographical memories can be formed. An integrative part of the working self is the conceptual self (Conway, Meares, & Standart, 2004), which consists of socially constructed schema and categories that define the self, other people, and typical interactions with others and the world [e.g., internal working models of self and others (Bowlby, 1969/1982, 1973, 1980), self-with-other units (Ogilvie & Rose, 1995), relational schema (Baldwin, 1992), personal scripts (Singer & Salovey, 1993; Thorne, 2000, 1995; Tomkins, 1979)].

Three broad theoretical functions of AM have been proposed in the literature and are especially relevant in the discussion of shame memories: people use personal memories to serve self, social and directive functions (Bluck, 2003; Bluck, Alea, Habermas, & Rubin, 2005). The *self* function pertains to AM's role in the content of identity, in the maintenance of a coherent sense of self over time (Addis & Tippet, 2008; Bluck & Levine, 1998; Conway, 2005; Habermas & Bluck, 2000; McAdams, 1996; McLean & Thorne, 2003; Wilson & Ross, 2003), or in the construction of working models of self and others (Conway, 2003). The *social* function of AM includes using memories to develop, maintain and nurture social bonds, to initiate relationships, and to better understand and empathise with others (Alea & Bluck, 2003; Cohen, 1998; Pillemer, 1998; Robinson & Swanson, 1990). The *directive* function of AM involves using our own past experience to solve current problems and guide future behaviours (Baddeley, 1986; Cohen, 1998), or to construct models of others' inner world that allow us to predict their future behaviour and thereby influence our cognitions, emotions and behaviours towards them (Robinson & Swanson, 1990). Pillemer

(1998, 2003) further discussed the guiding power of AM, suggesting that individual personal memory episodes can play strong directive roles in people's lives (e.g., functioning as anchors for self conceptions and values, or as turning points in life story).

Following this view, is the Centrality of Event Theory, in which Berntsen and Rubin (2006, 2007) propose that a memory of a trauma or a negative emotional event can become a central component of identity, a turning point in the life story or reference point for everyday inferences and for generating expectations central to one's life story and this may be related to increased levels psychopathology.

Therefore, if intrapersonally AM is a critical component in mental representations of the self, and interpersonally, it provides a basis for creating mental models of others and establishing and maintaining social relationships (Kihlstrom, 2009), one would expect that the way shame experiences function in the AM might influence the vulnerability to developing social or paranoid anxiety, since these two forms of social wariness involve different inner working models of self and others.

Shame memories, paranoia and social anxiety

Shame experiences can occur very early in life and comprise a primary threat to the (social) self (Gilbert, 1998c, 2003), so shame memories can texture the whole sense of self (Andrews, 2002; Andrews & Hunter, 1997). Shame memories are threat memories. For example Kaufman (1989) suggested that shame memories operate like mini-scenes in the mind, and emotional hot-spots. Shame memories can be associated with a sense of vividness and high emotional affect; typical here are memories of: painful bullying, criticism from a parent, failing an important exam where one thought one would pass, sexual impotency and so on. Such threat memories have powerful emotional effects on self-schema with potential to create intrusions (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Dickerson & Kemeny, 2004).

In a recent study, Matos and Pinto-Gouveia (2010) found that early shame experiences reveal traumatic memory characteristics (e.g. intrusion, avoidance, hyperarousal) that not only have an impact on feelings of shame in adulthood but also moderate the impact of shame on depression. Additionally, Pinto-Gouveia and Matos (2011) suggest that early shame experiences are recorded in autobiographical memory as powerful and distressing emotional memories that can become central to a person's identity and life story. Furthermore, they found that the centrality of shame memories shows a unique and independent contribution to depression, anxiety and stress prediction, even after controlling for shame measures, and that the centrality of shame memories is highly and positively associated with traumatic stress reactions.

The way shame experiences operate in AM, and function as traumatic and central memories to the identity and life story for those experiencing social anxiety and those experiencing a more malevolent or paranoid form of anxiety, has not yet been explored. For example, are people prone to the paranoid forms of social anxiety more likely to have shame memories with traumatic characteristics and that have become central AMs to their identity and life story (e.g., coming from more malevolent backgrounds high in abuse)? Do people with less malevolent forms of social anxiety have shame memories that function as less traumatic and central in their AM (e.g., coming from backgrounds of needing to impress others to feel wanted or loved)?

Aims

This study set out to explore the relationship between shame and shame memories, specifically the traumatic nature and centrality of early shame experiences, with social anxiety and paranoia.

This study intends to test if external and internal shame have a different impact on paranoid ideation and social anxiety. Given that external shame is related to the negative image of the self in the minds of others and internal shame is associated with the undesirability and inadequacy of the self in its own eyes, we hypothesise that external shame would have a higher effect on paranoia (more linked to malevolent intents of others towards the self) whereas internal shame would have a higher impact on social anxiety (more focused on the deficits of the self that may lead to rejection by others).

In addition, we set out to investigate whether the degree to which shame memories function in AM as traumatic and central to one's identity and life story has a different impact on paranoia and social anxiety, when current shame feelings are considered simultaneously (since shame plays an important role in paranoia and social anxiety). We hypothesised that the traumatic and central shame memories, would have a higher impact on paranoid anxiety compared to social anxiety. This is because we suggest that the more traumatic and central early shame experiences are recorded in AM, the more likely they are to generate a malevolent sense of threat to the self, leading to perceptions of others as hostile and harmful, and the self as rejectable, inferior, flawed or powerless. Finally, this study also intends to extend previous findings (Matos & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011) on the association between shame, shame memories and psychopathology using a different community sample.

Method

Participants

Participants in this study were 328 subjects recruited from the general community population in the district of Coimbra, Portugal. Participants' mean age was 37.3 years ($SD = 11.7$; age ranging from 20 to 70 years), 67.1% were females ($n = 220$) and 32.9% males ($n = 108$). Fifty per cent of the subjects are married ($n = 163$) and 37% are single ($n = 122$). Forty seven per cent have middle class professions (e.g., academics, teachers, social workers, engineers, managers, nurses, middle-level administrators; $n = 153$). The mean number of years in education is 13.4 ($SD = 4.5$). Gender differences were tested for and no significant differences were found between men and women in the study variables.

Procedure

Participants were given a series of self-report questionnaires designed to measure external shame, internal shame, traumatic and autobiographical memory characteristics, social anxiety and paranoia. The questionnaires were administered by the author, MM, with assistance of undergraduate students. A convenience sample was collected from the general population, recruited within the staff of institutions, namely schools and private corporations. These institution's boards were contacted, the research aims were explained and authorisation was obtained so that their employees could participate in the study.

Afterwards, staff were contacted by email, which explained the nature of study and invited them to participate. Participants then met with a researcher, who explained the study in detail and sought informed consent, and then completed the self-report questionnaires. In line with ethical requirements, it was emphasised that participants co-operation was voluntary and that their answers were confidential and only used for the purpose of the study.

Measures¹

All instruments used in this study were translated into Portuguese by a bilingual translator and the comparability of content was verified through stringent back-translation procedures.

Shame

Other As Shamer (OAS; Allan, Gilbert, & Goss, 1994; Goss, Gilbert, & Allan, 1994; Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011c), is 18 item self-report scale that measures external shame (i.e., global judgements of how people think others view them). Respondents rate on a 5-point Likert scale (0 - 4) the frequency of their feelings and experiences, for example, “*I feel other people see me as not quite good enough*” and “*I think that other people look down on me*”. Scores can range from 0 to 72 with higher scores on this scale indicative of higher external shame. A Cronbach alpha of .92 was reported in the original study of this scale Goss et al. (1994). In the present study, the Cronbach alpha was .91.

Experience of Shame Scale (ESS; Andrews, Qian, & Valentine, 2002; Portuguese version by Matos & Pinto-Gouveia, 2011d) is a 27 item scale that assesses three areas of (internal) shame: character (e.g., “*Have you felt ashamed of the sort of person you are?*”), behaviour (e.g., “*Have you tried to cover up or conceal things you felt ashamed of having done?*”) and body (e.g., “*Have you felt ashamed of your body or any part of it?*”). Each item indicates the frequency of experiencing, thinking and avoiding any of the three areas of shame in the past year and is rated on a 4-point Likert scale (1 - 4). Scores can range from 27 to 108. Only the total of the ESS was used in this research as a measure of internal shame. Andrews et al. (2002) found this scale to have a high internal consistency (Cronbach $\alpha = .92$) and in the present study, ESS total showed a Cronbach alpha of .94.

Shame memories

Traumatic impact of shame memory

Impact of Event Scale – Revised (IES-R; Weiss & Marmar, 1997; Portuguese version by by Matos, Pinto-Gouveia, & Martins, 2011) is a 22-item self-report instrument designed to measure traumatic stress reactions and current subjective distress for any specific life event and, distinctively in our study, a shame experience from childhood or adolescence. It is rated on a 5-point Likert scale (0 - 4). The IES-R is composed of three subscales that measure the three main characteristics of traumatic memories: avoidance (e.g., “*I stayed away from reminders of it*”), intrusion (e.g., “*Any reminder brought back feelings about it*”) and hyperarousal (e.g., “*I was jumpy and easily startled*”) that parallel the DSM-IV criteria for PTSD. In this study only the total of the IES-R will be used and it is computed by the sum of the total of the

¹ The individual questionnaires were administered in the following order across participants: Others As Shamers, Experiences of

three subscales. Scores can range from 0 to 12. In the original study, Cronbach alphas of the subscales ranged from .87 to .92 for intrusion, .84 to .86 for avoidance and .79 to .90 for hyperarousal (Weiss & Marmar, 1997). In this study, the total of IES-R revealed high internal consistency (IES-R Cronbach $\alpha = .97$).

Centrality of shame memory

Centrality of Event Scale (CES; Berntsen & Rubin, 2006; Portuguese version by Matos, Pinto-Gouveia, & Gomes, 2010) assesses the extent to which a memory for a stressful event forms a reference point for personal identity and to attribution of meaning to other experiences in a person's life. It consists of 20 items, rated on 5-point Likert scales (1-5), that measure three interdependent characteristics of highly negative emotional memories: reference points for everyday inferences (e.g., *"This event has coloured the way I think and feel about other experiences."*), turning points in life stories (e.g., *"I feel that this event has become a central part of my life story."*) and components of personal identity (e.g., *"I feel that this event has become part of my identity."*). Scores can range from 20 to 100. In its original study, CES reported a high internal consistency (Cronbach $\alpha = .94$). In this study, CES also showed an excellent internal consistency (Cronbach $\alpha = .96$).

Priming for a shame memory

In this study, instructions for the IES-R and the CES were modified to prime participants with a shame memory and complete the scale with that memory as their focus. Participants were instructed to answer the questionnaire based on a significant and stressful shame experience they recalled from their childhood or adolescence.

Participants were given a brief introduction about the concept of shame and then given the following instructions:

"The experience of shame is common among all human beings and everyone, throughout life, has shame experiences. We know now that these are important experiences that might be related to several problems in people's lives. In these questionnaires we are interested in getting to know your shame experiences, that is, a situation where you felt shame. Shame is a negative self-conscious emotion associated with feelings of inferiority and personal devaluation. Shame may involve different feelings and thoughts:

External shame is what we feel if we experience or think someone/others are being critical, hostile, looking down on us or seeing us as inferior, inadequate, different, bad or weak; is what we feel when others criticise, reject, exclude or abuse us. Our feelings rise from how we feel others feel about us.

Internal shame is what we feel when we feel or judge ourselves negatively, as inferior, inadequate, different, bad or weak. Our feelings rise from how we feel and think about ourselves.

In a certain situation we might feel external shame, internal shame or both.

Shame feelings may blend with other feelings like anxiety, fear, anger, disgust or contempt. Furthermore, a great urge to hide, disappear or run away from the situation is part of the experience of shame.

Now, please try to recall a (significant) situation or experience in which you think you felt shame, during your childhood and/or adolescence.

(For the IES-R) Using the following scale, please indicate the degree of distress that each difficulty has caused you throughout your life. That is, concerning the shame experience you recalled, how much were you distressed by these difficulties?

(For the CES) Please think back upon that significant shame event in your life and answer the following questions in an honest and sincere way, by circling a number from 1 to 5."

We consider that this adjustment in the instructions does not seem to affect the validation of these scales, since the items' content is well suited for both instructions.

Social Anxiety

Social Interaction and Performance Anxiety and Avoidance Scale (SIPAAS; Pinto-Gouveia, Cunha, & Salvador, 2003) is a self-report scale that measures the degree of anxiety and avoidance in social situations. This scale comprises 44 items that represent performance and social interaction situations (e.g., "Go to a party", "Ask someone out", "Do an oral exam" "Ask a stranger for information"). For each situation, subjects are asked to rate in 4-point Likert scale (1 - 4) the degree of discomfort/anxiety felt and the extent to which they avoid that situation. This instrument is composed of two subscales: Discomfort/Anxiety and Avoidance, however only the total will be used in this study. The total SIPAAS score can range from 88 to 352. In its original study, the scale showed good internal consistency (Cronbach $\alpha = .95$ for Discomfort/Anxiety subscale and $.94$ for Avoidance subscale). Similarly, in the present study Cronbach' alpha values were of $.97$ for the scale total, $.96$ for Discomfort/Anxiety and $.95$ for Avoidance.

Paranoia

General Paranoia Scale (GPS; Fenigstein & Vanable, 1992; Portuguese version by Lopes & Pinto-Gouveia, 2005b) is a 20 item self-report paranoia scale designed to measure paranoia in college students. It assesses the following characteristics: the belief that another person, or a powerful external influence, is commanding the individual's thoughts and behaviours (e.g., "Someone has been trying to influence my mind"); the belief of a conspiracy against oneself, i.e. others are working together to conspire against the individual (e.g., "My parents and family find more fault in me than they should"); the belief of being spied on and talked negatively about oneself behind one's back (e.g., "I sometimes feel as if I am being followed"); a general suspicion regarding others and a lack of trust on people (e.g., "It is safer to trust no one.") and finally the presence of feelings of resentment (e.g., "I am sure I get a raw deal from life"). Each item is rated on a 5-point Likert scale (1 - 5). Scores can range from 20 to 100, with higher scores indicating greater paranoid ideation. Fenigstein and Vanable (1992) found this scale to have good internal consistency across their four North-American samples (Cronbach $\alpha = .84$). The GPS showed a Cronbach alpha of $.91$ in our sample.

Results

Data analysis

Analysis was conducted using PASW (Predictive Analytics Software), version 18 (SPSS Inc., Chicago, IL, USA) for PCs.

In order to explore the relationship between shame, traumatic impact of shame memory, centrality of shame memory, paranoia and social anxiety (continuous variables) we conducted Pearson product-moment correlations (Cohen, Cohen, West, & Aiken, 2003).

With the purpose of better understanding the impact of the traumatic impact of shame memories, centrality of shame memories, external shame and internal shame (exogenous/independent variables) on paranoia and social anxiety (endogenous/dependent variables), we conducted two path analyses. This technique is a special case of Structural Equation Modelling and considers the hypothetical casual relations between variables that have already been defined. It is assumed that there is no measure error, and that there is multivariate normality (which we tested; Tabachnick & Fidell, 2007). A Maximum Likelihood estimator was used to calculate the equation, in AMOS (Analysis of Moment Structures) version 18 (Amos Development Corporation, Crawfordville, FL, USA). Structural Equation Modelling procedure estimates the optimal effect of one set of variables on another set of variables in the same equation, controlling for error (Byrne, 2010; Kline, 2005). Path analysis uses latent variables already calculated instead of the full factorial model that considers observed variables in the model (Kline, 2005). Two separate path analyses were performed because both the traumatic impact of shame memory and centrality of shame memory refer to the same shame memory, and so they share high covariance between them.

Descriptives

The means and standard deviations for this study are presented on Table 1. The descriptive statistics for the variables studied were similar to previous studies (e.g., Andrews et al., 2002; Berntsen & Rubin, 2006, 2007; Goss et al., 1994; Matos & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011; Weiss & Marmar, 1997).

Table 1: Means (*M*) and standard deviations (*SD*) (*N* = 328)

Variables	Total (<i>N</i> = 328)	
	<i>M</i>	<i>SD</i>
<i>Shame</i>		
Other As Shamer	19.60	9.45
Experience of Shame Scale	47.52	13.14
<i>Centrality of shame memory</i>		
Centrality of Event Scale	44.99	18.65
<i>Traumatic impact of shame memory</i>		
Impact of Event Scale-Revised	3.88	2.77
<i>Paranoia</i>		
General Paranoia Scale	47.52	11.29
<i>Social anxiety</i>		
Social Interactioin and Performance Anxiety and Avoidance Scale	182.96	43.57

Correlations

The Pearson product-moment correlations are presented in Table 2. Pertaining to the association between shame, paranoia and social anxiety, we found that external shame had a positive strong correlation with paranoia, and positive moderate correlation with social anxiety and avoidance. Internal shame was moderately correlated with general paranoid ideation and strongly associated with social anxiety and avoidance.

Concerning the relationship between traumatic and centrality characteristics of shame memories and paranoid and social anxiety, results revealed that traumatic impact of shame memory was particularly associated with paranoid anxiety, showing positive and moderate correlations with paranoid ideation. It was also related to social anxiety but the correlations were weaker. Similarly, centrality of shame memory was primarily associated with paranoia, showing positive and moderate correlations with paranoid ideation, and weaker correlations with social anxiety.

Table 2: Intercorrelations (2-tailed Pearson *r*) between external shame, internal shame, centrality of shame memories, traumatic impact of shame memory, paranoia and social anxiety (*N* = 328)

	OAS	ESS	CES	IES-R	GPS
ESS	.51*				
CES	.34*	.32*			
IES-R	.47*	.47*	.63*		
GPS	.61*	.46*	.45*	.53*	
SIPAAS	.43*	.57*	.19*	.38*	.40*

* *p* < .010.

Key: OAS = Other As Shamer (external shame); ESS = Experience of Shame Scale (internal shame); CES = Centrality of Event Scale (centrality of shame memory); IES-R = Impact of Event Scale-Revised (traumatic impact of shame memory); GPS = General Paranoia Scale; SIPAAS = Social Interaction and Performance Anxiety and Avoidance Scale.

So, individuals whose shame memories from childhood and adolescence had traumatic memory features (e.g., of intrusion, avoidance, hyper-arousal) and were regarded as central components of personal identity and life story and as reference points to give meaning to past, current or future experiences, tended to show increased paranoid ideation. Social anxiety was also associated with these traumatic and central shame memories but the correlations were weaker than with paranoia.

To better understand the impact of shame traumatic and central memories on paranoia and social anxiety, when considering at the same time the effect of current feelings of shame, we conducted two structural equation models.

Path analysis

First, we tested a model considering three exogenous variables: traumatic impact of shame memory, external shame, internal shame, and two endogenous dependent variables: paranoia and social anxiety (Figure 1).

In the evaluation of model A, we found a very good model fit with a non-significant chi-square test (see Table 3). Six goodness-of-fit indices were chosen for the evaluation of model fit: GFI, AGFI, CFI, TLI, RMSEA, SRMR, because they are well known and recommended in the literature (Kline, 2005). The analysis of these indices revealed an excellent model fit.

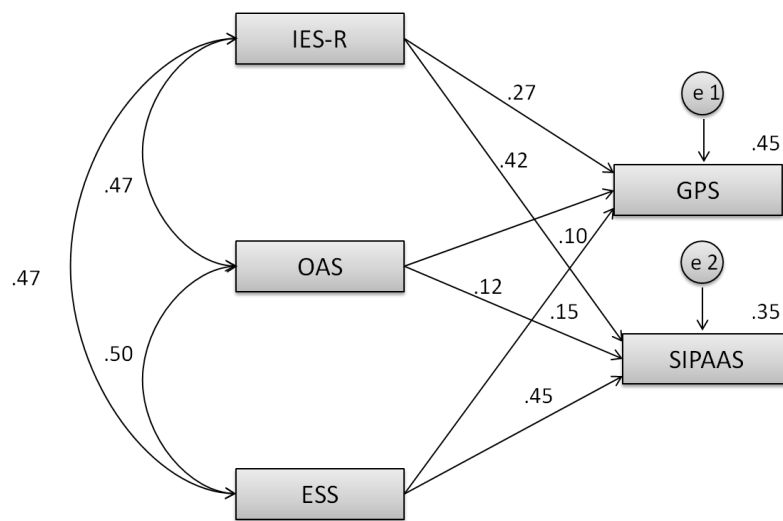


Figure 1. Results of path analysis (model A) showing the relationships among traumatic impact of shame memory (Impact of Event Scale—Revised [IES-R]), external shame (Other as Shame [OAS]), internal shame (Experience of Shame Scale [ESS]) and paranoia (General Paranoia Scale [GPS]) and social anxiety (Social Interaction and Performance Anxiety and Avoidance Scale [SIPAAS]) variables with standardized estimates ($N = 328$).

All the paths considered in the model were statistically significant, with the exception of the relation between traumatic impact of shame memory (IES-R) and social anxiety (SIPAAS). Regarding the impact on paranoia (GPS), we can see that external shame (OAS) was the strongest predictor, followed by traumatic impact of shame memory (IES-R). Internal shame (ESS) showed the lowest regression weight (Table 3).

In relation to social anxiety (SIPAAS), only current external and internal shame feelings had a significant impact. Internal shame (ESS) was the predictor that had the higher impact and external shame (OAS) showed a lower regression weight.

Table 3. Paths in model A and in model B with their standardized regression weights including the overall fit indices for models

Standardized Regression Weights		
<i>Paths in model A</i>		
IES-R → GPS	.274***	
OAS → GPS	.419***	
ESS → GPS	.116*	
IES-R → SIPAAS	.097	
OAS → SIPAAS	.149**	
ESS → SIPAAS	.449***	
<i>Paths in model B</i>		
CES → GPS	.256***	
OAS → GPS	.443***	
ESS → GPS	.149**	
CES → SIPAAS	-.028	
OAS → SIPAAS	.185***	
ESS → SIPAAS	.485***	
<i>Goodness-of-fit indices</i>		
Chi-square (χ^2)	Model A 2.45 ($df = 1; p < .120$)	Model B 5.38 ($df = 1; p < .020$)
GFI (goodness-of-fit index)	.997	
AGFI (adjusted goodness-of-fit index)	.955	
CFI (comparative fit index)	.997	
TLI (Tucker-Lewis index)	.973	
RMSEA (root mean-square error of approximation)	.066	
SRMR (standardised root mean square residual)	.013	

* $p < .050$. ** $p < .010$. *** $p < .001$.

Key: OAS = Other As Shamer (external shame); ESS = Experience of Shame Scale (internal shame); CES = Centrality of Event Scale (centrality of shame memory); IES-R = Impact of Event Scale-Revised (traumatic impact of shame memory); GPS = General Paranoia Scale; SIPAAS = Social Interaction and Performance Anxiety and Avoidance Scale.

In model B, three exogenous variables were considered: centrality of shame memory, external shame, internal shame, and two endogenous variables: paranoia and social anxiety (Figure 2).

In the evaluation of the adjustment of model B (see Table 3), a low but significant chi-square test was found. This result, along with the goodness-of-fit criteria, allowed us to conclude that the model had an acceptable fit. Specifically, regarding baseline comparisons (CFI, TLI), results were higher than the recommended cut off values (.95). Concerning indices for the parsimony of the model, despite RMSEA had a higher value than the recommended cut-off point (.08), SRMR showed a value much lower than the cut-off point (.10). The absolute fit index, GFI, was very close to the perfect fit (cut off $> .90$; Kline, 2005). Overall, given these global adjustment results and the local adjustment considering the regression paths, this model may constitute a good explanation for these relationships.

All the paths in the model were statistically significant, with the exception of the relation between centrality of shame memory (CES) and social anxiety (SIPAAS). External shame (OAS) was the strongest predictor of paranoia (GPS), followed by centrality of shame memory (CES). Internal shame (ESS) showed the lowest regression weight for the prediction of paranoia (GPS) (Table 3).

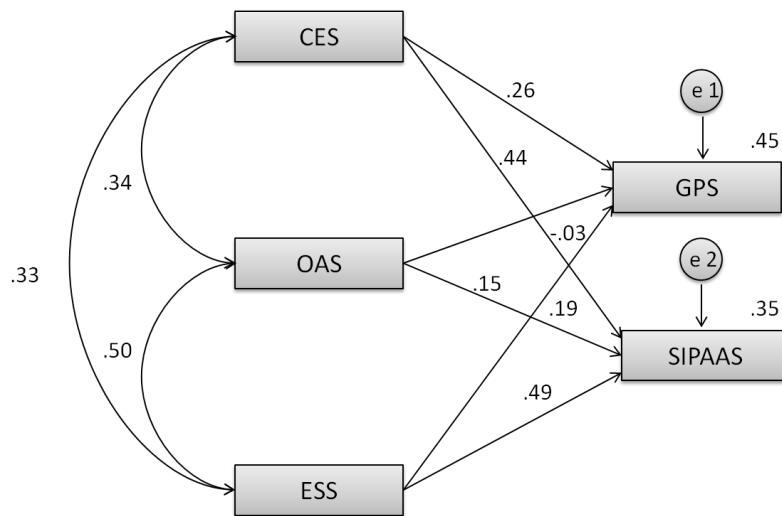


Figure 2. Results of path analysis (model B) showing the relationships among centrality of shamememory (Centrality of Event Scale [CES]), external shame (Other as Shame [OAS]), internal shame (Experience of Shame Scale [ESS]) and paranoia (General Paranoia Scale [GPS]) and social anxiety (Social Interaction and Performance Anxiety and Avoidance Scale [SIPAAS]) variables, with standardized estimates ($N = 328$).

As seen in model A, only current external and internal shame feelings had a significant impact on social anxiety (SIPAAS). Internal shame (ESS) was the most significant predictor followed by external shame (OAS), which showed a lower regression weight.

Therefore, the key finding is that external shame (i.e., feeling one lives in the minds of others as inferior, unworthy, unattractive social agent) is mainly associated with higher paranoia scores. In contrast, higher internal shame (i.e., feeling and seeing oneself as inadequate, inferior and unattractive) is mostly linked to social anxiety.

Furthermore, the two path analyses consistently show that individuals whose shame memories function as traumatic memories, that elicit intrusions, avoidance and symptoms of hyper-arousal, or as central reference points to their self-identity and life story, present higher general paranoid ideation, even when current feelings of external and internal shame are considered at the same time. Thus, traumatic impact of shame memory and centrality of shame memory predict paranoia, but not social anxiety, even when current feelings of shame are simultaneously tested.

Discussion

This study investigated the role of shame, traumatic impact and centrality of shame memories in relation to paranoia and social anxiety. These two forms of anxieties have different evolutionary histories and may be regulated by different psychological processes (Gilbert, 2001a).

We distinguished between internal shame and external shame and found that external shame was more associated with paranoid anxiety, whilst internal shame was more correlated with social anxiety, although

there were obvious overlaps. According to our hypothesis, similar results were found in both path analyses where external shame had a higher impact on paranoia and internal shame showed a higher impact on social anxiety. These findings are in line with the view that paranoid anxiety is focused on the malevolent intentions of others towards the self (Fenigstein & Venable, 1992; Freeman & Garety, 2004; Freeman et al., 2005; Gilbert et al., 2005) and that it is closely related to interpersonal threats, particularly, being negatively evaluated by others (Chadwick & Trower, 1997). In contrast, social anxiety is more closely linked to a sense of an inadequate and undesirable self, unable to win in the competitive arenas for friends, lovers, and status, with a greater focus on the sense of self and internal shame (Clark & Wells, 1995; Gilbert & McGuire, 1998; Gilbert & Trower, 1990, 2001; Keltner & Harker, 1998; Gilbert, 2001a; Ogilvie, 1987).

In regard to shame memories, we found that the more traumatic and central to identity and life story the shame memory is, the higher its association with paranoid anxiety. Also, results from two path analyses showed that, when current shame feelings are considered simultaneously, traumatic impact of shame memory and the centrality of shame memory independently predict paranoid anxiety, but not social anxiety. These results suggest that the way shame memories are organised and function in AM might be an important factor to differentiate paranoid from social anxiety. Thus, this suggests that researchers should distinguish between types of shame memory, particularly those where the self might have been the target of hostile actions by others, for example, shame episodes where one was treated with contempt, humiliated or attacked by others, and felt they hold malevolent intentions towards the self.

This implies that in paranoid anxiety, shame memories appear to operate in AM as trauma memories, capable of eliciting intrusions, avoidance and symptoms of hyper-arousal. In light of recent perspectives in traumatic memory (Ehlers & Clark, 2000) and paranoia (Freeman, 2007; Freeman et al., 2008; Gilbert et al., 2005; Salvatore et al., 2011), early shame experiences that function as traumatic memories might contribute to the maintenance of a permanent sense of threat to the (social) self, who is left to feel vulnerable, inferior, subordinate, powerless or undesired, and a view of others as dominant, hostile and threatening, who may harm, reject, exclude or persecute the self. This might thus result in (or reinforce) a hyperactivation of the threat and self-protection system in face of (perceived) menaces to the self as a social agent as well as compromise the access to feelings of safeness and security, elevating vulnerability to experience paranoid symptoms.

In addition, shame memories (where the self might have been threatened, rejected, harmed or abused by hostile, critical or powerful others) seem to function as anchoring events for one's sense of self-identity and as turning points in one's life narrative. So, these shame experiences can form highly available reference points for the organisation of other memories and remain too central to the understanding of one's past, present and future, shaping not only our negative perceptions of the way we exist in the minds of others but also our view of others as hostile and threatening, with malevolent intentions towards the self. This would explain the greater association of shame memories with paranoia, rather than social anxiety, because while paranoid anxiety is more focused on the negative thoughts and malevolence of others, social anxiety is more focused on the inadequacies of the self.

The present findings extend the work of Matos and Pinto-Gouveia (2010) and Pinto-Gouveia and Matos (2011) on the traumatic and autobiographical nature of shame memories and their relationship to psychopathology. Our results might be viewed in light of current conceptualisations of AM (Conway, 2005; Conway & Pleydell-Pearce, 2000; McLean, 2005; Thorne, 2000; Singer & Salovey, 1993), suggesting that shame memories that are perceived as traumatic and central AMs might function as self-defining memories in the Self-Memory System, especially in those individuals who suffer from paranoid anxiety. In

these individuals, shame AMs might have served self, social and directive functions (Bluck et al, 2005). These shame memories might have led to structuring negative mental models of self (e.g., as being negatively evaluated by others, powerless, inferior) and others (e.g., as threatening and hostile that may harm, reject, exclude or persecute the self), which influence cognitions and emotions regarding others (e.g., paranoid thoughts and anxiety) and the way one develops and maintains social relationships (Addis & Tippet, 2008; Conway, 2003, 2005; McLean, 2005; Pillemer, 2003; Robinson & Swanson, 1990; Wilson & Ross, 2003).

Furthermore, these findings are consistent with the concept of centrality of a (trauma) memory that, being highly integrated in autobiographical memory, can form a cognitive reference point for the organisation of autobiographical knowledge and for perception of the self, others and the world, influencing subsequent attentional, emotional and cognitive processing (Bernsten & Rubin, 2006, 2007). In light of this model, our results might suggest that when shame is linked to a central AM it may bias attention and social processing to threat and malevolence. Given that shame memory can be trauma-like, with intrusions, avoidance and hyper-arousal symptoms, these processes may create biases towards interpersonal threat, thus increasing vulnerability to paranoid anxiety. This is in line with cognitive, psychophysiological, neuropsychological, and neuroimaging evidence on social threat detection processes involved in paranoia (for a review, see Green & Phillips, 2004). However, further empirical support for these linkages between shame memories and threat processing is required.

Our results may also sit with empirical evidence that individuals with paranoid symptoms present impairment in understanding others' minds (Corcoran et al., 2005; Lysaker, 2010; Salvatore et al., 2011). A hypothesis is that in some individuals, shame memories that involved a sense of self as vulnerable and of others as threatening and hostile, might have led to deficits in theory of mind abilities which, in turn, elevated their proneness to misunderstand others' intentions, emotions and thoughts. This speculation constitutes a possible interesting avenue for future research.

The current study adds to previous research suggesting paranoia and social anxiety problems might be related to neglectful or abusive backgrounds (Freeman et al., 2002; Gilbert, 2002b; Gilbert, Allan & Goss, 1996; Gilbert et al., 2005; MacBeth, Schwannauer, & Gumley, 2008; Mills et al, 2007; Gracie et al., 2007; Trower & Chadwick, 1995). In fact, our study suggests that traumatic shame experiences from childhood and adolescence, where one might have been rejected, excluded, criticised or abused by significant others, may be particularly important in paranoid anxiety. These adverse experiences can lead to the formation of negative views of the self (e.g., as undesirable, bad or defective) and of others (e.g., as hostile, threatening, unpredictable, bad), and to the development of a current sense of threat to the self posed by others, from whom one should defend against. Nevertheless, it is also conceivable that people who currently experience higher levels of shame and suffer from paranoid anxiety may be more inclined to judge a shame related childhood memory as traumatic and central to their life story and identity, or even distort memories in order to confirm that others are hostile and threatening. Several studies give support for this view suggesting that the emotional content of an experience can influence the way the event is remembered, and that the appraisals, emotions and emotional goals at the time of autobiographical retrieval can influence the information recalled (for a review, see Levine & Pizarro, 2004 and Holland & Kesinger, 2010).

However, although current emotional states may influence how we construct our past, the fact that the traumatic impact and the centrality of shame memories predict paranoid ideation even when current feelings of shame are considered simultaneously, supports our interpretation. Furthermore, the choice of the exogenous and endogenous variables entered in the path analyses was founded on theoretical models

(Berntsen & Rubin, 2006, 2007; Ehlers & Clark, 2000; Gilbert, 1998c, 2002a) and on previous findings (Matos, & Pinto-Gouveia, 2010; Pinto-Gouveia, & Matos, 2011), which sustain that traumatic and central shame memories and shame predict psychopathology.

In conclusion, our findings support the evolutionary model that suggests there are two distinct types of 'conspecific' anxiety, with different evolutionary histories, functions and psychological processes (Gilbert, 2001a). In particular, the present study supports the claim of different psychological processes underlying two forms of social wariness. Paranoia is focused on malevolence and negative intentions of others towards the self, whereas social anxiety is focused on our abilities to be attractive to others and compete for social place and avoid rejection. These two anxieties clearly overlap and can coexist, and both are related to shame. However, paranoid anxiety is more linked to how one believes one exists in the minds of others whereas social anxiety seems to be more related to beliefs and feelings about one's own inadequacies and shortcomings. We would hypothesise that people with paranoid anxiety would want to keep away from others whereas those with social anxiety would like to feel included, valued and accepted by others, possibly by having desirable qualities. In addition, traumatic impact of shame memories and the centrality of shame memories seem to be specifically associated with paranoid ideation but not with social anxiety. This points to the importance of malevolent rearing experiences, where the self may have been harmed, abused, neglected or rejected by significant others, which can become traumatic and central AMs to social wariness and to the development of paranoid anxiety.

Clinical implications

The current study may contribute to a better understanding of paranoia and social anxiety, shedding some light on the way shame and shame experiences are related to these two evolutionary forms of social wariness and anxiety.

Despite the use of a non-clinical sample, some therapeutic implications might be drawn from our findings since the same mechanisms and processes involved in shame and shame memories should apply at a clinical or non-clinical level. Therefore, the present study underlines the importance of assessing and working with shame in dealing with paranoid or socially anxious individuals (Gilbert, 2006a, 2007b, 2009a; Gilbert & Irons, 2005; Gilbert & Procter, 2006). Moreover, our results highlight the importance of addressing and reconstructing the meaning associated with traumatic and central shame memories, particularly in patients experiencing a more malevolent or paranoid form of 'social' anxiety (Gilbert, 2010; Robinson, 1996; Robinson & Taylor, 1998).

Limitations and future research

One methodological limitation of the present study is its cross-sectional design. In the future, prospective studies should be carried out to enhance the understanding on the causal relation between the variables. Despite the plausibility of the models tested here, there may be other concurrent explanatory models for these relations using other variables or considering other types or directions of association. These concurrent models could be tested in future studies. Since we used a general community sample, the current results cannot be generalised to clinical populations and, for this reason, we are now replicating this study using a clinical sample. The use of the Experience of Shame Scale (Andrews et al., 2002) to assess internal shame might also raise some concerns, since this scale comprises a few items that might be related to external shame (e.g., "*Have you worried about what other people think of the sort of person you are?*"). Future studies should seek to replicate the present findings using other instruments to measure internal shame, such as the Internalised Shame Scale (Cook, 1994/2001).

Nonetheless, this is the first study to show that current shame and shame memories are distinctly related to paranoid and social anxiety in a general population, empirically supporting the idea that shame memories that function as traumatic central events to personal identity and life story are particularly important for those experiencing paranoia, but not social anxiety.

Acknowledgements

This research is supported by a Ph.D. grant awarded to the first author (Marcela Matos; grant number SFRH/BD/36617/2007), sponsored by FCT (Portuguese Foundation for Science and Technology).

Chapter 5

Shame as a traumatic and central autobiographical memory: Implications to shame and psychopathology

Chapter summary

This chapter has presented a set of empirical studies exploring the traumatic, centrality and autobiographical memory properties of shame experiences recalled from childhood and adolescence and their association to proneness to shame and psychopathology in adulthood. Overall, results from these five empirical studies revealed that early shame experiences seem to function as traumatic memories, eliciting intrusions, hyperarousal and avoidance symptoms. Also, they may become central to personal identity, being perceived as turning points in the life story and forming reference points for everyday inferences. These shame traumatic and central memories seem to be associated with current feelings of internal and external shame, and with depression, anxiety and stress symptoms. Furthermore, the traumatic and centrality features of shame memories seem to moderate the link between shame and depression. Thus, insofar as a shame memory functions as a traumatic memory and shapes one's self-identity, structures one's life narrative and gives meaning to other experiences, it may amplify the impact of shame feelings and depression.

Moreover, this chapter outlined that shame memories reveal significant autobiographical memory properties, which seem to be related to their traumatic and centrality qualities, external and internal shame and psychopathology. Particularly, an integrative mediational model was proposed, where reliving of emotions, importance to self and less rehearsal properties of shame autobiographical memory seem to indirectly impact upon heightened external and internal shame and elevated symptoms of depression, anxiety and stress, through increased traumatic and centrality qualities of shame memory. In addition, empirical evidence suggested that external and internal shame are differently related to paranoid ideation and social anxiety, with external shame being specifically associated with paranoid anxiety, whereas internal shame is specifically linked to social anxiety. Besides, shame memories, which function like traumatic memories or that are a central to self-identity, seem to be associated with paranoid anxiety, but not social anxiety, when current external and internal shame are considered at the same time.

Taken together, this chapter's studies provide new insights into the traumatic and autobiographical nature of shame memories, which seem to shape our identity and the colour the lens through which we see ourselves, our lives, the others and the world, and crucially impact on psychopathological symptoms. The implications of such considerations to current conceptualizations of shame, traumatic and autobiographical memory, and to clinical work, were thereby discussed.

Chapter 6

**The uniqueness of shame memories:
A comparative study of the contribution of different
emotional memories to shame and psychopathology**

Chapter 6

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A comparative study of the contribution of different
emotional memories to shame and psychopathology**

Chapter overview

Study VI. Above and beyond emotional valence: The unique contribution of the central and traumatic shame memories to psychopathology vulnerability.

Chapter summary

Chapter 6

The uniqueness of shame memories: A comparative study of the contribution of different emotional memories to shame and psychopathology

Chapter overview

The previous chapter outlined the traumatic, centrality and autographical properties of shame memories and their relationship to emotional suffering and mental health difficulties. Yet, the question remained as to whether the impact of shame memories on psychopathology was specific and would go beyond their underlying negative emotional valence, rather than being solely a product of their negative affectivity. This chapter therefore sought out to answer this research question and presents an empirical study (Study VI) investigating the uniqueness of shame memories in their association to psychopathology, by comparing the effects of shame traumatic and central memories to that of other negative traumatic and central emotional memories, namely fear and sadness ones.

6 | Study VI

**Above and beyond emotional valence:
The unique contribution of the central and traumatic shame
memories to psychopathology vulnerability.**

Matos, M., Pinto-Gouveia, J., & Duarte, C. (2012). Above and beyond emotional valence: The unique contribution of the central and traumatic shame memories to psychopathology vulnerability. *Memory*. doi: 10.1080/09658211.2012.680962.

**Above and beyond emotional valence:
The unique contribution of the central and traumatic shame memories
to psychopathology vulnerability**

M. Matos, J. Pinto-Gouveia, & C. Duarte

Abstract

Empirical evidence suggests that shame memories can become central to self-identity, and operate as traumatic memories, having an impact on mental health. To date, however, no study has examined the specificity of the relationship between shame memories and psychopathology, relatively to other types of emotional memories.

This paper explores whether shame memories have a distinct impact on emotional difficulties and psychopathology that goes beyond their negative emotional valence. Study 1

($N = 292$) investigates the contribution of centrality of shame memory, in comparison to the centrality of fear and sadness memories, to explain the memory' traumatic impact, shame, depression, anxiety, stress, paranoid and dissociative symptoms. Study 2 ($N = 192$) explores the impact of shame traumatic memory on shame and depression, anxiety and stress symptoms, in comparison to fear and sadness traumatic memories. Both studies used undergraduate student samples.

Results showed that shame memories centrality and traumatic features had an independent contribution to current external and internal shame and distinct psychopathological symptoms, after controlling for the effect of fear and sadness centrality and traumatic qualities. Moreover, shame memories centrality and traumatic features were the best global predictors of external and internal shame and depressive symptoms. Centrality of shame memories was also the only significant predictor of paranoid ideation and dissociation.

These results offer novel perspectives on the nature of shame and its relation to psychopathology, emphasizing the distinct role of shame memories in human functioning and suffering, which goes above and beyond its negative emotional valence.

Keywords: Emotional memories; Shame; Centrality of event theory; Traumatic memory; Psychopathology

Introduction

Shame has long been acknowledged as one of the most damaging/harmful self-conscious emotions (Gilbert, 1998c; Kaufman, 1989; H.B. Lewis, 1971; Nathanson, 1994; Tangney & Dearing, 2002; Tracy, Robins & Tangney, 2007). This is a socially-focused multifaceted emotion, which blends with primary emotions (e.g., anger, anxiety, disgust) and involves physiological, affective, cognitive, behavioural and social components. Shame is seen as a “private emotion” but is usually related to the experience of having negative aspects of the self exposed to others (M. Lewis, 1992, 2003). Thus, shame is primarily linked to the experience of the others feeling ridicule or contempt for various aspects of the self, although it also comprises negative self-evaluations. Shame is then about a sense of the self as inferior, undesirable, defective or powerless as seen by others and through one’s own eyes (Gilbert, 1998c, 2007a; Tangney & Fisher, 1995; Tracy & Robins, 2004).

The current study explores the uniqueness of shame memories to general psychopathology through the lens of an evolutionary biopsychosocial approach to shame (Gilbert, 1998c, 2002a, 2007a). This model suggests that humans are a highly social species, whose survival and reproductive opportunities rely on how they relate to others and how others relate to the self. Throughout our lives, social relationships influence physiological and psychological regulation (Cozolino, 2006; Gerhardt, 2004; Schore, 1994). Hence, a suite of social motivational systems evolved to direct us towards forming and enacting certain types of social relationships and roles (e.g., as friends, lovers, employees, team members) and to understand and think about the nature of our self-to-self and self-to-others relationships. Such systems incorporate innate motives to form and respond to attachment to carers (Bowlby, 1969/1982, 1973; Cassidy & Shaver, 1999) and groups (Baumeister & Leary, 1995), and concern with one’s relative social place (Gilbert, 1992, 2000a, 2000b). Additionally, various cognitive competencies for self-conscious awareness (M. Lewis, 2003; Tracy & Robins, 2004) and for social understanding (Byrne, 1995; Gilbert, 2007a; Liotti & Gilbert, 2011), matured to make us sensitive and responsive to how we exist in the minds of the others, that is, what they think and feel about us. According to this view, evolution has, therefore, shaped us to be highly motivated to create positive affect in the mind of others, and to be seen as a socially attractive agent. In this sense, it is argued that when we achieve this, a sense of self as lovable and valued, and of the others as supportive and nurturing, is strengthened, and this creates a sense of safeness in the social domain (Baldwin, 1992, 1997; Gilbert, 1989, 1997, 2005b; Mikulincer & Shaver, 2005).

In contrast, the experience of shame seems to be a warning of perceived (real or imagined) threat or loss of abilities to create desirable images in the mind of the others, or lack of positive qualities others value, so that they may reject, harm, attack, or marginalize the self, placing one in an unwanted social rank position (Gilbert, 1998c, 2002a, 2007a). When we feel we are not valued positively in the mind of the others and that they see us with negative affect (e.g., with contempt, criticism), this might activate what Gilbert (1997, 1998c, 2003) defined as external shame. In external shame, our attention, thoughts and affects are focused in the mind of the other, and it is related to beliefs that they see us as unattractive or defective. This experience of the other as a threat to self and self-identity may trigger externalizing (e.g., aggression) or internalizing (e.g., submissive withdrawing) defensive strategies in order to keep the self safe. Internalized shame is one of these defenses and occurs when we identify with the mind of the other and engage in self-devaluation and self-blame (Gilbert, 1998c, 2003). Our attention is directed inwardly to the inner landscapes (feelings and thoughts) of the self. Internal shame is then based on a sense of self as flawed and inadequate (Tangney & Dearing, 2002), of becoming an undesired and unattractive self

(Gilbert, 1998c, 2003; Lindsay-Hartz, de Riviera & Mascolo, 1995). Along with these self-evaluations and self-monitoring, shame responses within social interactions often entail a desire to hide or conceal deficiencies, and other forms of submissive-like defenses, such as changes in non-verbal behaviour, avoidance, appeasing others, in an effort to try to positively influence our image in their eyes and limit damage to our social position (Gilbert, 1998c; Keltner & Harker, 1998).

Memories of shame experiences can be understood in light of current conceptualizations of shame autobiographical memory (Berntsen & Rubin, 2006, 2007). In particular, early experiences of shame, which unfold within our interactions with others, where a child experiences the emotions of others being directed at himself/herself, can lay down negative emotional memories and become the basis for self-experience and negative self-evaluations. Hence, shame experiences can be recorded in autobiographical memory, shaping one's global sense of self. In fact, empirical evidence suggests that shame recollections from childhood and adolescence can become a central component of personal identity, a turning point in the life story and a reference point for attribution of meaning to other events (Matos & Pinto-Gouveia, 2011a, 2011b; Pinto-Gouveia & Matos, 2011). These findings support the centrality of event theory (Berntsen & Rubin, 2006, 2007), according to which a memory of a trauma or a negative emotional event can become central to one's life story and identity. Higher centrality of a negative or traumatic event have been related to increased levels of posttraumatic stress reactions, depression, anxiety, and dissociation, and worse physical health (Berntsen & Rubin, 2006, 2007; Berntsen, Rubin & Siegler, 2011; Boals, 2010; Boals & Schuettler, 2011).

There has been growing evidence that shame memories, construed as key to one's identity and life story, tend to be highly accessible and psychologically harmful, translating into traumatic stress reactions and heightened feelings of shame in adulthood (Pinto-Gouveia & Matos, 2011). In addition, centrality of shame memories was found to be related to elevated levels of depression, anxiety, stress, and paranoid symptoms, even when current shame feelings were controlled for, and to increase the impact of external and internal shame on depressive symptoms (Matos & Pinto-Gouveia, 2011a, 2011b; Pinto-Gouveia & Matos, 2011). In other words, shame memories, which anchor our conceptions of ourselves and give meaning to our life narratives, seem to operate as self-defining memories in the self-memory system (Conway, 2005; Conway & Pleydell-Pearce, 2000; Pinto-Gouveia & Matos, 2011; Singer & Salovey, 1993). They seem to be interconnected with other memories and information in the cognitive networks of a person, forming a highly available reference point that colors the organization of autobiographical knowledge and guides attentional, emotional, and cognitive processing (Bernsten & Rubin, 2006, 2007). In fact, and in light of autobiographical memory conceptualizations (e.g., Bluck, 2003; Bluck, Alea, Habermas, & Rubin, 2005; Pillemer, 1998; Rasmussen & Berntsen, 2009), shame memories seem to serve distinct self-related functions: self (self-identity, self-concept and self-continuity), social (maintain and nurture social bonds), and directive (instrumental and guide behaviour; Matos, Pinto-Gouveia, & Gilbert, 2012).

In addition, as aforementioned, shame involves a primary threat to the (social) self. As a result, shame memories can operate as threat memories, like mini-scenes or emotional hotspots in the mind (Gilbert, 2003, 2007a; Kaufman, 1989) and have strong emotional effects on self-schema with potential to create intrusions (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). Supporting this view, Matos and Pinto-Gouveia (2010) found that early shame experiences reveal traumatic memory characteristics, with intrusion, avoidance, and hyperarousal symptoms. Furthermore research has shown that shame traumatic memories have an impact on feelings of shame in adulthood and also amplify the impact of shame on depression (Matos & Pinto-Gouveia, 2010, 2011a). Besides, these trauma memories were found to be associated with paranoid symptoms (Matos, Pinto-Gouveia, & Gilbert, 2012) and linked to maladaptive

emotion regulation processes, such as dissociation, rumination and thought suppression (Matos, Pinto-Gouveia, & Costa, 2011).

Other theoretical and empirical accounts have explored the role of shame in the context of post-traumatic stress disorder (PTSD), and found shame to be a relevant emotion with an impact on the onset and maintenance of PTSD symptoms (Andrews, Brewin, Rose, & Kirk, 2000; Brewin, Andrews & Rose, 2000; Holmes, Grey, & Young, 2005; Robinaugh & McNally, 2010), underlying peri-traumatic and posttraumatic experiences of threats to the social self (for a review, see Budden, 2009). A possible explanation for these findings may be found in recent conceptualizations of PTSD (Ehlers & Clark, 2000) and shame-based PTSD (Budden, 2009; Harman & Lee, 2010; Lee, Scragg, & Turner, 2001) in that shame might cause an ongoing threat to one's psychological integrity, leaving one to feel inferior, powerless or socially unattractive. Inherent in this proposition is the idea that post-traumatic symptoms may be generated and maintained by shame and not only by fear.

Although past research has demonstrated that the extent to which an early shame experience becomes central to one's identity and incorporates traumatic memory features, is associated with psychopathological indicators (Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Pinto-Gouveia & Matos, 2011), it remains unclear whether shame memories have a unique effect on psychopathology or whether this effect is based solely on the negative emotionality beneath these shame experiences. One way to test this hypothesis is by comparing the impact of shame memories with the impact of other negative emotional events. Fear and sadness are two emotional experiences that are also known to be pervasive and linked to poorer mental health (e.g., depression, anxiety, PTSD, dissociation; e.g., Boelen, 2009; Berntsen & Rubin, 2007; Grey, Holmes, & Brewin, 2001; Holmes et al., 2005).

On the other hand, current research on centrality of event and traumatic memory relied mainly on participants' recall of an undefined general event perceived as the most stressful or traumatic event in their lives (e.g., Berntsen & Rubin, 2006; Boals, 2010; Boals, Steward, & Schuettler, 2010; Newby & Moulds, 2011; Rubin, Boals, & Berntsen, 2008; Schuettler & Boals, 2011; Thomsen & Berntsen, 2009). Few studies primed participants with specific instructions on the type of emotional event to be recalled (e.g., shame; Matos & Pinto-Gouveia, 2010; Pinto-Gouveia, & Matos, 2011), shame or guilt (Robinaugh & McNally, 2010), sexual abuse (Robinaugh & McNally, 2011), pain (Perri & Keefe, 2008), or loss (Boelen, 2009). At the same time, research in PTSD literature has focused primarily on traumatic experiences involving fear, helplessness or horror, according to A1 and A2 criteria for PTSD diagnosis (Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, DSM-IV; American Psychiatric Association, 2000), with increasing studies highlighting the importance of investigating other emotions contained in traumatic memory and experiences (e.g., shame, anger, sadness; Brewin et al., 2000; Grey et al., 2001; Harman & Lee, 2010; Holmes et al., 2005). To date, no study has compared different types of emotional memories that become central and traumatic memories regarding their impact on psychopathology.

Therefore, the present study was designed to answer the following question: Is there any specificity in the way shame memories are related to psychopathology that differentiates them from other negative emotional memories, such as fear and sadness ones? Specifically, this research entails two major aims. The first is to explore the relative contribution of the centrality of shame memories to psychopathology vulnerability (i.e., traumatic stress reactions, shame, depression, anxiety, stress, dissociation, and paranoia), in comparison to the centrality of other negative emotional experiences, in particular fear and sadness. We predict that each emotional memory (e.g., centrality of shame memory) would be specifically associated with its traumatic impact (e.g., traumatic impact of the shame memory). Further, we hypothesize that shame memories, that come to be structured as key to self-identity and life story, would

be independently associated with current external and internal shame and influence the experience of defeat and threat states, which could translate into depression, anxiety and stress symptoms. Also, given that shame memories are often about aversive interactions where others have been critical, rejecting or even harmful, it is quite possible that these memories become a source for suspiciousness, wariness and a paranoid orientation towards others in general and be linked to dissociative defenses, even after controlling for the centrality of fear and sadness memories. This first goal will be investigated in study 1.

Secondly, study 2 explores the relative contribution of shame traumatic memories to shame feelings, and depression, anxiety and stress symptoms, in comparison to fear and sadness traumatic memories. Similarly to study 1 hypothesis, we expect that, when fear and sadness traumatic memories are controlled for, shame memories that reveal traumatic features would be uniquely linked to external and internal shame and to symptoms of depression, anxiety and stress.

STUDY 1

In Study 1, we explored the predictive qualities of centrality of shame memory against the centrality of other non shame negative emotional memories – fear and sadness – in regard to the traumatic impact of each emotional memory, external and internal shame, depression anxiety, stress, paranoid and dissociative symptoms.

Method

Participants

Participants in this study were 292 (259 women and 33 men) undergraduate students, recruited from University of Coimbra. Participants mean age was 22.01 ($SD = 5.16$), ranging from 18 to 50, and the majority was single (93.2%, $n = 272$). Participants years of education mean was 14 ($DP = 1.42$). No gender differences were found concerning the variables under consideration.

Measures

Emotional memory centrality and traumatic features

Centrality of Event Scale (CES; Berntsen & Rubin, 2006; Portuguese version by Matos, Pinto-Gouveia, & Gomes, 2010) comprises 20 items, measuring the degree to which a memory of a stressful or traumatic event forms central component of a person's identity (e.g., "I feel that this event has become part of my identity."), a turning point in the life story of the person (e.g., "I feel that this event has become a central part of my life story.") and a reference point for the attribution of meaning to other events (e.g., "This event has coloured the way I think and feel about other experiences."). Participants are asked to rate the extent to which they agree with the statements from 1 (*Totally disagree*) to 5 (*Totally agree*). Participants

completed three CES, one for each emotional memory: shame, fear and sadness (the detailed instructions for these emotional memories priming are given below). In its original study, CES reported a high internal consistency (Cronbach $\alpha = .94, .96$). In the present studies, we also found CES (for shame, fear and sadness) to have an excellent internal consistency (Table 1).

Impact of Event Scale – Revised (IES-R; Weiss & Marmar, 1997; Portuguese version by Matos, Pinto-Gouveia, & Martins, 2011) is a self-report measure designed to assess current subjective distress and PTSD symptoms for any specific life event. It measures three aspects of traumatic stress reactions: avoidance (e.g., “I stayed away from reminders of it”), intrusion (e.g., “Any reminder brought back feelings about it”) and hyperarousal (e.g., “I was jumpy and easily startled”), that parallel the DSM-IV criteria for PTSD. The IES-R has 22 items rated on a 5-point scale (0–4). In our study, participants completed the IES-R in regard to the shame, fear and sadness memory from childhood or adolescence (the same memory nominated for the CES scale, which detailed instructions are given below). In the original studies, the Cronbach α 's of the subscales range from .87 to .92 for intrusion, .84 to .86 for avoidance and .79 to .90 for hyperarousal. In our research, we found the IES-R (for shame, fear and sadness) to have high internal consistency (Table 1).

Priming for the emotional memories

Before completing the measures regarding each emotional memory variable, participants were given the following instructions to prime for shame, fear and sadness memories and answer the respective instruments measuring the centrality to personal identity of such memories and their traumatic memory characteristics.

Shame memory:

The experience of the emotion of shame is common to all humans. Everyone typically experiences several shame episodes throughout their lives. In this study we are interested in getting to know your shame experiences, that is, situations where you felt shame.

By shame we mean the negative emotion associated with a sense of inferiority and personal devaluation. We feel shame when we judge ourselves in a particular situation (due to personal attributes or behaviour) as inadequate, different, inferior, weak, repulsive, or globally bad, but also, when we feel others see us as inferior, defective, inadequate, weak or repulsive. When we feel shame, we might experience other emotions at the same time, such as anxiety, anger, or disgust, and we feel a string urge to hide, disappear, or run away.

Now, please try to recall a significant/stressful situation or experience where you think you felt shame, during childhood and/or adolescence. Please respond to the following items with this memory as your focus.

Sadness memory:

The experience of the emotion of sadness is frequent in all humans. Everyone typically experiences several sadness episodes throughout their lives. In this study we are interested in getting to know your sadness experiences, that is, situations where you felt sad.

By sadness we mean the negative emotion marked by feelings of loss, defeat, or powerlessness. When people feel sad, they often loose energy and drive, and the interest and pleasure for things.

Now, please try to recall a significant/stressful situation or experience where you think you felt sad, during childhood and/or adolescence. Please respond to the following items with this memory as your focus.

Fear memory:

The experience of the emotion of fear is frequent in all humans. Everyone typically experiences several fear episodes throughout their lives. In this study we are interested in getting to know your fear experiences, that is, situations where you felt frightened.

By fear we mean the negative emotional experience linked to the perception of a threat or danger to the self. This threat or danger might be real or imaginary and might entail threats to physical survival or to one's valuable life goals. When people feel frightened they often have fight, escape or avoidance behaviours.

Now, please try to recall a significant/stressful situation or experience where you think you felt frightened, during childhood and/or adolescence. Please respond to the following items with this memory as your focus.

Shame

Other As Shamer Scale (OAS; Allan, Gilbert, & Goss, 1994; Goss, Gilbert, & Allan; 1994; Portuguese version by Matos, Pinto-Gouveia & Duarte, 2011c) consists of 18 items measuring external shame (global judgements of how people think others view them). For example, respondents indicate the frequency on a 5-point scale (0=Never to 4=Almost always) of their feelings and experiences to items such as, "I feel other people see me as not quite good enough" and "I think that other people look down on me". Higher scores on this scale reveal high external shame. In their study, Goss et al. (1994) found this scale to have a Cronbach's α of .92. In this study, the Cronbach's α was also high (Table 1).

Internalized Shame Scale (ISS; Cook, 1994, 2001; Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011e) comprises a 24-item measure of internal shame, consisting of negatively worded items (e.g., "Compared with other people, I feel like I somehow never measure up") assessing the frequency in which people experience feelings of shame and a 6-item scale consisting of positively worded items (e.g., "All in all, I am inclined to feel that I am a success") assessing self-esteem. All of the items are rated on a scale of "0", meaning "never," to "4", meaning "almost always." The shame subscale items were based on phenomenological descriptions of shame feelings. In this study, only the shame subscale was used as a measure of internal shame. Previous studies (Cook, 1996) have reported test-retest correlations of .84 and .69, respectively, and have reported good convergent and divergent validity. The ISS shame subscale revealed an excellent internal consistency in both studies (Table 1).

Psychopathology

Depression, Anxiety and Stress Scales (DASS-42; Lovibond & Lovibond, 1995; Portuguese version by Pais-Ribeiro, Honrado & Leal, 2004) is a self-report measure composed of 42 items and designed to assess three dimensions of psychopathological symptoms: depression, anxiety and stress. The items indicate negative emotional symptoms and the respondents are asked to rate each item on a 4-point scale (0-3). On the original version, Lovibond and Lovibond (1995) found the subscales to have high internal consistency (Depression subscale Cronbach's α = .91; Anxiety subscale Cronbach's α = .84; Stress subscale Cronbach's α = .90). In the present research, the three subscales also showed high internal consistency (Table1).

Paranoia Checklist (PC; Freeman et al., 2005; Portuguese translation and adaptation by Lopes & Pinto-Gouveia, 2005c). The PC was developed to investigate paranoid thoughts of a more clinical nature than those assessed in the GPS and to provide a multi-dimensional assessment of paranoid ideation. This checklist has 18 items that consist on thoughts that range from interpersonal sensitivities and social evaluative concerns related to social scrutiny to severe paranoid ideation (e.g., "Bad things are being said about me behind my back", "I might be being observed or followed", "People would harm me if given an

opportunity", "There is a possibility of a conspiracy against me"). Participants have to report the frequency of the thoughts, degree of conviction in them and distress caused by them in 5 point Likert scales (1-5). In its original study, this scale showed Cronbach alpha of .90 or more for each dimension. In study 1, the Cronbach alpha for Frequency, Conviction and Distress dimensions was high (Table 1).

Dissociative Experiences Scale - Revised (DES-II; Carlson & Putnam, 1993; Portuguese translation and adaptation by Dinis, Matos, & Pinto Gouveia, 2008) is the most widely used measure of dissociation and assesses the frequency of dissociative symptoms, such as amnesia, absorption, depersonalization and desrealization. The 28 items related to dissociative phenomena in daily life items are rated on a scale from 0% (*never*) to 100% (*always*), corresponding to the frequency in which those symptoms are experienced. Examples of such phenomena include feelings of depersonalisation, derealisation, and psychogenic amnesia. The DES-II produces scores very similar to those on the original version (Bernstein & Putnam, 1986). In its original study, Cronbach's alpha was .90 (Carlson & Putnam, 1993) and in study 1 of the present paper it revealed an excellent internal reliability (Table 1).

Procedure

Participants were given this series of self-report questionnaires, administered in the same order, at the end of a lecture after the consent of the educational institution board. In line with ethical requirements, before filling the measures it was emphasized that their co-operation was voluntary and their answers were confidential and only used for the purpose of the study. The series of measures took approximately 20 minutes to complete. In order to avoid overloading all participants with filling the total set of the self-report instruments described above, only 100 subjects of the total sample completed both the three CES and the three IES-R. These participants took 10 extra minutes to complete the measures.

Data analysis

Data analyses were conducted using PASW (Predictive Analysis Software) version 18 (SPSS Inc., Chicago, IL, USA). A within subjects design with repeated measures procedures was used to test the significance of mean differences between the study variables and Paired Samples *t* Tests were conducted to make post-hoc comparisons. Pearson product-moment correlations were performed to explore the relationships among the emotional memories measures (CES_Shame, CES_Fear, CES_Sadness, in Study 1 and IES-R_Shame, IES-R_Fear, IES-R_Sadness in Study 2). A series of multiple regression analyses (using enter method) were performed using the abovementioned emotional memory measures of each study as independent variables to predict the dependent variables. This procedure will be explained in more detail along the two studies. Effects with $p < .050$ were considered statistically significant (Cohen, Cohen, West, & Aiken, 2003; Tabachnick, & Fidell, 2007).

Results

Descriptives

The descriptive statistics for this study are reported in Table 1. Results revealed that the means and standard deviations for the variables studied are similar to the ones found in prior studies using analogous samples (e.g., Berntsen & Rubin, 2006, 2007; Goss, et al., 1994; Matos & Pinto-Gouveia, 2010; Matos,

Pinto-Gouveia & Costa, 2011; Matos, Pinto-Gouveia, & Duarte, 2011c, 2011e; Matos, Pinto-Gouveia & Gilbert, 2012; Pinto-Gouveia & Matos, 2011).

Results show that shame experiences do indeed reveal centrality of memory characteristics, as do fear and sadness memories. A within subjects design with repeated measures procedure was conducted to test the significance of the difference between these variables means (having as dependent variable the CES regarding the three types of emotional memory). There were significant differences between centrality of shame memory, centrality of fear memory and centrality of sadness memory, [Wilks' Lambda = .587, $F_{(2,290)} = 102.07$, $p < .001$]. Three Paired Samples t Tests were used to make post-hoc comparisons. A first Paired Samples t Test indicated that there was a significant difference in the scores of centrality of shame memory ($M = 46.53$, $SD = 17.07$) and centrality of fear memory ($M = 52.39$, $SD = 18.67$) variables [$t_{(291)} = 5.58$, $p < .001$]. A second Paired Samples t Test showed that there was a significant difference between centrality of shame memory ($M = 46.53$, $SD = 17.07$) and centrality of sadness memory memories scores ($M = 61.35$, $SD = 17.93$) [$t_{(291)} = 14.00$, $p < .001$]. And a third Paired Samples t Test indicated that there was significant difference in the scores for centrality of fear memory ($M = 52.39$, $SD = 18.67$) and centrality of sadness memory memories ($M = 61.35$, $SD = 17.93$) variables [$t_{(291)} = 9.20$, $p < .001$].

Table 1: Means (M) standard deviations (SD) and Cronbach' alpha for the self-report variables in Study 1 and Study 2

Variables	Study 1 ($N = 292$)			Study 2 ($N = 192$)		
	M	SD	α	M	SD	α
Centrality of shame memories (CES_Shame)	46.53	17.07	.96	-	-	-
Centrality of fear memories (CES_Fear)	52.39	18.67	.97	-	-	-
Centrality of sadness memories (CES_Sadness)	61.35	17.93	.96	-	-	-
Shame traumatic memory (IES-R_Shame)	4.77	2.37	.94	4.49	2.44	.96
Fear traumatic memory (IES-R_Fear)	5.04	2.82	.94	4.94	2.88	.95
Sadness traumatic memory (IES-R_Sadness)	5.74	2.80	.97	5.45	2.86	.97
Depression (DASS)	6.15	7.47	.95	7.34	8.30	.95
Anxiety (DASS)	6.38	6.58	.90	8.15	7.47	.91
Stress (DASS)	11.98	7.78	.92	13.38	8.51	.93
External shame (OAS)	20.07	9.20	.91	19.64	9.97	.92
Internal shame (ISS)	33.42	16.25	.95	33.62	17.65	.96
Dissociation (DES-II)	18.88	12.49	.93	-	-	-
Paranoia Frequency (PC_Freq)	30.39	11.47	.91	-	-	-
Paranoia Conviction (PC_Conv)	35.59	14.62	.96	-	-	-
Paranoia Distress (PC_Dist)	22.01	16.13	.97	-	-	-

Correlations

Pearson product-moment correlations were conducted to examine the associations between the variables (see Table 2). Centrality of shame memory, as well as centrality of fear and sadness memories, were

positively and significantly correlated with the traumatic impact of those memories, measures of external and internal shame, depression, anxiety, and stress, paranoid symptoms and dissociation.

Table 2: Two-tailed Pearson correlations for Study 1 ($N = 292^1$) and Study 2 ($N = 192$)

		IES-R Shame	IES-R Fear	IES-R Sadness	OAS	ISS	Depression	Anxiety	Stress	PC Freq	PC Conv	PC Dist	DES
Study 1 ($N=292$)	CES Shame	.45**	.33**	.36**	.44**	.45**	.33**	.28**	.29**	.29**	.17*	.38**	.32**
	CES Fear	.36**	.54**	.38**	.34**	.34**	.31**	.36**	.28**	.22**	.20**	.30**	.28**
	CES Sadness	.33**	.43**	.47**	.35**	.40**	.35**	.29**	.31**	.26**	.15*	.27**	.28**
Study 2 ($N=192$)	IES-R Shame	-	-	-	.51**	.57**	.46**	.49**	.46**	-	-	-	-
	IES-R Fear	-	-	-	.46**	.55**	.45**	.49**	.47**	-	-	-	-
	IES-R Sadness	-	-	-	.44**	.52**	.43**	.46**	.49**	-	-	-	-

* $p < .050$. ** $p < .001$. Note. CES_Shame = Centrality of shame memory; CES_Fear = Centrality of fear memory; CES_Sadness = Centrality of sadness memory; IES-R_Shame = Shame traumatic memory; IES-R_Fear = Fear traumatic memory; IES-R_Sadness = Sadness traumatic memory; OAS = External Shame; ISS = Internal Shame; DES-II = Dissociation; PC Freq = Paranoid ideation frequency; PC Conv = Paranoid ideation conviction; PC Dist = Paranoid ideation distress.

¹The N of the correlations between CES and IES-R $n = 100$.

Multiple regression analyses

A series of multiple regression analyses were performed to investigate the specificity in the way the centrality of each emotional memory (independent variables) predicted its traumatic impact, external and internal shame, psychopathological symptoms, such as depression, anxiety and stress, paranoid symptoms and dissociation (dependent variables).

Centrality of shame, fear and sadness memories predicting their traumatic impact

Results revealed that the model using centrality of shame, fear and sadness memories to predict their traumatic impact accounted for 29% of the traumatic impact of the shame memory and centrality of shame memories emerged as the best global predictor. Regarding the traumatic impact of the fear memory, the model explained 39% of the variance and centrality of fear memories was found to be the best global predictor. Finally, 36% of the variance in traumatic impact of the sadness memory was accounted for this set of variables and centrality of sadness memories emerged as the best global predictor (see Table 3).

Table 3: Model summary and Beta values for multiple regressions for Study 1 ($N = 100$) having shame traumatic memory (IES-R_Shame), fear traumatic memory (IES-R_Fear) and sadness traumatic memory (IES-R_Sadness) as criterion variables

	IES-R Shame				IES-R Fear				IES-R Sadness			
	R	R^2	F	β	R	R^2	F	β	R	R^2	F	β
Model	.54	.29	26.19***		.63	.39	40.20***		.60	.36	34.42***	
CES_Shame				.32***				.03				.08
CES_Fear				.17*				.49***				.18*
CES_Sadness				.15				.17*				.41***

* $p < .050$. ** $p < .010$. *** $p < .001$. β = Standardized regression coefficient.

Note. CES_Shame = Centrality of shame memory; CES_Fear = Centrality of fear memory; CES_Sadness = Centrality of sadness memory.

Centrality of shame, fear and sadness memories predicting shame

Table 4 presents multiple regression analysis results of centrality of shame, fear and sadness memories on the prediction of shame variables. Regarding external shame, this set of variables accounted for 22% of the variance, with centrality of shame memory emerging as the best global predictor, followed by centrality of sadness memory. In terms of internal shame, the model accounted for 25% of the variance and centrality of shame memory was as the best global predictor, followed by centrality of sadness memory.

Table 4: Model summary and Beta values for the multiple regressions for Study 1 ($N = 292$) and Study 2 ($N = 192$) having external shame (OAS) and internal shame (ISS) as criterion variables

		OAS				ISS			
		R	R^2	F	β	R	R^2	F	β
Study 1	Model	.47	.22	27.28***		.50	.25	32.59***	
	CES_Shame				.32***				.33***
	CES_Fear				.09				.04
	CES_Sadness				.14*				.23***
Study 2	Model	.52	.28	23.73***		.60	.36	35.62***	
	IES-R_Shame				.36***				.32***
	IES-R_Fear				.17				.23*
	IES-R_Sadness				.04				.10

* $p < .050$. ** $p < .010$. *** $p < .001$. β = Standardized regression coefficient.

Note. CES_Shame = Centrality of shame memory; CES_Fear = Centrality of fear memory; CES_Sadness = Centrality of sadness memory; IES-R_Shame = Shame traumatic memory; IES-R_Fear = Fear traumatic memory; IES-R_Sadness = Sadness traumatic memory; OAS = External Shame; ISS = Internal Shame.

Centrality of shame, fear and sadness memories predicting psychopathology

Table 5 presents the regression analysis results for centrality of shame, fear and sadness memories on psychopathology prediction. The first model accounted for 16% of depressive symptoms variance, with centrality of shame memories emerging as the best global predictor, followed by centrality of sadness memories. In regard to anxiety, centrality of shame, fear and sadness memories explained 15% of variance in anxiety symptoms and centrality of fear memories emerged as the only significant global predictor. The third model accounted for 13% of stress symptoms variance. Centrality of shame memories and centrality of sadness emerged as the two significant predictors.

Table 5: Model summary and Beta values for the multiple regressions for Study 1 ($N = 292$) and Study 2 ($N = 192$) having depression, anxiety and stress (DASS-42) as criterion variables

		Depression				Anxiety				Stress			
		R	R^2	F	β	R	R^2	F	β	R	R^2	F	β
Study 1	Model	.40	.16	18.45***		.39	.15	16.89***		.36	.13	14.15***	
	CES_Shame				.19**				.11				.16*
	CES_Fear				.09				.25***				.09
	CES_Sadness				.10**				.09				.18*
Study 2	Model	.49	.24	19.70***		.53	.28	24.44***		.52	.27	22.99***	
	IES-R_Shame				.24*				.25*				.13
	IES-R_Fear				.21				.24*				.19
	IES-R_Sadness				.09				.09				.24*

* $p < .050$. ** $p < .010$. *** $p < .001$. β = Standardized regression coefficient.

Note. CES_Shame = Centrality of shame memory; CES_Fear = Centrality of fear memory; CES_Sadness = Centrality of sadness memory; IES-R_Shame = Shame traumatic memory; IES-R_Fear = Fear traumatic memory; IES-R_Sadness = Sadness traumatic memory.

Centrality of shame, fear and sadness memories predicting paranoid symptoms and dissociation

In regard to paranoid symptoms (see Table 6), the regression analysis with centrality of shame, fear and sadness memories as independent variables reveals that model accounted for 10% of the variance in paranoid symptoms frequency, with centrality of shame memory emerging as the only significant global predictor. Furthermore, this set of variables accounted for 16% of paranoia distress variance and centrality of shame memory was the only significant predictor. No significant model was found in relation to paranoia conviction.

Concerning dissociative symptoms, centrality of shame, fear and sadness memories accounted for 13% of the variance, with centrality of shame memories emerging as the only significant global predictor (see Table 6).

Table 6: Model summary and Beta values for the multiple regressions for Study 1 ($N = 292$) having dissociation (DES-II) and paranoia (PC Frequency, PC Conviction, PC Distress) as criterion variables

	DES				PC Frequency				PC Conviction				PC Distress			
	<i>R</i>	<i>R</i> ²	<i>F</i>	β	<i>R</i>	<i>R</i> ²	<i>F</i>	β	<i>R</i>	<i>R</i> ²	<i>F</i>	<i>B</i>	<i>R</i>	<i>R</i> ²	<i>F</i>	β
Model	.36	.13	14.31***		.31	.10	9.38***		.21	.05	4.20**		.40	.16	18.19***	
CES_Shame				.21***				.23***				.09				.29***
CES_Fear				.11				.07				.14				.11
CES_Sadness				.11				.06				.03				.02

* $p < .050$. ** $p < .010$. *** $p < .001$. β = Standardized regression coefficient.

Note. CES_Shame = Centrality of shame memory; CES_Fear = Centrality of fear memory; CES_Sadness = Centrality of sadness memory.

Discussion

The results from Study 1 revealed that shame experiences do indeed reveal centrality of memory characteristics, as do fear and sadness memories. In fact, shame, fear and sadness memories significantly differ in the extent to which they are recalled as central to self-identity and life story, with sadness memories being the most central, followed by fear and shame memories. These data is consistent and extends Berntsen and Rubin (2006, 2007) model by suggesting that negative emotional memories impact on anchoring self-conceptions and structuring life narrative, is not undifferentiated but that distinct emotional memories may have different levels of centrality. Noteworthy, the current results demonstrated that memories in which shame was the most salient emotion also emerged as central to personal identity, following sadness and fear, the most frequently recognized as central emotional memories.

As expected, our findings indicated that there is specificity in the way the centrality of each emotional memory (e.g., centrality of shame, fear and sadness) predicts its traumatic impact (e.g., traumatic impact of shame, fear and sadness). These findings are in accordance with prior research (Pinto-Gouveia & Matos, 2011) and uphold the centrality of event theory (Berntsen & Rubin, 2006, 2007). They support the notion that when a negative emotional memory (e.g., of shame, fear, sadness) comes to be integrated as key to how one understands himself and the world, it forms a highly accessible and interconnected reference point to guide attention, emotion and cognitive processing, that thus can generate traumatic stress reactions. Besides, these findings add to the increasing amount of research showing that post-traumatic stress symptoms may derive from emotionally intense events that become central to identity and not necessarily from severe traumas that meet DSM criteria for PTSD (Berntsen, Rubin, & Siegler, 2011; Boals, 2010; Budden, 2009).

Our findings allowed us to establish that centrality of shame memories showed a unique and independent contribution to depression and stress prediction, even after the centrality of fear and sadness memories were controlled for. This means that shame memories are not just another form of negative affect. Instead, by representing a current threat to one's self-identity and social existence, they may be associated with triggering of defeat and threat states.

Key in this study, was the finding that centrality of shame memories appeared as the best global predictor of current feelings of external and internal shame, and as the only predictor of dissociation and paranoid ideation frequency and distress, even when controlling for the centrality of fear and sadness memories. The same is to say that these central shame memories may lead one to develop a sense of self as inferior, unattractive and flawed in his own eyes and in those of the others and may render one more vulnerable to perceive others as holding malevolent intentions towards the self and to adopt dissociative defenses.

This corroborates our hypothesis and extends previous knowledge (Berntsen & Rubin, 2006, 2007; Boals, 2010; Pinto-Gouveia & Matos, 2011), establishing that shame memories that become a central component for a person's identity and self-understanding, a salient point in life story and a reference point to attribute meaning to other events, have a specific impact on psychopathological symptoms that goes above and beyond a general emotional negativity. In Study 2, we examine these relationships exploring the distinct effect of shame, fear and sadness traumatic memories on current shame feelings and psychopathological symptoms of depression, anxiety and stress.

STUDY 2

The purpose of Study 2 was to partially replicate the findings from the first study using the same emotional memories in relation to their traumatic features. Specifically, Study 2 investigated the relationships between shame traumatic memories and current feelings of external and internal shame, and depression, anxiety and stress symptoms, when controlling for the effect of fear and sadness traumatic memories.

Method

Participants

One hundred and ninety two undergraduate students (163 women and 29 men; mean age 24.79, $SD = 7.39$) participated in this study. The majority was single (83.9%, $n = 161$) and participants presented a mean of 14.62 ($SD = 1.62$) years of education.

Measures and procedure

Participants completed the IES-R for the three emotional memories of shame, fear and sadness, the OAS, ISS and DASS-42, following the same methodological and statistical procedures described in Study 1.

Results

Descriptives

Table 1 presents the means and standard deviations for the variables studied, which presented similar scores to the ones found in previous studies using analogous samples (e.g., Goss et al., 1994; Matos & Pinto-Gouveia, 2010; Matos, Pinto-Gouveia & Gilbert, 2012; Matos, Pinto-Gouveia & Costa, 2011; Matos, Pinto-Gouveia, & Duarte, 2011c, 2011e; Weiss & Marmar, 1997).

Results show that shame episodes reveal traumatic memory characteristics, eliciting intrusion, hyperarousal and avoidance symptoms. Fear and sadness memories also present traumatic memory features. A within subjects design with repeated measure procedure was used to examine the significance of the difference between the mean scores of these variables (having as dependent variable the IES-R regarding the three types of emotional memory). There were significant differences between shame, fear and sadness traumatic memories, [Wilks' Lambda = .786, $F_{(2,190)} = 25.89$, $p < .001$]. Post-hoc comparisons were conducted through three Paired Samples t Tests. The first Paired Samples t Test showed that there was a significant difference in the scores of shame traumatic memory ($M = 4.49$, $SD = 2.44$) and fear traumatic memory ($M = 4.94$, $SD = 2.88$) variables [$t_{(191)} = 3.13$, $p < .010$]. A second Paired Samples t Test indicated that there was a significant difference between shame traumatic memory ($M = 4.49$, $SD = 2.44$) and sadness traumatic memory scores ($M = 5.45$, $SD = 2.86$) [$t_{(191)} = 7.21$, $p < .001$]. The third Paired Samples t Test showed that there was significant difference in the scores of fear traumatic memory ($M = 4.94$, $SD = 2.88$) and sadness traumatic memory ($M = 5.45$, $SD = 2.86$) variables [$t_{(191)} = 3.62$, $p < .001$].

Correlations

Results from Pearson product-moment correlations (see Table 2) show that shame, fear and sadness traumatic memories were positively and moderately associated with external and internal shame, and depressive, anxiety and stress symptoms.

Multiple regression analyses

In order to better understand the specificity of shame, fear and sadness traumatic memories (independent variables) as predictors of external and internal shame and psychopathological symptoms, such as depression, anxiety, and stress (dependent variables), a series of multiple regression analyses were carried out.

Shame, fear and sadness traumatic memories predicting shame

Multiple regression analyses results for shame, fear and sadness traumatic memories predicting shame variables are reported in Table 4. In regard to external shame, this set of variables accounted for 28% of the variance, with shame traumatic memory emerging as the only significant global predictor. The second model explained 36% of the variance in internal shame and shame traumatic memory was as the best global predictor, followed by fear traumatic memory.

Shame, fear and sadness traumatic memories predicting psychopathology

Regression analysis results regarding psychopathology predicted by shame, fear and sadness traumatic memories (see Table 5), indicated that this set of variables accounted for 24% of depressive symptoms variance, with shame traumatic memory emerging as the only significant global predictor. Regarding anxiety, the model explained 28% of variance in anxiety symptoms and shame and fear traumatic memories were the significant global predictors. In relation to stress, 27% of the variance in stress symptoms was accounted for by the model and only sadness traumatic memory was a significant predictor.

Discussion

Overall, Study 2 findings supported the predictions in that shame memories with traumatic features of intrusion, avoidance and hyper arousal, were uniquely associated with external and internal shame and psychopathological symptoms, when fear and sadness traumatic memories were controlled for. In particular, the current data revealed that shame traumatic memories were the only predictor of external shame and had an independent effect on internal shame, along with fear traumatic memories. This implies that individuals whose shame experiences function as traumatic memories, tend to believe others see them negatively as unattractive or undesirable social agents. Moreover, it seems that such shame traumatic experiences can be internalized into negative self-evaluations and feelings, which combined with fear traumatic experiences, where one may have felt the self as powerless, weak or coward may give rise to the maturation of a self seen as inferior, incapable, defective – internal shame (Gilbert, 2003, 2007a).

The relationship between shame traumatic memories and general psychopathology, when considering for other traumatic emotional memories, was also corroborated. Specifically, our findings indicate that shame traumatic memories were the only predictor of depressive symptoms whereas, surprisingly, sadness traumatic memories did not significantly account for depressive symptoms. Shame traumatic memories, along with fear traumatic memories, predicted anxiety. These results empirically contribute to recent conceptualizations of traumatic memory in the context of depression and PTSD (Brewin, Gregory, Lipton, & Burgess, 2010; Brewin et al., 2000; Ehlers & Clark, 2000; Lee et al., 2001; Holmes et al., 2005; Patel, Brewin, Wheatley, Wells, Fisher, & Myers, 2007) suggesting that shame events that come to be structured as traumatic memories, eliciting intrusions, arousal symptoms and strong emotional avoidance, may colour our view of ourselves and the world and guide attention, thought and affect processing, representing a current threat to one's psychological integrity. This ongoing threat to the social self may then lead one to be locked in defeat and threat states, which, in turn, may explain the strong link of shame traumatic memories and depressive and anxiety symptoms.

In conclusion, the results from Study 2 were similar to Study 1 findings further supporting that shame memories that operate as traumatic ones have a distinct impact on mental well-being that overtakes the negative emotionality associated with shame experiences.

GENERAL DISCUSSION

A robust body of theoretical and empirical accounts has highlighted the importance of shame and shame memories on general human functioning and mental well-being (Gilbert, 1998c, 2007a; Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Pinto-Gouveia & Matos, 2011; Tangney & Dearing, 2002). Simultaneously, research on autobiographical and traumatic memory has focused on the relevance of emotional memories that become central to self-understanding and life narrative to psychological difficulties (Berntsen & Rubin, 2006, 2007; Berntsen et al. 2011; Boals, 2010; Thomsen & Berntsen, 2009). However, no research had yet examined whether there is specificity in the way shame memories structured as central and traumatic memories impact on psychopathology that exceeds the negative emotionality underlying these recollections. In the present paper, we have presented the first series of studies investigating the assumption that shame memories, central to one's identity and life story and with traumatic features, have a unique impact on psychopathology that goes beyond its negative emotional valence, differentiating them from other negative emotional memories, in this case, fear and sadness.

Across the two studies we have provided clear evidence showing that shame memories central to self-identity and traumatic have a distinct contribution to emotional difficulties and psychopathologies, when controlling for other types of emotional memories (fear and sadness). Our results confirm therefore that the effect of shame memories on psychopathology indicators overtakes the negative emotionality associated with shame experiences.

A possible explanation for these findings relies on the nature of shame itself. Shame is an emotion crucial to one's sense of self and self-identity as a social agent (Gilbert, 2007a; Tangney & Dearing, 2002; Tracy & Robins, 2004). As postulated by the biopsychosocial approach (Gilbert, 1998c, 2002a, 2007a), shame emerges in the context of one of the most threatening experiences for any human being: losing one's attractiveness in the eyes of the others because one holds negative qualities or lacks positive ones that other value. Hence, early shame experiences, where individuals felt they existed negatively on the minds of the other and evaluated themselves as sharing the same negative view, may become central in autobiographical memory. In other words, these shame memories may shape these individuals global sense of self, give meaning to past, present and future experiences, and structure their life narrative, thus fulfilling self, social and directive autobiographical memory functions (Bernsten & Rubin, 2007; Bluck et al., 2005; Pillemer, 1998; Pinto-Gouveia & Matos, 2011; Rasmussen & Berntsen, 2009). By becoming highly available and linked to other autobiographical knowledge, they influence subsequent processing and may elicit intrusions, hyperarousal and avoidance symptoms. These traumatic features constantly place the shamed individual in face of an ongoing threat to the (social) self and his psychological integrity (Budden, 2009; Ehlers & Clark, 2000; Harman & Lee, 2010). Thus, these shame memories seem to have a long lasting effect by elevating current feelings of externally and internally focused shame and increasing vulnerability to enter defeat and threat states, translated into depressive, anxiety and stress symptoms. Also, central shame memories can become a source for distrust, suspiciousness, wariness and a paranoid orientation towards others in general, that is, paranoid symptoms, and for engaging in maladaptive processes to regulate shame, for example, dissociative symptoms.

Regarding fear and sadness memories, as expected, our study suggests that traumatic and central memories of fear are associated with anxiety symptoms, and sadness memories central to self-identity are significant predictors of depressive symptoms, when other emotional memories are considered simultaneously. Interestingly, sadness memories' traumatic features were only associated with stress, and not depression, when the other emotional memories were controlled for. A possible explanation for this intriguing finding might be related to the instructions priming for the sadness memory, in which sadness

was described as a “negative emotion defined by feelings of loss, defeat or powerlessness”. Hence, sadness events involving some kind of loss or defeat might elicit increased negative affect and despair emotional states, which could be linked to stress symptoms. Even so, future research could investigate this hypothesis, for instance, controlling for the type of sadness memory participants recall.

The findings from the current research add further support to our previous work on the key role shame memories play in psychopathology (Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Pinto-Gouveia & Matos, 2011; Matos, Pinto-Gouveia, & Costa, 2011). Shame memories do indeed independently contribute to understand psychopathology over and above other negative emotional memories. In addition, these data have implications for theories on autobiographical and traumatic memory and for clinical interventions, implying the uniqueness of shame traumatic central memories to understand a wide range of emotional and psychological difficulties. In fact, although different types of emotional memories are important to the development and maintenance of psychopathology, it seems that they are not all the same. Specifically, more important than a general negative emotional memory, it is when such emotional memory has implications to the kind of self I am that it becomes key to psychological functioning and suffering. So, in a therapeutic context, shame memories should be specifically evaluated and addressed (Gilbert, 2009a, 2010; Matos & Pinto-Gouveia, 2010, 2011a; Pinto-Gouveia & Matos, 2011; Matos, Pinto-Gouveia & Costa, 2011; Matos, Pinto-Gouveia & Duarte, 2011a).

These conclusions are constrained by some limitations. First, they cannot be generalized to other populations because our sample is a mainly female student sample. In the future, research should seek to replicate these findings in more heterogeneous and representative samples from the general community population and in clinical samples. Also the cross-sectional design used here precludes causal conclusions being drawn from our results. This is an important issue future research could address through, for instance, prospective studies. Furthermore, the fact that participants were not randomly assigned to different sequences of emotional memories priming may have influenced our results. Nevertheless, insofar as all emotions primed may elicit global negative affectivity, the emotional activation following the prime of a particular memory might influence the recall of the others regardless of the order they are primed. This is an important issue for future research.

Nonetheless, we have presented novel research investigating the uniqueness of shame central and traumatic memories to psychopathology vulnerability, relatively to other emotional memories. Our findings offer consistent evidence emphasizing that the distinct contribute of shame memories to understand human functioning and suffering goes above and beyond their negative emotional valence.

Acknowledgements

This research has been supported by the first author (Marcela Matos) Ph.D. grant number SFRH/BD/36617/2007, sponsored by FCT (Portuguese Foundation for Science and Technology).

Chapter 6

The uniqueness of shame memories: A comparative study of the contribution of different emotional memories to shame and psychopathology

Chapter summary

This chapter explored the specificity of the relationship between shame memories and psychopathology, in comparison to other types of emotional memories. This empirical study established that shame memories central to self-identity and that function as traumatic memories have a distinct contribution to current feelings of external and internal shame and several psychopathological symptoms, when the effects of centrality and traumatic qualities of fear and sadness memories were controlled for. These findings therefore add to previous research and suggest that the effect of shame memories on emotional difficulties and psychopathological indicators goes above and beyond its negative emotional valence.

Chapter 7

The role of attachment in shame memories relation to psychopathology

Chapter 7

The role of attachment in shame memories relation to psychopathology

Chapter overview

Study VII. Shamed by a parent or by others: The role of attachment in shame memories relation to depression.

Study VIII. Understanding the importance of attachment in shame traumatic memory relation to depression: The impact of emotion regulation processes

Chapter summary

Chapter 7

The role of attachment in shame memories relation to psychopathology

Chapter overview

The prior chapters ascertained that shame memories may function as traumatic and autobiographical memories, central to self-identity and life story, with a unique and distinct impact on current shame and psychopathological indicators. Based on these findings, a key research question was that of whether all shame memories shared the same impact on psychopathology or whether different types of shame memories might differ on their association to psychological distress. Drawing on shame and attachment theory and research highlighting the importance of affiliation and attachment relationships to physiological and psychological regulation and mental well-being (Baldwin, 2005; Bowlby, 1969, 1973; Carter, 1998; Cozolino, 2006; Gilbert, 2002a, 2003, 2007a; H.B. Lewis, 1971; Mikulincer & Shaver, 2005; Schore, 1998), this chapter investigates whether shame memories with attachment figures differ from those with other social agents in their association to psychopathology. This chapter thereby outlines two studies exploring shame traumatic and central memories relationship to shame, emotion regulation processes and psychopathology, depending on who elicited shame in the underlying shame experience.

Specifically, in Study VII we explore the moderator effect of traumatic and centrality qualities of shame memories with attachment figures and with others from the wider social domain on the relationship between external and internal shame and depressive symptomatology. Study VII investigates the mediator effects of emotion regulation processes (i.e., rumination, thought suppression and dissociation) on the relationship between shame traumatic memories involving those two different types of shamers and depressive symptomatology (Study VIII).

7 | Study VII

Shamed by a parent or by others: The role of attachment in shame memories relation to depression

Matos, M. & Pinto-Gouveia, J. (2011). Shamed by a parent or by others: The role of attachment in shame memories relation to depression. *(Manuscript submitted for publication in an international scientific journal with peer review).*

Shamed by a parent or by others:

The role of attachment in shame memories relation to depression

M. Matos & J.Pinto-Gouveia

Abstract

Background: Recent research has shown that shame traumatic and central memories not only have an impact on feelings of shame in adulthood but also moderate the impact of shame on depression. Although the quality of attachment relationships may be important in structuring shame memories, the research on this topic has been scant.

This paper explores the moderator effect of shame memories involving attachment figures vs. shame memories involving other people on the relationship between shame and depression.

Method: 230 participants from the general community population completed the Shame Experiences Interview, assessing shame experiences from childhood and adolescence, and a battery of self-report scales measuring: shame traumatic memory, centrality of shame memory, external shame, internal shame and depression.

Results: Results revealed that shame memories with attachment figures showed higher correlations with internal shame and depressive symptoms whereas shame memories involving others presented higher correlations with external shame. Moderator analyses showed that only shame traumatic memory and centrality of shame memory involving attachment figures moderated the impact of external and internal shame on depression.

Discussion: The current findings shed light on the importance of the quality of attachment relationships in the structuring of shame traumatic memories and on their impact on psychopathological symptoms, adding to recent neuroscience research and Gilbert's approach on shame and compassion.

Conclusion: Our results emphasize the relevance of addressing shame memories, mainly those that involve attachment figures, particularly when working with patients suffering from depressive symptoms and/or that find compassion difficult or scary.

Keywords: Shame; Traumatic memory; Autobiographical memory; Attachment; Depression; Moderator effect

Key Practitioner Message:

- Shame experiences of rejection, threat, criticism, neglect or abuse, involving attachment figures or other people from one's social domain, can entail a primary threat to the social self and function as traumatic memories central to personal identity.
- Shame memories involving others are particularly related to experiences of the self as existing negatively in the mind of the others, whereas shame memories involving attachment figures are especially linked to a sense of self as inferior, inadequate or flawed as judged and felt by the self.
- Attachment figures play a crucial role on how shame memories come to be structured as traumatic and central memories to self-identity and life story and on their impact on depressive symptoms.
- Therapeutic interventions with high shame individuals suffering from depressive symptoms and/or who find compassion difficult should assess the phenomenology of relevant shame memories, in particular those that involve an attachment figure, and use specific strategies to target those memories.

Introduction

The importance of attachment and affiliation

Affiliative relationships are of vital importance to our survival and physical and mental well-being (Baumeister & Leary, 1995; Bowlby, 1969, 1973; Buss, 2003; Gilbert, 1989). Evolutionary theorists suggest that attachment and care-giving behavioural systems evolved because they significantly increased the chances for survival and genes propagation (Carter, 1998; Hamilton, 1964). In humans, neurophysiological and behavioural systems to protect and care for offspring have evolved to increase their chances of survival to reproductive age (Bowlby, 1969). So, through evolution, the availability and quality of affiliative relationships have become primary affect regulators for mammals and humans.

According to the 'Attachment theory' (Bowlby, 1969, 1973, 1980), attachment is the process through which the infant seeks proximity to an attachment figure so that they may receive protection, care and nurturance. A secure parent-child bond should provide protection from various threats, a safe and secure environment in which the infant can openly engage and a source of soothing when distressed. Bowlby (1969, 1973) proposed that, for normal emotional and social development to unfold, human infants need a secure relationship with their caregivers.

Therefore, attachment relationships are powerful physiological and psychological regulators (Cacioppo, Berston, Sheridan & McClintock, 2000; Carter, 1998; Panksepp, 1998, 2010). In fact, there is now strong empirical support for the significant impact that early interactions with attachment figures have on expression of genes, brain maturation, autonomic, neuroendocrine and immune function, affect regulation and development of a whole range of cognitive competencies (Cozolino, 2006; Gerhardt, 2004; Kennedy, Glaser, & Kiecolt-Glaser, 1989; Mikulincer & Shaver, 2004, 2007; Schore, 1994; Siegel, 2001; Taylor, Lerner, Sage, Lehman, & Seeman, 2004; Taylor, Way, Welch, Hilmert, Lehman, & Eisenberger, 2006). Moreover, the quality of early relationships with attachment figures influences to the development of internal working models of self (e.g., as worthy or unworthy of care and support) and others (e.g., as caring and available or threatening and unavailable; Bowlby, 1969, 1973, 1980; Mikulincer & Shaver, 2005, 2007). These self-other schemas are believed to operate consciously and non-consciously to guide emotional and thought processing about the self and others throughout life (Baldwin, 1992, 1997; Bowlby, 1969, 1973; Gilbert, 1989, 1993; Guidano & Liotti, 1983; Mikulincer & Shaver, 2005, 2007). Thus, interpersonal schema form the basis for subsequent self-to-self evaluations and experiences and determine one's predictions of others behaviour and one's behaviour in social interactions (Baldwin, 1992, 1997).

In addition, this need for affiliation and to form attachments is extensive to/ encompasses social relationships. Affiliative and supportive social relationships (e.g., with siblings, peers, friends, teachers) affect psychological and physical well-being throughout life (Baldwin, 2005; Baumeister & Leary, 1995; Bowlby, 1969, 1973; Gilbert, 1989, 2007c; Guidano & Liotti, 1983; Siegel, 2001) and provide important learning experiences that also influence the emergence of self-other schema (Baldwin, 1992, 1997; Beck, 1987; Gilbert, 1989, 1993).

So, feeling cared for, supported and valued by others significantly influences physiological and emotional regulation and promotes feelings of safeness and soothing (Cacioppo et al., 2000; Gilbert, 1989, 2009a). In contrast, feeling rejected, uncared and unvalued is one of the most powerful elicitors of stress responses (Eisenberger, 2011; Dickerson & Kemmeny, 2004) and is related to physical and mental health problems (Cacioppo & Hawkley, 2009; Caporael, 2001; Cozolino, 2006; Gilbert, 1989, 2005c; MacDonald & Leary, 2005; Teicher, Samson, Polcari, & McGreenery, 2006).

Affect regulation systems

Underlying capacities for emotional regulation and social relating are a set of evolved central and peripheral physiological systems and their associated neuro-hormones, which correspond to three major affect regulation systems. These interacting systems have been outlined as threat-protection; resource-seeking; contentment-affiliation and soothing (Depue & Morrone-Strupinsky, 2005; Gilbert, 2005b, 2007c, 2009a, 2010; Wang, 2005).

The *threat system*, common to all animals, is focused on detection of threats and the rapid activation of defensive emotions (e.g., anxiety, anger, disgust) and behaviours (e.g., fight, flight, submit, and freeze). This system operates through specific brain structures, as the amygdala and the HPA axis, and can be stimulated by several threat signalling stimuli, such as social cues or emotional memories (Gilbert, 2009a; 2010; LeDoux, 1998). The *drive-resource acquisition system* is responsible to give us positive feelings (e.g., of activation, pleasure and excitement) that guide and motivate us to seek out and secure resources (e.g., mates, food) that increase our chances of survival and prosperity (Depue & Morrone-Strupinsky, 2005). A third affect regulation system is the *contentment-affiliative and soothing system*. Contrary to the drive system, this system involves non-seeking or quiescence and is characterized by positive affects of warmth, soothing and well-being and is linked to endorphins/opiates and oxytocin (Depue & Morrone-Strupinsky, 2005; Gilbert, 2009a, 2010; MacDonald & MacDonald, 2010). When animals are not under threat and not pursuing or seeking resources they are satisfied or in a state of contentment (Depue & Morrone-Strupinsky, 2005). This affect regulation system is thought to have evolved alongside the attachment system, being stimulated by signals of care and compassion from others. So, attachment and affiliative relationships can foster feelings of safeness, connectedness and warmth and reduce distress in response to threats (Gilbert, McEwan, Mitra, Franks, Richter, & Rockliff, 2008).

Therefore, being loved, accepted, valued, and chosen by others (e.g., caregivers, friends, allies, peers, lovers, one's superiors) for important social roles (e.g., friend, lover, team member) makes one's world safer, promotes feelings of safeness and connectedness, provides the deactivation of the threat system and offers essential resources for coping with adversity (Cacioppo et al., 2000; Masten, 2001; Porges, 2003, 2007). On the contrary, adverse experiences in childhood (e.g., abuse, neglect, abandonment, rejection, shaming, criticism and/or harsh parenting styles) are associated with the activation of the threat system (Dickerson & Kemmeny, 2004; Perry, Pollard, Blakley, Baker, & Vigilante, 1995; Taylor, 2010), under stimulation/blocking of the affiliative-soothing system (Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006), and increased vulnerabilities to mental health problems, namely depression (Andrews, 2002; Gilbert, Cheung, Wright, Campey, & Irons, 2003; Gilbert & Gerlsma, 1999; Parker, 1983; Perris, 1994; Perris & Gilbert, 2000; Stuewig & McCloskey, 2005; Taylor, Way et al., 2006; Teicher, 2002; Webb, Heisler, Call, Chickering, & Colburn, 2007).

The emergence of shame

Given the power of social relationships in shaping our mind and brain, humans are highly motivated to create positive images and positive affect in the minds of others, to be seen as an attractive social agent (Gilbert, 1998c, 2007a; Keltner & Harker, 1998). So, a set cognitive competencies for processing social information (e.g., theory of mind, mentalizing, empathy; Byrne, 1995; Liotti & Gilbert, 2011) and for self-conscious awareness (Tracy & Robins, 2004) have evolved to evaluate the quality of our relationships and monitor our attractiveness for others, that is, how we exist in the minds of others and make predictions of what they feel and think about us (Gilbert, 2003, 2007a).

The emergence of shame is related to the dynamics of social attractiveness competition. The biopsychosocial approach posits that shame arises from these complex cognitive abilities as a warning signal that we exist negatively in the mind of the others (i.e., as unattractive, worthless, flawed) and, thus, at risk of rejection, exclusion, being ignored or even harmed or persecuted (Gilbert, 1998c, 2002a, 2007a). Shame can then be seen as a response to the social threat of being unattractive, alerting individuals to disruptions with their social rank and social relationships, and activating defensive responses (e.g., flight, submit, appease) to repair damage to social rank and relationships (Fessler, 2004; Gilbert, 1998c, 2007a). This self-conscious emotion has also been defined as the experience of the self as unattractive, undesirable, worthless, inferior or defective in some way, linked to having flaws, failures and deficits exposed (Gilbert, 1998c, 2002a; Kaufman, 1989; M. Lewis, 1992; Tangney & Dearing, 2002; Tangney & Fisher, 1995). Hence, shame is an emotion crucial to one's social existence and self-identity (Gilbert, 2007a; M. Lewis, 1992, 2003; Tangney & Dearing, 2002; Tracy & Robins, 2004).

In light of the biopsychosocial model (Gilbert, 1998c, 2002a, 2007a), two types of shame can be distinguished: external and internal. *External shame* is related to how one experiences oneself as living in the minds others (e.g., as inferior, inadequate, worthless, bad). In external shame, the world is experienced as unsafe (e.g., others will be harsh and rejecting rather than supportive and forgiving) and people engage in defensive maneuvers, with the behaviour orientated towards trying to positively influence one's image in the mind of other (e.g., by submitting, appeasing or displaying desirable qualities). On the other hand, the internalization of these experiences can result in seeing and evaluating the self in the same way others have, that it is flawed, inferior, rejectable and globally self-condemning (Gilbert, 1998c, 2002a; Mikulincer & Shaver, 2005). *Internal shame* is then linked to complex memory systems (e.g., previous shaming episodes; Kaufman, 1989; Matos & Pinto-Gouveia, 2010; Matos, Pinto-Gouveia, & Gilbert, 2012) and to negative self-evaluations and feelings (Tracy & Robins, 2004), which are partly related to one's *imaginary audiences* created through experiences with others (Balwin, 1997). Shame, both externally and internally focused, has been associated with increased vulnerabilities to psychopathology, namely depressive symptoms (Andrews, Qian, & Valentine, 2002; Cheung, Gilbert, & Irons, 2004; Matos & Pinto-Gouveia, 2010; Matos, Pinto-Gouveia, & Duarte, 2011c, 2011e; see Kim, Thibodeau, & Jorgensen, 2011, for supporting meta-analysis).

Shame memories and psychopathology

Shame experiences can occur early on in our interactions with significant others (e.g., caregivers, siblings, peers) and continue throughout our lives. These emotional experiences, where a child experiences the emotions of others being directed at himself, entail a primary threat to the (social) self and seem to function as threat-activating memories that operate like emotional hot-spots in the mind (Gilbert, 2003;

Kaufman, 1989). Shame events may then be recorded in autobiographical memory as conditioned emotional memories that operate as traumatic memories, involving intrusiveness, hyperarousal, and efforts to avoid shame (Matos, & Pinto-Gouveia, 2010). When triggered, they can affect body memory and the 'felt sense of self' (Brewin, 2006), and guide attention, emotional and cognitive processing, determining the activation of defensive strategies/behaviours (e.g., fight, flight, submission; Gilbert, 2007a; Matos, Pinto-Gouveia, & Costa, 2011; Pinto-Gouveia, Matos, Castilho, & Xavier, 2011).

Furthermore, these threat memories can texture the whole sense of self and become central to ones' self-identity and life story (Pinto-Gouveia & Matos, 2011), and have a major impact on who and how we engage socially (Gilbert, 2007a). Therefore, shame memories that are construed as traumatic and central autobiographical memories can operate as self-defining memories in the self-memory system (Conway, 2005; Conway & Pleydell-Pearce, 2000; Matos, Pinto-Gouveia, & Gilbert, 2012; Singer & Salovey, 1993), in that they give meaning and continuity to one's sense of self and life story (McAdams, 2001; McAdams, Josselson, & Lieblich, 2006) and influence behaviour and goals (Sutin & Robins, 2008). In addition, a central trauma memory can form a highly available reference point for the organization of autobiographical knowledge, influencing subsequent attentional, emotional and cognitive processing (Berntsen & Rubin, 2006, 2007).

Moreover, previous experiences of relationships can be coded in our minds as interpersonal memories (Brewin, 2006), acting as a lens that guides moment-to-moment processing of emotion and interactions. So, shame memories may influence the formation of negative internal working models of self (e.g., as being defective, inferior, and so on, and negatively evaluated by others) and others (e.g., as critical, threatening, hostile that may criticize, reject, exclude or harm the self), that affect emotional and social responses to negative self-defining events (Baldwin & Dandeneau, 2005; Mikulincer & Shaver, 2005; Matos, Pinto-Gouveia, & Costa, 2011; Matos, Pinto-Gouveia, & Gilbert, 2012). Thus, they may integrate interpersonal schemas that guide expectations of how others will view and respond to the self (Baldwin, 1997; Baldwin & Holmes, 1987).

In addition, recent research has found that shame memories from childhood and adolescence, which operate as traumatic memories and become central to personal identity and life story, were associated with shame feelings in adulthood and moderated the impact of shame on depression (Matos & Pinto-Gouveia, 2010; Matos & Pinto-Gouveia, 2011b; Pinto-Gouveia & Matos, 2011). Besides, Matos, Pinto-Gouveia & Gilbert (2012) reported that shame memories were significantly related to with paranoid symptoms, but not social anxiety, when current shame feelings were controlled for.

The current study

These theoretical and empirical considerations raise the question of whether all shame memories share the same effect on psychopathology or whether there are certain types of shame experiences that have a particular impact on psychopathological symptoms, namely depression. A possible difference in the phenomenology of shame experiences may be related to who the *shamer* was- to who shamed the self in a particular event. So, the key question is: Do shame experiences that involve attachment figures differ from those that involve friends, peers, teachers or strangers in their relationship to psychopathology?

Actually, one of the first shame theorists, Helen Block Lewis (1971), suggested that shame is rooted in the need for attachment to others and considered a rejection by a love one to be a prototypic shame-inducing experience, since it is often construed as a global and uncontrollable rejection of the self. In addition,

according to the attachment theory (Bowlby, 1969, 1973, 1980; Mikulincer & Shaver, 2005, 2007), shame events that occurred within attachment interactions (e.g., with mother, father, other caregiver), by leading to negative representations of self and others, may influence dysphoric affect later in life. Bowlby (1980) further proposed that powerful emotions, such as shame, are products of negative attachment relationships characterized by threat or loss. Also, shame theorists such as Kaufman (1985, 1989), Nathanson, (1987, 1994) and Schore (1994, 1996, 1998) have argued that shame is an interpersonal or attachment emotion that emerges when there are disruptions or misattunements in the parent-child relational bond.

The few studies that have explored this connection between shame and attachment found that insecurely attached individuals and those with fearful and preoccupied attachment styles and attachment anxiety or avoidance reported higher shame levels, while secure attachment was found to be negatively associated with shame (Gross & Hansen, 2000; Lopez, Gover, Leskela, Sauer, Schirmer, & Wyssmann, 1997; Wells, 1996; Wei, Shaffer, Young, & Zakalik, 2005). So, one would expect that shame memories involving attachment figures would differ from those involving others in their association with psychological difficulties.

In addition, previous studies on shame memories from childhood and adolescence (Matos & Pinto-Gouveia, 2010; Matos, Pinto-Gouveia, & Gilbert, 2012) did not evaluate the type of shame experience recalled by participants and used self-report measures to elicit and assess shame memories.

Therefore, the present study comprised three main aims. The first was to explore the phenomenology of shame memories from childhood and adolescence, particularly the type of shame experience, using a semi-structured interview. Furthermore, we aimed at investigating the linkage between shame memories involving attachment figures and involving others and current shame feelings (external and internal shame) and depressive symptoms. We hypothesized that shame memories involving attachment figures would be particularly associated with internal shame and depressive symptoms whereas shame memories with others would be more related to external shame. Finally, in an attempt to extend previous findings (Matos & Pinto-Gouveia, 2010, 2011b), we tested the moderator effect of shame memories involving attachment figures and of shame memories involving others on the relationship between shame (external and internal) and depressive symptoms.

Method

Participants

A total of 230 subjects from the general community population (69 males and 161 females) participated in this study. Participants were aged 18-62 ($M = 34.23$, $SD = 10.46$). Forty nine per cent of the subjects were single ($n = 112$) and 37.4% were married ($n = 86$). Sixty two per cent had middle class professions (e.g., academics, teachers, social workers, engineers, managers, nurses, middle-level administrators; $n=143$). The participants years of education mean was 14.13 ($SD = 3.82$). These participants were recruited as part of a larger study examining the phenomenological characteristics of shame memories and their relation to psychopathology.

Procedure

A convenience sample was collected from the general population, recruited within the staff of institutions (schools and private corporations) in the districts of Coimbra, Leiria, Braga and Porto, in Portugal. These institution's boards were contacted, the research aims were clarified and authorization was obtained so that their employees could participate in the study. Afterwards, the personnel was elucidated about the investigation goals and invited to voluntarily participate. In line with ethical requirements, it was emphasized that participants co-operation was voluntary and that their answers were confidential and only used for the purpose of the study.

Those who volunteer to participate were given a battery of self-report questionnaires designed to measure external shame, internal shame, and psychopathology. The questionnaires were administered by the author, MM, with assistance of undergraduate students. Then, the self-report questionnaires were filled by volunteers in the presence of the researcher.

Afterwards, a session was scheduled with each participant within the following week, in order to administer the Shame Experiences Interview (SEI, Matos & Pinto-Gouveia, 2006a). The SEI assessed specific shame experiences from childhood and adolescence, particularly a shame memory involving an attachment figure (father, mother or other career) and a shame memory that involved peers, colleagues, professors, strangers. The SEI took approximately 90 to 120 minutes to complete. Seventeen participants didn't recall a shame memory with attachment figures.

Measures

Shame Experiences Interview (SEI, Matos & Pinto-Gouveia, 2006a). The SEI is a semi-structured interview designed to assess the phenomenology of a shame experience from childhood or adolescence. It measures emotional, cognitive, behavioural, motivational and contextual components of shame and its autobiographical/traumatic memory characteristics. The interview begins with an introduction that explains its purpose and then explains the concept of shame and gives three examples of shame experiences from childhood and adolescence. It is divided into three main parts: In the first part a significant shame memory from childhood or adolescence that involved peers, teachers, strangers, or other people, is elicited and assessed regarding its phenomenological and memory characteristics. In the second part participants are asked to recall a significant shame memory from childhood or adolescence involving an attachment figure (father, mother or other career), and its phenomenological and memory characteristics are evaluated. The third measures the accessibility to positive and negative memories with attachment figures from childhood and adolescence. After each part, participants are asked to fill in a set of self-report questionnaires considering the shame memory elicited, measuring shame traumatic memory characteristics, centrality of shame memory and autobiographical memory characteristics. For the purpose of this study, we will only consider the scores from the self-report measures described below applied to the shame memory with peers, teachers, strangers or other people and to the shame memory with attachment figures.

Traumatic shame memories

Impact of Event Scale – Revised (IES-R) was developed by Weiss & Marmar (1997). The IES-R is a self-report instrument designed to measure current subjective distress for any specific life event, and

distinctively in our study, in relation to the shame memory involving peers, teachers, strangers or others (IES-R_Others) and to the shame memory with attachment figures (IES-R_AttachmFig). This scale has 22 items, 7 items having being added to the original 15-item IES (Weiss & Marmar, 1997), rated on a 5-point Likert scale (0–4). The IES-R is composed by three subscales that measure the three main characteristics of traumatic memories: avoidance (e.g., “I stayed away from reminders of it”), intrusion (e.g., “Any reminder brought back feelings about it”) and hyperarousal (e.g., “I was jumpy and easily startled”) that parallel the DSM-IV criteria for PTSD. In the original study, Cronbach alphas of the subscales ranged from .87 to .92 for intrusion, .84 to .86 for avoidance and .79 to .90 for hyperarousal (Weiss & Marmar, 1997). The Portuguese version revealed a one-dimensional structure with sound psychometric properties (IES-R Total Cronbach’s $\alpha = .96$; Matos, Pinto-Gouveia, & Martins, 2011). Cronbach’ alphas of the IES-R for both shame memories are shown in Table 1.

Centrality of shame memories

Centrality of Event Scale (CES; Berntsen & Rubin, 2006; Portuguese version by Matos, Pinto-Gouveia, & Gomes, 2010) assesses the extent to which a memory for a stressful event forms a reference point for personal identity and to attribution of meaning to other experiences in a person’s life. This self-report questionnaire consists of 20 items, rated on 5-point Likert scale (1-5), that measure the three interdependent characteristics of highly negative emotional memories: reference points for everyday inferences (“This event has coloured the way I think and feel about other experiences.”), turning points in life stories (“I feel that this event has become a central part of my life story.”) and components of personal identity (“I feel that this event has become part of my identity.”). In this study, participants completed the CES in relation to the shame memory involving peers, teachers, strangers or others (CES_Others) and to the shame memory with attachment figures (CES_AttachmFig). In its original study, CES reported a high internal consistency (Cronbach $\alpha = .94$). One-dimensional structure with good psychometric properties was found in the Portuguese version (CES_Total Cronbach’s $\alpha = .96$; Matos, Pinto-Gouveia, & Gomes, 2010). The alphas for this study are reported in Table 1.

Shame

Other As Shamer Scale (OAS) was developed by Allan, Gilbert, and Goss (1994) and Goss, Gilbert, and Allan (1994; Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011c). This 18 item scale measures external shame (global judgements of how people think others view them). For example, respondents rate on a 5-point Likert scale (0–4) the frequency of their feelings and experiences in items such as “I feel other people see me as not quite good enough” and “I think that other people look down on me”. Higher scores on this scale reveal high external shame. A Cronbach alpha of .92 was reported in the original study of this scale Goss et al. (1994). The Portuguese version also showed high internal consistency (Cronbach’s $\alpha=.91$; Matos et al., 2011c). The Cronbach’s alpha for this scale is given in Table 1.

Internalized Shame Scale (ISS) was developed by Cook (1994, 2001; Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011e) and contains a 24-item measure consisting of negatively worded items (e.g., “compared with other people, I feel like I somehow never measure up”) assessing the frequency with which people experience feelings of shame and a 6-item scale consisting of positively worded items (e.g., “all in all, I am inclined to feel that I am a success”) assessing self-esteem. All of the items are rated on a scale of “0,” meaning “never,” to “4,” meaning “almost always.” The shame subscale items were based on phenomenological descriptions of shame feelings, whereas the self-esteem subscale items were taken from the Rosenberg Self-Esteem Scale (Rosenberg, 1965). In this study, only the shame subscale was used

as a measure of internal shame. Previous studies (Cook, 1994, 2001; Del Rosario & White 2006) report high internal consistency for the shame subscale, with alpha coefficients ranging from of .95 to .97 for non-clinical populations. The Portuguese version also revealed high internal consistency for the shame subscale (Cronbach's $\alpha = .95$; Matos, et al., 2011e). The alpha for this study is shown in Table 1.

Psychopathology

Depression, Anxiety and Stress Scales (DASS-42; Lovibond & Lovibond, 1995; Portuguese version by Pais-Ribeiro, Honrado & Leal, 2004) is a self-report measure composed of 42 items and designed to assess three dimensions of psychopathological symptoms: depression (e.g., "I couldn't seem to experience any positive feelings at all"), anxiety (e.g., "I was aware of dryness of my mouth") and stress (e.g., "I found it hard to wind down"). The items indicate negative emotional symptoms and subjects are required to rate how much each statement applied to them over the past week, on a four-point scale (from 0 = Did not apply to me at all, to 3 = Applied to me very much, or most of the time). On the original version, Lovibond and Lovibond (1995) found the subscales to have high internal consistency (Depression subscale Cronbach's $\alpha = .91$; anxiety subscale Cronbach's $\alpha = .84$; Stress subscale Cronbach's $\alpha = .90$). In the current study only the Depression subscale was used to assess depressive symptomatology. The Cronbach's alpha for this subscale is presented in Table 1.

Results

Shame memories' phenomenology description

The phenomenology of shame memories with others and with attachment figures from childhood and adolescence was assessed concerning the 'shamer', type of shame situation and age when the situation occurred.

Regarding shame memories involving others, 47.8% ($n = 110$) of the subjects identified themselves as the *shamers* (i.e., for being responsible of having a negative or devaluing personal attribute, characteristic or behaviour exposed in front of others), 14.8% ($n = 34$) remembered situations where they were shamed by peers and 12.2% ($n = 28$) by friends. The remaining participants reported shame episodes where they were shamed by other people (e.g., teacher, friend's parent; $n = 20$, 8.7%), family members (e.g., siblings, cousins; $n = 15$, 6.5%), strangers ($n = 8$, 3.5%), or by several of these (e.g., teacher and peers; $n = 15$, 6.5%). When asked to describe the *situation* that elicited shame, 37.4% ($n = 86$) of the participants reported situations where they felt shame due to having had a depreciative behaviour, personal attribute or characteristic of the self exposed in front of others, 24.3% ($n = 56$) recalled situations where an aspect related to their weight, body or physical appearance was negatively commented on or criticized by others, 16.1% ($n = 37$) described a situation where they were criticized by someone important to them. In addition, 5.7% ($n = 13$) felt shame related to their personal habits (such as hygiene or clothing), 5.2% ($n = 12$) were ashamed when they were negatively compared to significant others, 4.8% ($n = 10$) recalled situations where they were physically abused and 1 participant described a sexual abuse situation. Participants were in average 10.55 years old ($SD = 3.97$) when the shame situation occurred.

Concerning the phenomenology of shame memories with attachment figures, 41.3% ($n = 88$) of subjects identified their mother and 39.9% ($n = 85$) their father as being the *shamers* in the shame memory. For

10.3% ($n = 22$) of the subjects both parents were shamers and for 8.5% ($n = 18$) the shamer was other significant caregiver during childhood or adolescence (e.g., grandparent, aunt, uncle). In relation to the type of shame *situation* 31.5% ($n = 67$) recalled experiences where they were criticized or put down by the attachment figure, 23% ($n = 49$) described reflected shame situations (e.g., situations where shame emerged due to behaviour or attributes of the attachment figure), 10.8% ($n = 23$) remembered a situation where they displayed a depreciative behaviour or characteristic in front of the attachment figures, 9.4% ($n = 20$) identified experiences where they were physically abused by the attachment figure and 8.9% ($n = 19$) recalled situations where the attachment figure commented on or criticized an aspect related to their weight, body or physical appearance. From the remaining participants, 15 (7%) described situations where they were negatively compared to others by the attachment figure, 12 (5.6%) situations where they were sexually abused and 8 (3.8%) felt shame due to their family social status. In average participants were 11.50 years old ($SD = 4.41$) when the shame situation occurred.

Descriptives

The means, standard deviations and Cronbach' alphas of the self-report variables studied are presented in Table 1. All scales showed high internal consistency. The means and standard deviations for these variables are similar to those obtained in previous studies (Del Rosario & White 2006; Goss et al., 1994; Matos & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011). No significant gender differences were found.

Table 1: Means, Standard Deviations, Cronbach' alphas (α) and Intercorrelation scores on self-report measures ($N = 230$)

Measure	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7
1. IES-R_Others	4.08	2.48	.95	-						
2. CES_Others	52.07	18.24	.96	.57	-					
3. IES-R_AttachFig	3.65	2.55	.96	.58	.35	-				
4. CES_AttachFig	49.25	19.17	.97	.57	.40	.65	-			
5. OAS	20.39	10.52	.93	.34	.43	.29	.33	-		
6. ISS	33.77	15.54	.94	.38	.28	.40	.31	.65	-	
7. Depression	7.04	7.89	.95	.28	.23	.36	.27	.48	.61	-

Note. All coefficients are significant at $p < .001$. IES-R_Others = Shame traumatic memory_Others; CES_Others = Centrality of shame memories_Others; CES_AttachFig = Centrality of shame memories_AttachFig; IES-R_AttachFig = Shame traumatic memory_AttachFig; OAS = External shame; ISS = Internal shame; Depression = DASS-42 Depression subscale.

Correlations

Pearson product moment correlations were conducted to explore the relationships between shame traumatic memory with others and with attachment figures, centrality of shame memory with others and with attachment figures, external shame, internal shame and depression (Table 1). Both shame traumatic memory and centrality of shame memory with others and shame traumatic memory and centrality of

shame memory with attachment figures were significantly correlated with current external and internal shame and depression. However, shame traumatic memory with others showed slightly higher correlations with external shame ($r = .34, p < .010$) than shame traumatic memory with attachment figures ($r = .29, p < .010$). Conversely, the correlations of shame traumatic memory with attachment figures were generally higher in relation to internal shame ($r = .40, p < .010$) and depressive symptoms ($r = .36, p < .010$) than those of shame traumatic memory with others (respectively: $r = .38, p < .010, r = .28, p < .010$). A similar pattern emerged regarding centrality of shame memory, with centrality of shame memory with others presenting higher correlations with external shame ($r = .43, p < .010$) than those of centrality of shame memory with attachment figures ($r = .33, p < .010$). Moreover, centrality of shame memory with attachment figures showed higher correlations with internal shame ($r = .31, p < .010$) and depressive symptoms ($r = .27, p < .010$) than those of centrality of shame memory with others (respectively: $r = .28, p < .010; r = .23, p < .010$).

As found in previous studies (Cheung et al., 2004; Gilbert, 2000a; Matos & Pinto-Gouveia, 2010, 2011b) external shame and internal shame were significantly correlated with depression ($r = .48, p < .010; r = .61, p < .010$, respectively).

Therefore these results suggest that shame memories with others and with attachment figures might be differentially associated with shame and psychopathology, with shame memories involving others being more related to external shame and shame memories involving attachment figures being more linked to internal shame and depression. In addition, given previous findings (Matos & Pinto-Gouveia, 2010, 2011b) on the moderator effect of shame traumatic memory and of centrality of shame memories on the relationship between shame and depression, we intended to explore whether shame memories with others and with attachment figures had a different moderator impact on the relationship between shame and depression.

Shame memories with others

The moderator effect of shame traumatic memory with others on the relationship between shame (external and internal) and depression

In order to analyze the moderation effect of shame traumatic memory with others on the relation between external shame and depression, we conducted a multiple hierarchical regression analysis considering the interaction of a continuous predictor (Cohen, Cohen, West, & Aiken, 2003). In this procedure, in an attempt to reduce the error associated with multicollinearity, we have used a standardized procedure, centering the values of the two predictors (external shame and centrality of shame memory) and then obtained the interaction product by multiplying two created variables (Aiken & West, 1991).

On step one, we entered external shame as a predictor and on step two we further included shame traumatic memory with others as a predictor variable. In both steps the predictors entered produced statistically significant models [Step 1: $R^2 = .23$ ($F_{(1, 228)} = 66.55, p < .001$; Step 2: $R^2 = .24$ ($F_{(1, 227)} = 5.17, p < .050$]. The third step, where the interaction terms were entered, was not statistically significant [$R^2 = .25$ ($F_{(1, 226)} = 2.46, p = .118$)] Thus, there was no significant interaction of shame traumatic memory with others and external shame on predicting depression.

Then, we replicated the same procedure to explore whether the relation between internal shame and depression was moderated by shame traumatic memory with others. Only step one, where internal shame was entered as a predictor produced a significant model [Step 1: $R^2 = .37$, $F_{(1, 228)} = 131.99$, $p < .001$; Step 2: $R^2 = .37$, $F_{(1, 227)} = 1.33$, $p = .249$; Step 3: $R^2 = .37$, $F_{(1, 226)} = .232$, $p = .631$]. So, no moderator effect of shame traumatic memory with others was found.

The moderator effect of centrality of shame memory with others on the relationship between shame and depression

In order to investigate whether centrality of shame memory with others moderates the impact of external shame on depression, the same procedure described above was conducted.

Only step one, where external shame was entered as a predictor, produced a significant model [$R^2 = .23$, $F_{(1, 228)} = 66.55$, $p < .001$]. Step two and three of the regression model were not significant [Step 2: $R^2 = .23$, $F_{(1, 227)} = .21$, $p = .647$; Step 3: $R^2 = .23$, $F_{(1, 226)} = 1.43$, $p = .233$]. Hence, there was no significant interaction of centrality of shame memory with others and external shame on predicting depression.

The same pattern was found when the same procedure was replicated to explore the moderator effect of centrality of shame memory with others on the relation between internal shame and depression. Internal shame emerged as the only significant predictor of depression [Step 1: $R^2 = .37$, $F_{(1, 228)} = 131.99$, $p < .001$; Step 2: $R^2 = .37$, $F_{(1, 227)} = 1.44$, $p = .231$; Step 3: $R^2 = .37$, $F_{(1, 226)} = 1.34$, $p = .249$]. So, no significant interaction of centrality of shame memory with others and internal shame on predicting depression was found.

Shame memories with attachment figures

The moderator effect of shame traumatic memory with attachment figures on the relationship between shame and depression

In order to explore the moderator effect of shame traumatic memory with attachment figures on the relation between external shame and depression, we replicated the same procedures illustrated above to perform moderation analyses.

The three steps of the model are statistically significant (Table 2). On step one, we entered external shame as a predictor and on step two we further included shame traumatic memory with attachment figures as a predictor variable. In both steps the predictors entered produced statistically significant models. The third step, where the interaction terms were entered, presents a R^2 of .31 [$F_{(1, 209)} = 6.35$, $p = .012$]. Thus, there was a significant interaction of shame traumatic memory with attachment figures and external shame on predicting depression.

From the regression coefficients analysis (Table 2) we can see that both external shame and shame traumatic memory with attachment figures are statistically significant predictors, in all steps of model. The interaction between these two variables points out to the existence of a moderator effect of shame traumatic memory with attachment figures on the relation between external shame and depression [$\beta = .15$; $t_{(1,209)} = 2.52$, $p < .050$].

Table 2: Hierarchical multiple regression using external shame (OAS) to predict DASS depression having shame traumatic memory with attachment figures (IES-R_AttachFig) as moderator ($N = 230$)

Predictor	Depression	
	ΔR^2	β
Step 1		
OAS	.23***	.48***
Step 2	.05***	
OAS		.41***
IES-R_AttachFig		.24***
Step 3	.02*	
OAS		.41***
IES-R_AttachFig		.28***
OASxIES-R_AttachFig		.15*
Total R^2	.31***	

* $p < .050$. ** $p < .010$. *** $p < .001$.

With the purpose of better understanding the relation between external shame and depression with different levels of shame traumatic memory with attachment figures, we plotted a graphic (Figure 1) considering one curve for each the three shame traumatic memory with attachment figures (IES-R_AttachFig) levels (low, medium and high). This procedure is recommended to highlight this relation and can be done with centered and uncentered variables (Aiken & West, 1991; Cohen et al, 2003). To proceed with this representation, and since we didn't had theoretical cut points, we plotted the three curves taking into account the following cut-point values of IES-R_AttachFig variable on the x axis: one standard deviation below the mean, the mean and one standard deviation above the mean as recommended by Cohen and colleagues (2003).

We can observe that individuals with high levels of shame traumatic memory with attachment figures show a positive and high relation with depression comparing to those who have medium and low values. In these two cases the relation is less expressive, being noteworthy that individuals who have low levels of shame traumatic memory with attachment figures and high levels of external shame only show a small to moderate relation with depression (Figure 1).

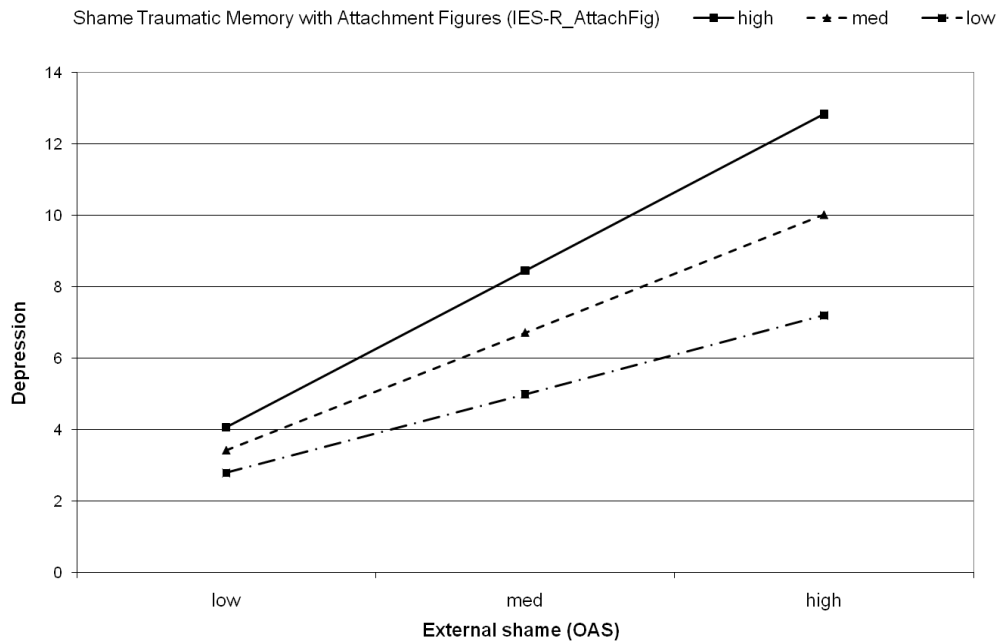


Figure 1. Graphic for the relation between External Shame (OAS) and Depression with different levels of shame traumatic memory with attachment figures (IES-R_AttachFig)

Then, we replicated the same procedure to explore the relation between internal shame and depression moderated by shame traumatic memory with attachment figures (Table 3). Internal shame was entered on step one as a predictor and shame traumatic memory was further added as a predictor variable in step two. Both steps produced statistically significant models. The interaction terms were entered on the third step and the model was significant [$R^2 = .43$, $F_{(1, 209)} = 4.25$, $p = .046$]. Hence, there was a significant interaction of shame traumatic memory with attachment figures and internal shame on depression prediction.

Table 3: Hierarchical multiple regression using internal shame (ISS) to predict DASS depression having shame traumatic memory with attachment figures (IES-R_AttachFig) as moderator ($N = 230$)

Predictor	Depression	
	ΔR^2	β
Step 1	.40***	
ISS		.64***
Step 2	.02*	
ISS		.59***
IES-R_AttachFig		.14*
Step 3	.01*	
ISS		.58***
IES-R_AttachFig		.09
ISSxIES-R_AttachFig		.11*
Total R^2	.43***	

* $p < .050$. ** $p < .010$. *** $p < .001$.

The regression coefficients results (Table 3) reveal that internal shame and shame traumatic memory with attachment figures are independent predictors of depression in the first two steps of the model. The interaction between these two variables suggests the existence of a moderator effect of shame traumatic memory with attachment figures on the relation between internal shame and depression [$\beta = .11$; $t_{(1,209)} = 2.11$, $p < .050$].

To enhance the understanding of the relation between internal shame and depression with different levels of shame traumatic memory with attachment figures, we plotted a graphic (Figure 2) following the same procedure described above. We can also see that individuals with high levels of shame traumatic memory with attachment figures reveal a high and positive relation with depression when compared to those who have medium and low values, who show a less expressive association. Notable is that individuals who have low levels of shame traumatic memory with attachment figures and high levels of internal shame only show a small relation with depression (Figure 2).

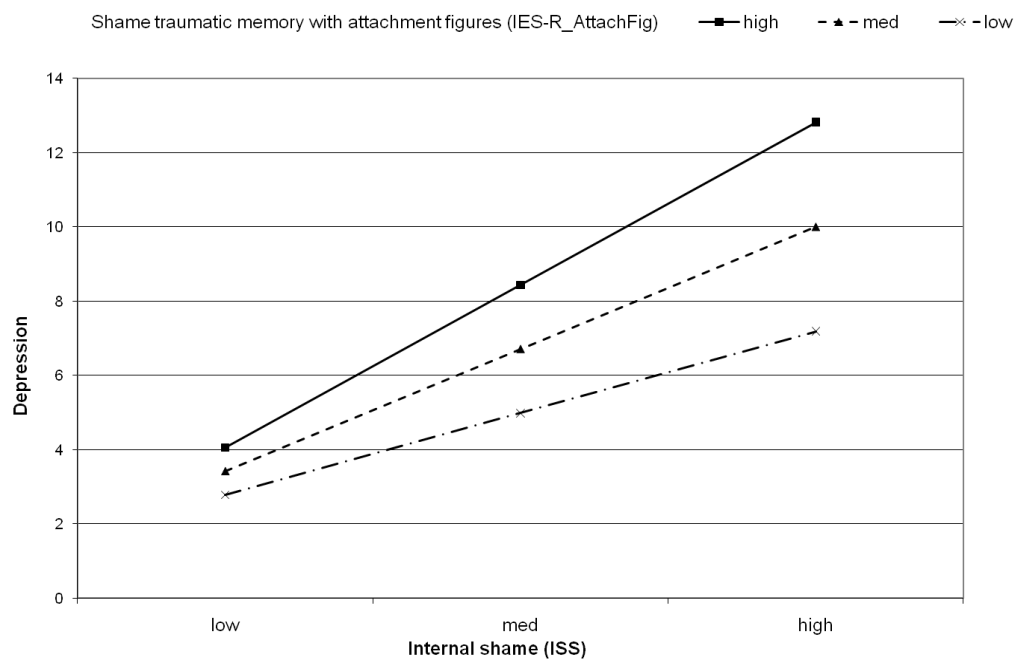


Figure 2. Graphic for the relation between Internal Shame (ISS) and Depression with different levels of shame traumatic memory with attachment figures (IES-R_AttachFig)

In summary, in both moderator analyses, when the interaction term was entered on the regression model it produced a significant increase in R^2 and also revealed an expressive and significant effect upon depression.

Analysis of the interaction terms implies that subjects who had more shame traumatic memory with attachment figures and scored higher on external and internal shame were found to be more depressed than those who had less shame traumatic memory: that is, for subjects with the same shame scores, those whose shame functions as a traumatic memory, with intrusion, avoidance and hyperarousal symptoms would tend to present more depressive symptoms. Therefore, an interaction effect between shame

traumatic memory and shame (external and internal) was corroborated, suggesting that shame traumatic memory with attachment figures moderates the effect of shame on depression.

The moderator effect of centrality of shame memory with attachment figures on the relationship between shame and depression

In order to investigate whether centrality of shame memory with attachment figures moderates the impact of external shame on depression, the same procedures described above was conducted.

The three steps of the model are statistically significant (Table 4). On step one, we entered external shame as a predictor and on step two we further included centrality of shame memory with attachment figures as a predictor variable. The third step, where the interaction terms were entered, presents a R^2 of .29 [$F_{(1, 209)} = 11.03, p < .001$]. Thus, there was a significant interaction of centrality of shame memory with attachment figures and external shame on predicting depression.

Table 4: Hierarchical multiple regression using external shame (OAS) to predict DASS depression having centrality of shame memory with attachment figures (CES_AttachFig) as moderator ($N = 230$)

Predictor	Depression	
	ΔR^2	β
Step 1	.23***	
OAS		.48***
Step 2	.01*	
OAS		.44***
CES_AttachFig		.13*
Step 3	.04***	
OAS		.42***
CES_AttachFig		.12
OASxCES_AttachFig		.20***
Total R^2	.29***	

* $p < .050$. ** $p < .010$. *** $p < .001$.

From the regression coefficients analysis (Table 4) we can see that the interaction between these two variables points out to the existence of a moderator effect of centrality of shame memory with attachment figures on the relation between external shame and depression [$\beta = .20; t_{(1,209)} = 3.32; p < .001$].

With the purpose of better understanding the relation between external shame and depression with different levels of centrality of shame memory with attachment figures, we plotted a graphic (Figure 3) considering one curve for each the three shame centrality of shame memory with attachment figures (CES_AttachFig) levels (low, medium and high). We plotted the three curves considering the following cut-point values of CES_AttachFig variable on the x axis: one standard deviation below the mean, the mean and one standard deviation above the mean.

We can observe that individuals with high levels of centrality of shame memory with attachment figures show a positive and high relation with depression comparing to those who have medium and low values. Of note is also the fact that individuals who have medium and low levels of centrality of shame memory

with attachment figures and high levels of external shame only show a small to moderate relation with depression. In addition, when the levels of external shame are low, centrality of shame memories has an opposite but less expressive effect on depression (Figure 3).

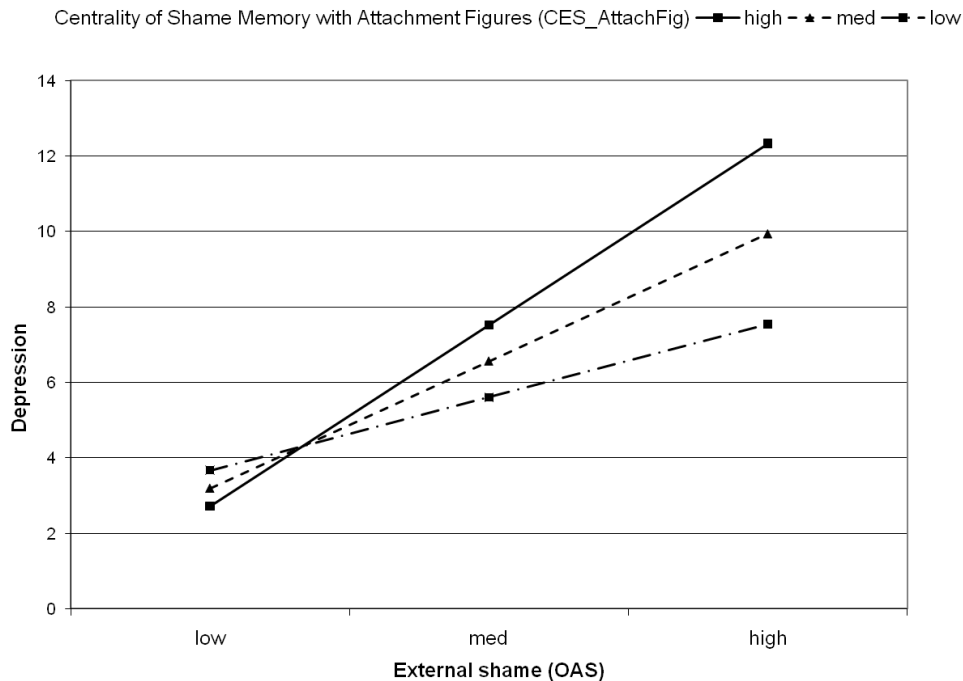


Figure 3. Graphic for the relation between External Shame (OAS) and Depression with different levels of centrality of shame memory with attachment figures (CES_AttachFig)

Then, we replicated the same procedure to explore the relation between internal shame and depression moderated by centrality of shame memory with attachment figures (Table 5). Internal shame was entered on step one as a predictor variable and in step two centrality of shame memory was added as a predictor. The first step produced a statistically significant model. The interaction terms were entered on the third step and the model was significant [$R^2 = .43$, $F_{(1, 209)} = 6.88$, $p = .009$]. Hence, there was a significant interaction of centrality of shame memory with attachment figures and internal shame on depression prediction.

Table 5: Hierarchical multiple regression using internal shame (ISS) to predict DASS depression having centrality of shame memory with attachment figures (CES_AttachFig) as moderator ($N = 230$)

Predictor	Depression	
	ΔR^2	β
Step 1	.40***	.64***
ISS		
Step 2	.02**	.61***
ISS		
CES_AttachFig		
Step 3	.43**	.14**
ISS		
CES_AttachFig		
ISSxCES_AttachFig		
Total R^2		

* $p < .050$. ** $p < .010$. *** $p < .001$.

Results from regression coefficients analysis (Table 5) reveal that when the interaction of the two variables is entered on the third step it emerges as a significant predictor of depression. This suggests the existence of a moderator effect of centrality of shame memory with attachment figures on the relation between internal shame and depression.

A graphic was plotted to better illustrate relation between internal shame and depression with different levels of centrality of shame memory with attachment figures (Figure 4), following the same procedure described above.

We can examine that individuals with high levels of centrality of shame memory with attachment figures show a positive and high relation with depression comparing to those who have medium and low values. Also, individuals who have medium and low levels of centrality of shame memory with attachment figures but high levels of internal shame show a moderate to high relation with depression. Furthermore, when internal shame levels are low, centrality of shame memories has an opposite but less expressive effect on depression (Figure 4).

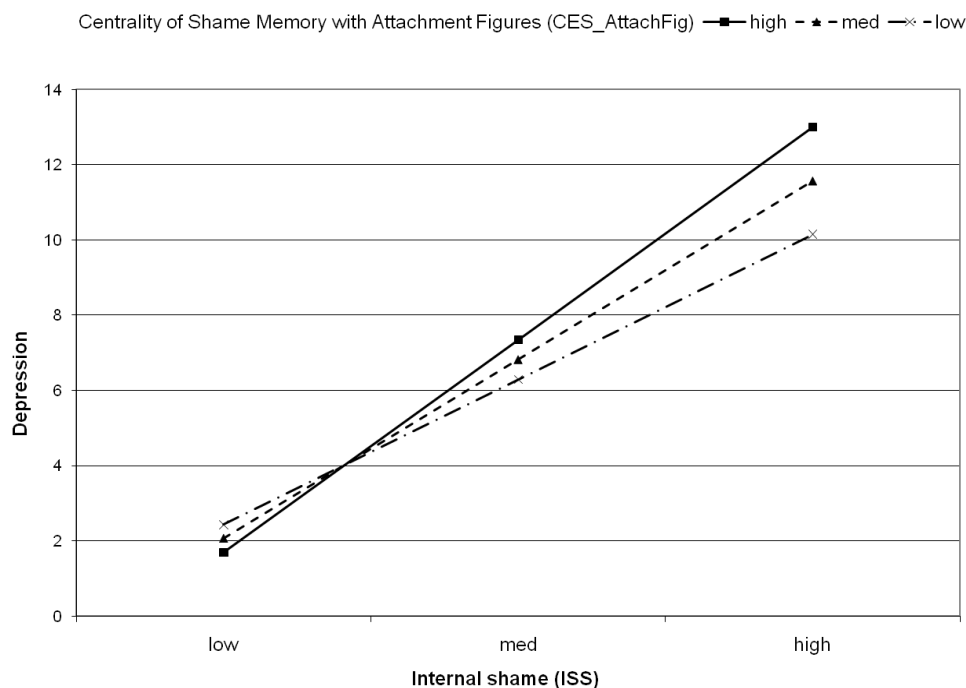


Figure 4. Graphic for the relation between Internal Shame (ISS) and Depression with different levels of centrality of shame memory with attachment figures (CES_AttachFig)

Therefore, in both moderator analysis, when the interaction terms were entered on the regression models they produced a significant increase in R^2 , and also revealed an expressive and significant effect upon depression.

Analysis of the interaction terms implies that subjects who had more centrality of shame memory with attachment figures and scored higher on external shame/internal shame were found to be more depressed than those who had less centrality of shame memory: that is, for subjects with the same shame

scores, those whose shame memories involving caregivers function as a central events to one's identity and life story would tend to present more depressive symptoms. Therefore, an interaction effect between centrality of shame memory with attachment figures and shame (external and internal) was corroborated, suggesting that centrality of shame memory with attachment figures moderates the effect of shame on depression.

Discussion

There is empirical and clinical evidence suggesting that early affiliative relationships, and mainly attachment ones, are crucial to human brain maturation, affect regulation, self-other schema and well-being (Baldwin, 2005; Baumeister & Leary, 1995; Bowlby, 1969, 1973; Gilbert, 1989, 2007c; Guidano & Liotti, 1983; Schore, 1994; Taylor et al., 2004; Siegel, 2001). Furthermore, recent research has shown that shame experiences from childhood and adolescence can function as traumatic memories and become central to personal identity, and are associated with psychopathological symptoms (Matos & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011).

However, to date, no study has examined the phenomenological features of early shame experiences involving caregivers and involving other people and their distinct impact on psychological problems. Therefore, the present study built on previous work on shame memories (Matos & Pinto-Gouveia, 2010, 2011b; Pinto-Gouveia & Matos, 2011) and focused on recall of being shamed by an attachment figure and being shamed by other people in childhood or adolescence and on how these types of shame memories were related to shame feelings and depressive symptoms in adulthood.

Results from the Shame Experiences Interview (Matos, & Pinto-Gouveia, 2006a) revealed that the most frequent shame experiences recalled by participants when asked to recall a shame memory that occurred with peers, teachers, strangers or other people, were situations where they have had a negative or devaluing personal characteristic, attribute or behaviour exposed in front of others, situations where they have been negatively commented on about physical appearance issues, and situations where they have been criticized by others. Also, we found that most subjects identified themselves as the source of shame, that is, they considered themselves responsible for the exposure of depreciative characteristics or attributes in front of others, followed by peers and friends. Regarding shame memories involving attachment figures, the most prevalent experiences were being criticized by the caregiver, experiencing reflected shame, exposure of negative characteristics in front of caregiver, being physically abused and negative comments about weight and body, being compared to others and being sexually abused. In these recollections, both the mother and father were remembered as the most frequent sources of shame. These findings add empirical support to the existing literature that identifies experiences of rejection/threat, criticism, emotional neglect, physical and sexual abuse, sibling favouritism or bullying as potential shaming experiences (Andrews, 2002; Claesson, & Sohlberg, 2002; Gilbert, 2007b; Gilbert, Allan, & Goss, 1996; Gilbert et al., 2003; Gilbert & Irons, 2008; Gilbert & Gerlsma, 1999; Schore, 1998, 2001; Webb et al., 2007; for a review, see Mills, 2005). Also, the specificity of these shame experiences involving attachment figures and involving others that individuals recall from their childhood and adolescence suggests that shame may be experienced in a variety of situations, all of which entail a primary threat to self identity and social existence and loss of attractiveness in the eyes of others. This fits with the biopsychosocial model of shame (Gilbert, 1998c, 2002a, 2007a) that argues that shame can emerge from personal experiences arising from specific interactions that occur within the family or in wider social groups. Within family contexts, experiences of criticism, hostility, abuse or neglect from parents will lay

down affect-based memories of others as threatening and of the self as unattractive, undesirable or unlovable. In the social domain of peers, shame can arise from the experience of exclusion, criticism or bullying (Hawker & Boulton, 2000). These experiences will influence how individuals perceive themselves oneself as existing in the minds of others (external shame) and self-evaluations (internal shame) (Gilbert, 1998c, 2002a, 2007a).

In regard to traumatic memory characteristics and centrality to identity, self-report data showed that both shame experiences involving others and shame experiences involving attachment figures revealed traumatic memory qualities, eliciting intrusion, hyperarousal and avoidance symptoms and became central memories to one's identity and life story. Furthermore, we found that both shame traumatic memory and centrality of shame memory with others and with attachment figures were significantly correlated with shame measures. However, and in line with our prediction, shame traumatic memory and centrality of shame memory with others showed higher correlations with external shame, whereas shame traumatic memory and centrality of shame memory with attachment figures revealed higher correlations with internal shame.

These results suggest that individuals whose shame memories operate as traumatic memories and function as turning points in the life story and crucial components of their identity tend to believe they exist negatively in the minds of the others and also perceive themselves and feel inferior, inadequate or undesirable. This is in line with previous studies linking shame memories (Matos, & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011) and recall of early experiences of put-down, indifference, neglect, criticism, rejection or abuse to shame feelings in adulthood (Andrews, 2002; Claesson & Sohlberg, 2002; Gilbert et al., 1996; Gilbert et al., 2003; Gilbert & Irons, 2008; Schore, 1998, 2001; Webb et al., 2007).

These findings further suggest that whilst early shame experiences that involved peers, friends, teachers or strangers might be particularly important for external shame, that is, for experiencing the self as existing negatively in the minds of others, shame memories involving attachment figures might be more closely associated with internalized shame, where one comes to see the self the same way others have, as flawed, worthless, rejectable. This fits with the biopsychosocial model of shame (Gilbert, 1998c, 2007a) and attachment literature (Baldwin & Dandaneau, 2005; Bowlby, 1969, 1973; Mikulincer & Shaver, 2005), in that early shaming interactions with attachment figures, where one as experienced the self as undesirable, flawed, worthless in their eyes, might be internalized and become the basis for negative self-relevant beliefs and key to self-identity. In turn, shame memories where others in the social domain have shamed the self might be crucial to the creation of interpersonal schemas of how others will view and respond to the self in social interactions and how one exists for others (e.g. others are critical, threatening or hostile, perceive the self as inferior, defective or inadequate and may criticize, reject, harm or ridicule the self).

In addition, we found expressive correlations between shame traumatic memories and centrality of shame memories with others and with attachment figures and depressive symptoms, with shame memories involving caregivers showing the higher associations. These results are consistent with our hypothesis and allow us to conclude that, even though in general individuals whose shame memories reveal traumatic characteristics and that emerge as central for the organization of autobiographical knowledge tend to reveal more depressive symptoms, it is those who recall shame experiences where the self was shamed by a loved one that tend to be more depressed. These findings extend previous work on the association between shame memories and psychopathology (Matos & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011) and are in accordance with literature suggesting early negative interactions in form of devaluation, abuse, rejection, neglect or abandonment, particularly those that unfold within the attachment bond,

elevate vulnerability to psychopathology, specifically to depression (Bifulco & Moran, 1998; Gilbert et al., 1996; Gilbert & Perris, 2000; Gilbert et al., 2003; Parker, 1983; Perris, 1994; Stuewig, & McCloskey, 2005; Taylor, Way et al., 2006; Teicher, 2002; Teicher et al., 2006; Webb et al., 2007).

These results, together with previous findings on the moderator effect of shame traumatic and central memories on the relationship between shame and depression (Matos, & Pinto-Gouveia, 2010, 2011b), led us to explore whether there was a distinct moderator effect of shame memories involving attachment figures and shame memories involving others on the association between external and internal shame and depressive symptomatology. Results from a series of hierarchical multiple regression analyses revealed that, although external and internal shame and shame traumatic memory and centrality of shame memory had an independent effect on depression prediction, only shame traumatic memory and centrality of shame memory involving attachment figures moderated the impact of shame on depression. The same is to say that, in individuals with medium and high levels of external and internal shame, it is those whose shame memories with attachment figures are more traumatic and central to their identity and life story who tend to show more depressive symptoms. Hence, a significant interaction effect between traumatic impact and centrality of shame memories with attachment figures and shame in predicting depressive symptoms was found. In contrast, shame traumatic memories and centrality of shame memories with others had no moderator effect between shame and depression. Thus, even though both shame memories with others and with attachment figures have an independent and significant effect on depression, only shame traumatic and central memories with attachment figures when interacting with current shame feelings amplify their impact on depressive symptoms.

This is a key finding because it highlights the importance of the quality and type of attachment relationships in how shame experiences come to be structured as traumatic and central memories in the autobiographical memory and on their impact on depression. Furthermore, these results show that shame memories are distinct and may operate in different ways depending on their phenomenology characteristics, one of them being who they occur with.

These data expand previous work (Matos, & Pinto-Gouveia, 2010, 2011b), empirically support several authors emphasis on the importance of disruptions in attachment relationships in shame dynamics (Gilbert, 1998c, 2003, 2007a; Kaufman, 1985, 1989; H.B. Lewis, 1971; Nathanson, 1987, 1994; Schore, 1994, 1996, 1998), and fit with evidence from neuroscience studies that underline the major impact of early experiences in childhood and attachment relationships on physiological, psychological and social aspects of maturation and functioning and on affect regulation (e.g., toning down distress via access to care; Cozolino, 2006; Depue & Morrone-Strupinsky, 2005; Gerhardt, 2004; Gilbert, 2005a, 2009a; Irons et al., 2006; Panksepp, 1998, 2010)

Our results also add to a considerable amount of evidence supporting a relationship between recall of early negative experiences with caregivers (e.g., neglect, threat/rejection, low emotional warmth) and depression (e.g., Parker, 1983; Perris, 1994), and between insecure attachment and depression (Besser & Priel, 2003; Pettem, West, Mahoney & Keller, 1993; Reis & Grenyer, 2002; Roberts, Gotlib, & Kassel, 1996; Whiffen, Aube, Thompson, & Campbell, 2000).

In light of the attachment theory (Bowlby, 1969, 1973, 1980; Mikulincer & Shaver, 2005, 2007), it might be that shame memories where the self was shamed by a loved one (father, mother), where the self was felt as flawed, worthless, unlovable in the eyes of the attachment figure, are perceived as global and uncontrollable rejection of the self and may determine the development of negative working models of the self (e.g., as worthless, unlovable) and others (e.g., as threatening, critical, hostile). These memories

might then function as self-defining memories in the self-memory system, constituting highly available reference points that guide emotional and thought processing and the organization of autobiographical knowledge (Conway, 2005; Bernsten & Rubin, 2007; Singer & Salovey, 1993). These shame-based internal working models and relational schema, by becoming highly accessible and easily primed emotional memories can operate both at a conscious and non-conscious level and may then determine involuntary defeat responses, i.e. depressive symptoms, in face of adverse life events (Gilbert, 2007a).

In an evolutionary affect regulation perspective (Gilbert, 2005b, 2009a, 2010), when someone is shamed, neglected or fearful of abuse or withdrawal of love and support as a child, this might over stimulate various brain pathways that underlie the threat system, which in turn may easily trigger more intense and long lasting negative affect and defensive behaviours (e.g., depressive symptoms). Simultaneously, there might be an under stimulation of the affiliative-soothing system, responsible for feelings of safeness and connectedness, with limited articulation of interpersonal schema of self, as lovable and worthy, and others, as soothing and reassuring. So, blocks to this system undermine physiological and emotional regulation and generate difficulties in toning down distress via (self-)soothing. Therefore, early experiences where the source of the shame was also the source of attachment/affiliation, may lay down as conditioned emotional memories where the need for care and soothing becomes associated with sadness, grief, yearning or threat (Gilbert, 2009b). When reactivated, these emotional memories not only elicit feelings of fear and shame, but also trigger feelings of sadness, grief and loneliness. These threat and affiliative focused affects cannot be regulated given the underdevelopment/blocked access to the affiliative system. This perspective provides a possible explanation of why shame memories with attachment figures function as traumatic and central memories that magnify shame impact on depression.

Furthermore, this is related to Liotti and Gumley (2008) notion of 'threat without resolution' or 'fright without solution'. When a person is shamed by an attachment figure, the shamer is both the source of, and the solution for, the threat. One is rendered to feel frightened and helpless and is caught in a relation trap: while the defense system motivates one to flee from the shaming and frightening caregiver, the attachment system motivates one to approach them for fear of separation. These individuals thus might develop complex representations of the others as potentially soothing but also potentially shaming and feel trapped in approach-avoidance conflicts, generating difficulties in the abilities to turn to others for help when facing aversive life events and elevating vulnerability to depression (Liotti, 2000; Sloman, Gilbert, & Hasey, 2003).

Clinical implications

The present study adds to an enhanced understanding of the phenomenology of shame experiences and highlights the importance of shame interactions with attachment figures in how shame memories come to be structured as traumatic and key memories to one's identity and life story and influence vulnerability to psychopathological symptoms.

In a therapeutic context, when working with patients experiencing high levels of shame and suffering from depressive symptoms, it might be relevant to assess the phenomenological characteristics of shame memories from childhood and adolescence through structured interviews, such as the SEI. Also, our findings emphasize the pertinence of using specialized clinical interventions, such as Compassion Focused Therapy (Gilbert, 2006a, 2007b, 2009a, 2009b, 2010), to target shame memories that have become traumatic and key to self-identity, mainly those that involve attachment figures. Furthermore, it might be essential to reconstruct the autobiographical meaning associated with these recollections in order to

minimize their traumatic impact on current symptoms, to reevaluate their centrality to identity and to re-examine and recreate the patient's negative inner working models of self and others.

In addition, this study fits with recent research on processes that block compassion (Gilbert, McEwan, Matos, & Ravis, 2011; Gilbert, McEwan, Gibbons, Chotai, Duarte, & Matos, 2011; Rockliff, Karl, McEwan, Gilbert, Matos, & Gilbert, 2011) and suggests that emotional memories of being shamed by a loved one may be related to difficulties felt by some patients in experiencing self-compassion and receive compassion from others (e.g., from the therapist). In fact, the experience of these feelings in therapy may reactivate these shame memories and trigger conditioned emotional responses (e.g., fight, flight, avoidance). These individuals might find feelings of safeness and warmth weird and scary and respond with anxiety, avoidance, aggression or dissociation when confronted with them. As argued elsewhere (Gilbert, McEwan, Matos et al., 2011), fears of compassion may constitute a foremost block to recovery, particularly for people with high shame and self-criticism. So, clinically working with these patients' shame memories might help them overcome their inner obstacles to developing compassion.

Limitations and future research

Limitations to this study are related to its transversal design which limits conclusions about causal relations between the variables. In the future, longitudinal studies could be carried out to overcome this constraint. The use of a non-clinical sample impairs the generalization of the findings to clinical populations. Nonetheless, shame and shame memories are transversal processes and mechanisms that operate at a clinical or nonclinical level. For this reason, we are replicating this research in a clinical sample. Even though self-report measures were administered, a major strength of this study is the use of a semi-structured interview – SEI, to assess the phenomenology of shame memories and control for the type of shame event that was recalled by the participants. Finally, attachment styles were not investigated in this study, so future research could look into how different attachment styles are related with shame memories and psychopathology.

Nevertheless, this is the first study that tried to evaluate the phenomenology of shame experiences and distinguish shame memories involving attachment figures from those involving other people from wider social interactions. Overall, we hope that the data offered here helps to shed light on the importance of the quality of attachment relationships in shame dynamics and vulnerability to psychopathology and to encourage further exploration of the different phenomenological features of these emotional experiences.

Acknowledgements

This research has been supported by the first author (Marcela Matos) Ph.D. grant number SFRH/BD/36617/2007, sponsored by FCT (Portuguese Foundation for Science and Technology).

7 | Study VIII

Understanding the importance of attachment in shame traumatic memory relation to depression:
The impact of emotion regulation processes

Matos, M., Pinto-Gouveia, J., & Costa, V. (2011). Understanding the importance of attachment in shame traumatic memory relation to depression: The impact of emotion regulation processes. *Clinical Psychology and Psychotherapy*. doi: 10.1002/cpp.786.

Understanding the importance of attachment in shame traumatic memory relation to depression: The impact of emotion regulation processes

M Matos, J. Pinto-Gouveia, & V. Costa

Abstract

Background: Early relationships are crucial to human brain maturation, well-being, affect regulation and self-other schema. Shame traumatic memories are related to psychopathology and recent research has shown that the quality and type of attachment relationships may be crucial in shame traumatic memories relation to psychopathology.

The current study explores a mediator model of emotion regulation processes (rumination, thought suppression and dissociation) on the association between shame traumatic memory, with attachment figures and with others, and depressive symptoms.

Method: Ninety subjects from the general community population completed the Shame Experiences Interview, assessing shame experiences from childhood and adolescence, and a battery of self-report scales measuring: shame traumatic memory, rumination, thought suppression, dissociation and depression.

Results: Mediator analyses show that emotion regulation processes, such as brooding, thought suppression and dissociation, mediate the association between shame traumatic memory with others and depression. In contrast, shame traumatic memory with attachment figures has a direct effect on depression, not mediated by emotion regulation processes, with only brooding partially mediating this relation.

Conclusion: The current findings shed light on the importance of attachment figures on the structuring of shame traumatic memories and on their impact on psychopathological symptoms, adding to recent neuroscience research and Gilbert's approach on shame and compassion. In addition, our results emphasize the relevance of addressing shame memories, mainly those that involve attachment figures, particularly when working with patients suffering from depressive symptoms and/or that find compassion difficult or scary.

Keywords: Shame traumatic memory; Attachment; Depression; Rumination; Thought suppression; Dissociation

Key Practitioner Message

- The quality of attachment relationships is important in how shame memories are structured and in their relation to psychopathology.
- The relationship between shame traumatic memory with attachment figures and depressive symptoms is not mediated by emotion regulation processes (rumination, thought suppression and dissociation). In contrast, these processes emerge as mediators on the association between shame traumatic memory with others and depression.
- For people suffering from depressive symptoms, having been shamed by an attachment figure may be a major block to develop self-compassion and receive compassion from others, and may constitute an important obstacle to recovery.
- When working with patients suffering from depressive symptoms and/or that find compassion difficult or scary, it is important to target shame memories, especially those that involve attachment figures.
- In therapy with individuals with depressive symptoms and who reveal shame traumatic memories involving others, it may be pertinent to target these memories but also to evaluate and intervene on emotion regulation processes, particularly rumination, thought suppression and dissociation.

Introduction

Relationships are of crucial importance to our survival and well-being (Baumeister & Leary, 1995; Bowlby, 1969, 1973; Buss, 2003; Gilbert, 1989). Therefore, humans have evolved a suite of social motivational systems to seek and respond to attachment to carers (Bowlby, 1969; Cassidy & Shaver, 1999) and groups (Baumeister & Leary, 1995). Throughout life, social relationships, and in particular attachment relationships, are powerful physiological and psychological regulators (Cacioppo, Berston, Sheridan & McClintock, 2000; Carter, 1998). In fact, the quality of early relationships with attachment figures has significant impacts on brain maturation, specifically, on neurophysiological processes underpinning emotional maturation and regulation, and on the development of a whole range of cognitive competencies (Cozolino, 2006; Gerhardt, 2004; Guidano & Liotti, 1983; Mikulincer & Shaver, 2004, 2007; Panksepp, 1998; Schore, 2001; Siegel, 2001; Teicher, 2002).

Attachment theorists argue that the nature of childhood experiences with caregivers will influence the development of internal working models of self and others, which guide feelings and thoughts about the self and feelings, thoughts, behaviours and expectations in relationships (Bowlby, 1969, 1973, 1980; Mikulincer & Shaver, 2007). In the same line, Baldwin (1992, 1997, 2005) proposed that these interpersonal/relational schema, not only influence predictions of others behaviour and one's behaviour in social interactions, but also shape the basis for subsequent self-to-self evaluations and experiences. Previous experiences of relationships can be coded in our minds as interpersonal memories (Brewin, 2006), acting as a lens that guides moment-to-moment processing of emotion and interactions.

From early attachment through cooperative, emotionally supportive and sexual relationships, being loved, accepted, valued, and chosen by others (e.g., caregivers, friends, allies, peers, lovers, one's superiors) provides the deactivation of threat systems, offers essential resources for coping with adversity and promotes feelings of safeness, regulating physiological systems that are conducive to health and well being (Cacioppo, et al., 2000; Masten, 2001). In contrast, early adverse rearing experiences, in the form of abuse, neglect, abandonment, rejection, shaming, criticism and/or harsh parenting styles are known to be associated with the activation of threat systems (Dickerson & Kemeny, 2004; Perry, Pollard, Blakley, Baker, & Vigilante, 1995), under stimulation of the soothing-affiliative system (Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006) and increased vulnerabilities to mental health difficulties, namely depression (Andrews, 2002; Gilbert & Gerlsma, 1999; Parker, 1983; Perris, 1994; Perris & Gilbert, 2000; Stuewig & McCloskey, 2005; Webb, Heisler, Call, Chickering, & Colburn, 2007). Social rejection experiences are also key to the emergence of shame (Claesson & Sohlberg, 2002; Gilbert, 1998; Gilbert, Allan, & Goss, 1996; Gilbert, Cheung, Wright, Campey, & Irons, 2003).

Shame, shame memories and psychopathology

Given the evolved power of relationships, in order to feel safe, fit in, belong and engage in advantageous social roles, humans are motivated to stimulate positive affect and create positive 'images' of themselves in the mind of others. So important is attractiveness in social competition, that a set of complex cognitive abilities for social understanding (e.g., theory of mind, Byrne, 1995; metacognition, Wells, 2000) and self-conscious awareness (Tracy & Robins, 2004) have developed to monitor our attractiveness in the mind of

the other, that is, how we exist for others and make predictions of what they think and feel about us (Gilbert, 2003, 2007a).

In light of the biopsychosocial model (Gilbert, 1998c, 2003, 2007a), shame emerges from these cognitive abilities as a warning signal that we exist negatively in the mind of the others (i.e., as unattractive, worthless or flawed) and thus, they can reject, exclude, ignore or even harm or persecute us (Gilbert, 1998c, 2003). Shame is usually conceived as an experience of the self as unattractive, undesirable, worthless, inferior or defective in some way, associated with having flaws, failures and deficits exposed (Gilbert, 1998c, 2002a; Kaufman, 1989; Lewis, 1992; Tangney & Dearing, 2002; Tangney & Fisher, 1995).

Shame experiences can take place very early in life and involve a primary threat to the (social) self (Gilbert, 1998c, 2003). So, shame memories are threat memories that can texture the whole sense of self (Andrews, 2002; Andrews & Hunter, 1997) and may operate like mini-scenes or emotional hot-spots in the mind (Kaufman, 1989; Tomkins, 1987). Shame experiences such as criticism from a parent, being rejected by a lover, bullying, failing at something important, being physically or sexually abused and so on, can be recorded in autobiographical memory as conditioned emotional memories. These threat memories have a powerful impact on self-schema, emotional and attentional processing and on neurophysiologic systems (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Dickerson & Kemeny, 2004; Gilbert, 2003; Schore, 1998, 2001).

In line with this view, Matos and Pinto-Gouveia (2010) recently found that shame memories from childhood and adolescence can function as traumatic memories, with intrusion, avoidance and hyper arousal symptoms, which not only have an impact on feelings of shame in adulthood but also moderate the impact of shame on depression. In addition, shame memories were found to act as powerful and painful emotional memories that can become central to one's identity and life story (Pinto-Gouveia & Matos, 2011). In another study, shame memories that function like traumatic memories, or that are central to one's identity and life story, were found to be significantly related to paranoid anxiety, but not social anxiety, even when controlling for current shame feelings (Matos, Pinto-Gouveia, & Gilbert, 2012).

Therefore, shame memories that are recorded as traumatic and central autobiographical memories seem to operate as self-defining memories in the self-memory system (Conway, 2005; Conway & Pleydell-Pearce, 2000; Matos, Pinto-Gouveia, & Gilbert, 2012; Singer & Salovey, 1993) in that they give meaning and continuity to one's sense of self and life story (McAdams, 2001; McAdams, Josselson, & Lieblich, 2006) and influence behaviour and goals (Sutin & Robins, 2008). Furthermore, a central trauma memory can form a highly available reference point for the organization of autobiographical knowledge, influencing subsequent emotional, cognitive and attentional, processing (Berntsen & Rubin, 2006, 2007).

In accordance with attachment theory, these shame memories may lead to structure negative internal working models of self (e.g., as unworthy, undesirable) and others (e.g., as threatening, harsh, powerful, hostile that may criticize, reject, exclude, harm or persecute the self) that influence emotional and social response to negative self-defining events (Baldwin & Dandeneau, 2005; Mikulincer & Shaver, 2005; Matos, Pinto-Gouveia, & Gilbert, 2012). Hence, shame memories may integrate interpersonal schema that guide expectations of how others will view and respond to the self and that form the basis for self-to-self evaluations and experiences (Baldwin, 1997; Baldwin & Holmes, 1987).

In fact, a recent study found that shame memories involving attachment figures differ from shame memories involving other people (e.g., peers, colleagues, teachers, or strangers) concerning their impact on psychopathology, in that only shame traumatic central memories with attachment figures moderate the link between current shame and depression (Matos & Pinto-Gouveia, 2011a). Although the quality and

type of attachment relationships seem to be important in structuring shame memories, the research on this topic has been scant.

Emotion regulation

Attachment relationships drastically influence the way we learn to regulate our emotions (Cozolino, 2006; Gerhardt, 2004; Mikulincer & Shaver, 2004, 2007). Emotional regulation has been conceptualized as processes through which individuals modulate their emotions consciously and nonconsciously (Bargh & Williams, 2007; Rottenberg & Gross, 2003) to appropriately respond to environmental demands (Campbell-Sills & Barlow, 2007; Cole, Martin, & Dennis, 2004; Gratz & Roemer, 2004; Gross, 1998; Gross & Munoz, 1995). In other words, individuals develop regulatory strategies to modify the magnitude and/or type of their emotional experience or the emotion-eliciting event (Diamond & Aspinwall, 2003; Gross, 1998).

A division between adaptive and maladaptive emotion regulation strategies has been conceptualized in several theoretical models (Greenberg, 2002; Gross, Richards, & John, 2006). Some of these maladaptive strategies are thought to be associated with the etiology and maintenance of clinical disorders (Aldao, Nolen-Hoeksema, Schweizer, 2010; Berenbaum, Raghavan, Vernon, & Gomez, 2003; Mennin & Farach, 2007), namely major depressive disorder (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008; Rottenberg, Gross, & Gotlib, 2005), social anxiety disorder (Kashdan, Elhai, & Breen, 2008), and borderline personality disorder (Linehan, 1993; Lynch, Trost, Salsman, & Linehan, 2007).

Some of the most studied maladaptive emotion regulation strategies are thought suppression, rumination and dissociation, which have been theorized as a risk factor for psychopathology.

Concerning thought suppression, Wenzlaff and Wegner (2000) have produced a large body of research showing that attempts to voluntarily suppress thoughts result in an increased accessibility of the suppressed thought and increased emotional arousal (Wegner & Erber, 1992; Wegner, Schneider, Carter, & White, 1987). When faced with life events which bring depressive, traumatic, socially inappropriate thoughts to the fore, the most common strategy is the avoidance of these thoughts (Wegner & Zanakos, 1994). Moreover, research in this field has shown that thought suppression has been associated with increased risk for depression and anxiety (Purdon, 1999; Wenzlaff & Wegner, 2000). In addition, it has been theorized that thought suppression contributes to the development and maintenance of post-traumatic stress disorder (PTSD; e.g., McFarlane, 1988; Wenzlaff & Wegner, 2000). Research has shown that traumatized individuals try to suppress thoughts about their aversive experiences (Kuyken & Brewin, 1994).

Another maladaptive strategy described in literature is rumination, defined as the repetitive focus on the experience of emotion, its causes and consequences (Nolen-Hoeksema et al., 2008; Trapnell & Campbell, 1999; Watkins, 2008). Although people often engage in rumination because they want to understand and solve their problems (Papageorgiou & Wells, 2003), it appears to interfere with good problem solving and may immobilize individuals in indecision in the context of distress (Hong, 2007; Ward, Lyubomirsky, Sousa, & Nolen-Hoeksema, 2003). A large body of research demonstrates that rumination predicts the onset (Just & Alloy, 1997; Spasojevic & Alloy, 2001), severity (Muris, Roelofs, Rassin, Franken, & Mayer, 2005; Nolen-Hoeksema, Morrow, & Fredrickson, 1993; Nolen-Hoeksema et al., 2008) and maintenance of depression (Kuehner & Webber, 1999; Nolen-Hoeksema, 2000). Also, Cheung, Gilbert and Irons (2004) found rumination to be significantly correlated with shame, and to partially mediate the

relationship between shame and depression. In addition, several studies have now established the importance of this emotion regulatory strategy in subjects who experienced traumatic events (Michael, Halligan, Clark, & Ehlers, 2007; Wells & Papageorgiou, 1995). Speckens and collaborators (2007) suggested that rumination may be an important mediating factor between the traumatic event, the increase of feelings like sadness, shame, and anger, and the subsequent onset or maintenance of PTSD symptoms. Distinct types of rumination with distinct functional effects have been proposed (Moberly & Watkins, 2008; Treynor, Gonzalez, & Nolen-Hoeksema, 2003; Watkins, 2004), with brooding being more depressogenic and reflection being less depressogenic (see reviews by Aldao, Nolen-Hoeksema, & Schweizer, 2010; Nolen-Hoeksema et al., 2008).

Finally, dissociation refers to a variety of behaviours associated with lapses in psychobiological and cognitive processing (Ogawa, Sroufe, Weinfield, Carlson, & Egeland, 1997). The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM IV-TR; American Psychiatric Association, 2000) defines the term dissociation as “a disruption in the usually integrated functions of consciousness, memory, identity, or perception”. A recurrent theme in clinical and empirical literature is that traumatic experiences cause dissociative symptomatology (Putnam et al., 1996). Accordingly, preliminary evidence suggested that dissociation mediates the relationship between trauma and psychopathology (Griffin, Resick, & Mechanic, 1997; Zatzick, Marmar, Weiss, & Metzler, 1994). Findings from several studies using clinical and non-clinical samples, showed dissociative symptomatology is associated with self-reported childhood history of sexual abuse, physical abuse, emotional abuse, and neglect (Chu & Dill, 1990; Coons, Bowman, Pellow, & Schneider, 1989; Putnam, Guroff, Silberman, Barban, & Post, 1986; Ross, Miller, Reagor, Bjornson, Fraser, & Anderson, 1991). Furthermore, dissociation has been suggested to be a mediator between perceived abusive parenting style and depressive symptoms in adulthood (Offen, Thomas, & Waller, 2003; Yoshizumi, Murase, Murakami, & Takai, 2007).

Considering this theoretical and empirical knowledge on shame and shame memories (Gilbert, 2007a; Matos & Pinto-Gouveia, 2010) and emotional regulation (Aldao, Nolen-Hoeksema, & Schweizer, 2010; Gross, Richards & John, 2006), it is possible that emotion regulation processes, such as rumination, thought suppression and dissociation, function as mediators on the relationship between shame trauma memory and psychopathology. However, this effect has never been tested.

The current study

This study therefore sets out to explore the association between shame trauma memories involving different types of *shamers* (attachment figures or other people, e.g., strangers, peers, teachers) and emotion regulation processes, specifically, rumination, thought suppression and dissociation. We hypothesize that individuals who recall shame memories with attachment figures and other people as traumatic emotional memories would tend to ruminate, suppress unpleasant thoughts and dissociate more than those whose shame memories were less traumatic.

In addition, the primary aim of the current study is to test a mediator model in which it is predicted that emotion regulation processes, such as rumination, thought suppression and dissociation, mediate the association between shame traumatic memory and depressive symptomatology. Specifically, we investigate if these emotion regulation processes would have a mediator effect on this association depending on who the *shamer* was in the traumatic memory. That is, we predict that rumination, thought suppression and dissociation would be mediators on the relationship between shame traumatic memory

with others (e.g., peers, superiors, strangers) and depression. On the contrary, we hypothesize that the mediator effect of these emotion regulation processes would be less significant on the association between shame traumatic memory with attachment figures and depressive symptoms. This is because we expect the involvement of a caregiver would strengthen the linkage between the shame traumatic memory and psychopathological symptoms, making it less permeable to the influence of emotion regulation processes.

Method

Participants

Participants in this study were ninety subjects recruited from the general population in the district of Coimbra, Braga, Porto, and Guarda, Portugal. Participants mean age was 29.50 ($SD = 7.81$), 64.4% were females ($n = 58$) and 35.6% males ($n = 32$). Seventy five per cent of the subjects were single ($n = 67$) and 13.9% were married ($n = 17$). Eighty five per cent had graduated from high school ($n = 77$). The participants years of education mean was 14.97 ($SD = 3.69$). These participants were recruited as part of a larger study examining the phenomenological characteristics of shame memories and their relation to psychopathology.

Procedure

A convenience sample was collected from the general community population, recruited within the staff of institutions (academic institutions and private corporations). These institution's boards were contacted, the research aims were clarified and authorization was obtained so that their employees could participate in the study. Afterwards, the personnel was elucidated about the investigation goals and invited to voluntarily participate. In line with ethical requirements, it was emphasized that participants co-operation was voluntary and that their answers were confidential and only used for the purpose of the study.

Those who volunteer to participate were given a battery of self-report questionnaires designed to measure shame, emotional regulation and psychopathology. The questionnaires were administered by the author, MM, with assistance of undergraduate students. Then, the self-report questionnaires were filled by volunteers in the presence of the researcher.

Afterwards, a session was scheduled with each participant within the following week, in order to administer the Shame Experiences Interview (SEI; Matos & Pinto-Gouveia, 2006a). The SEI assessed specific shame experiences from childhood and adolescence, particularly a shame memory involving an attachment figure (father, mother or other career) and a shame memory that involved other people: e.g., peers, teachers, strangers. The SEI took approximately 90 to 120 minutes to complete.

Measures

Shame memories

The *Shame Experiences Interview* (SEI, Matos & Pinto-Gouveia, 2006a) is a semi-structured interview designed to assess the phenomenology of shame experiences from childhood or adolescence. It measures emotional, cognitive, behavioural, motivational and contextual components of shame and its autobiographical/traumatic memory characteristics. The interview begins with an introduction that explains its purpose and then clarifies the concept of shame and gives three case examples of shame experiences from childhood and adolescence. It is divided into three main parts: In the first part a significant shame memory from childhood or adolescence that involved peers, teachers, strangers, or other people, is elicited and assessed regarding its phenomenological and memory characteristics. In the second part participants are asked to recall a significant shame memory from childhood or adolescence involving an attachment figure (father, mother or other caregiver), and its' phenomenological and memory characteristics are evaluated. The third part measures the accessibility to positive and negative memories with attachment figures from childhood and adolescence. After each part, participants are asked to fill in a set of self-report questionnaires considering the shame memory elicited, measuring shame traumatic memory characteristics, centrality of shame memory and autobiographical memory characteristics. For the purpose of this study, we will only consider the scores from the self-report measures assessing shame traumatic memory (described below) applied to the shame memory with peers, teachers, strangers, and to the shame memory with attachment figures.

Shame traumatic memory

Impact of Event Scale – Revised (IES-R) was developed by Weiss & Marmar (1997). The IES-R is a self-report instrument designed to measure current subjective distress for any specific life event, and distinctively in our study, in relation to the shame memory involving peers, colleagues, teachers, strangers or others (IES-R_Others) and to the shame memory with attachment figures (IES-R_AttachFig). This scale has 22 items, 7 items having being added to the original 15-item IES (Weiss & Marmar, 1997), rated on a 5-point Likert scale (0–4). The IES-R is composed by three subscales that measure the three main characteristics of traumatic memories: avoidance (e.g., “*I stayed away from reminders of it*”), intrusion (e.g., “*Any reminder brought back feelings about it*”) and hyperarousal (e.g., “*I was jumpy and easily startled*”) that parallel the DSM-IV criteria for PTSD. In the original study, Cronbach alphas of the subscales ranged from .87 to .92 for intrusion, .84 to .86 for avoidance and .79 to .90 for hyperarousal (Weiss & Marmar, 1997). The Portuguese version revealed a one-dimensional structure with sound psychometric properties (Matos, Pinto-Gouveia, & Martins, 2011). Cronbach’s alpha for this measure in this study is shown in Table 1.

Rumination

Rumination Responses Questionnaire (RRQ-10; Treynor, Gonzalez, Nolen-Hoeksema, 2003; Portuguese translation and adaptation by Pinto-Gouveia, & Dinis, 2006) measures two aspects of rumination. The first component, named reflection, suggests a purposeful turning inward to engage in cognitive problem solving to alleviate one’s depressive symptoms. In contrast, the second component, named brooding, reflect a passive comparison of one’s current situation with some unachieved standard. The scale includes 10 items on a scale from 1 (*almost never*) to 4 (*almost always*). On the original version the reflection dimension presents a Cronbach alpha of .72 while the brooding dimension presents a Cronbach alpha of

.77. The coefficient alpha for the Portuguese version for the reflection subscale was .75 and .76 for the brooding subscale. The alpha level for this study is given in Table 1.

Thought suppression

White Bear Suppression Inventory (WBSI; Wegner, & Zanakos, 1994; Portuguese translation and adaptation by Pinto-Gouveia & Albuquerque, 2007) comprises 15 items that were originally developed to evaluate chronic thought suppression tendencies. It contains statements such as “*There are things I prefer not to think about*” or “*There are images that come to mind that I cannot erase*”. Answers are given on a 5-point Likert scale ranging from A (*strongly disagree*) to E (*strongly agree*). Scores can range from 5-75, with higher scores reflecting a greater tendency to suppress. Across several large student samples, internal consistency of the WBSI was high, with Cronbach’s alpha ranging from .87 to .89. The alpha level for this study is shown in Table 1.

Dissociation

The Dissociative Experiences Scale - Revised (DES-II; Carlson & Putnam, 1993, Portuguese translation and adaptation by Dinis, Matos, & Pinto Gouveia, 2008) is a self-report measurement of the frequency of dissociative symptoms, such as amnesia, absorption, depersonalization and derealization. It is the most widely used measure of dissociation. The 28 items related to dissociative phenomena in daily life items are rated on a scale from 0% (*never*) to 100% (*always*), corresponding to the frequency in which those symptoms are experienced. Examples of such phenomena include feelings of depersonalization, derealization, and psychogenic amnesia. The DES-II produces scores very similar to those on the original version (Bernstein & Putnam, 1986). In its original study, Cronbach’s alpha was .90 (Carlson & Putnam, 1993). The alpha level for this study is reported in Table 1.

Psychopathology

Depression, Anxiety and Stress Scales (DASS-42; Lovibond & Lovibond, 1995; Portuguese version by Pais-Ribeiro, Honrado & Leal, 2004) is a self-report measure composed of 42 items and designed to assess three dimensions of psychopathological symptoms: depression, anxiety and stress. The items indicate negative emotional symptoms and are rated on a 4-point Likert scale (0-3). On the original version, Lovibond and Lovibond (1995) found the subscales to have high internal consistency (Depression subscale Cronbach’s $\alpha = .91$; Anxiety subscale Cronbach’s $\alpha = .84$; Stress subscale Cronbach’s $\alpha = .90$). In the present study, only the Depression subscale will be considered. Cronbach alpha for this subscale in this study is shown in Table 1.

Results

Data analysis

Analysis was conducted using PASW (Predictive Analytics Software), version 18 (SPSS Inc., Chicago, IL, USA) for PCs.

Two studies were conducted to investigate the relationships between shame traumatic memory with others and with attachment figures, emotional regulation processes and psychopathology. These studies have a cross sectional design with self-reports measures.

In the first study, the predictor variable was shame traumatic memory with others as measured by IES-R_Others. The dependent variable was depression, DASS Depression subscale. Rumination, thought suppression and dissociation were assumed to be the mediators and were assessed using RRQ, WBSI and DES-II, respectively.

In the second study, shame traumatic memory with attachment figures was considered the predictor variable, measured by IES-R_AttachFig, and Depression was considered the dependent variable. Rumination, thought suppression and dissociation were supposed to be mediator variables and were assessed using RRQ, WBSI and DES-II, respectively.

Pearson correlation coefficients were performed to explore the relationships between predictor variables, outcome variables and the mediators.

A series of mediator analyses were conducted using *linear regression models* to test the effects of each mediator on the relationship between the predictor and the dependent variable, following the four-step analysis recommended by Baron and Kenny (1986). Furthermore, *Sobel Test* was performed to determine the significance of the indirect effect of the predictor variable on outcome, through its effects on mediator. The mediation (full or partial) suggested by the regression model is significant if Sobel z is $p < .050$.

Preliminary Data Analyses

A series of tests were conducted to examine the suitability of the current data for regression analyses. We performed an analysis of residuals scatter plots since it provides a test of assumptions of normality, linearity and homoscedasticity between dependent variables scores and errors of prediction. Our data showed that the residuals were normally distributed, had linearity and homoscedasticity. Also, the independence of the errors was analyzed and validated through graphic analysis and the value of *Durbin-Watson* (values ranged between 1.753 and 1.904). No evidence of the presence of multicollinearity or singularity amongst the variables was found. These aspects were validated by the *Variance Inflation Factor (VIF)* values that indicated the absence of β estimation problems ($VIF < 5$). Overall, the results indicate that these data are adequate for regression analyses.

Descriptives

The means, standard deviations and Cronbach' alphas for this study variables are presented in Table 1. All scales showed good to very good internal consistencies. No gender or age differences were found concerning these variables.

Table 1: Means (*M*), standard deviations (*SD*) and Cronbach' alphas for self report measures (*N* = 90)

Variables	<i>M</i>	<i>SD</i>	Cronbach' α
Shame traumatic memory with others (IES-R_Others)	3.27	2.13	.94
Shame traumatic memory with attachment figures (IES-R_AttachFig)	2.97	1.98	.94
Depression (DASS-42 Depression subscale)	7.35	7.87	.95
Rumination brooding (RRQ Brooding subscale)	2.35	0.61	.76
Rumination reflection (RRQ Reflection subscale)	2.36	0.68	.81
Thought suppression (WBSI)	47.59	11.07	.90
Dissociation (DES-II)	15.42	9.67	.92

Note. IES-R = Impact of Event Scale-Revised; DASS-42 = Depression, Anxiety and Stress Scales; RRQ = Rumination Responses Questionnaire; WBSI = White Bear Suppression Inventory; DES-II = Dissociative Experiences Scale—Revised.

Study I: Shame traumatic memory with others, emotion regulation and depression

In this study, we explore the relationship between shame traumatic memory involving peers, teachers, strangers or other people, emotion regulation processes (rumination, thought suppression and dissociation) and depression.

Correlations

Pearson's correlation coefficients (two-tailed) for these relations are presented in Table 2. Results showed that shame traumatic memory with others was positively correlated with depression. Shame traumatic memory with others was also moderately correlated with brooding subscale, thought suppression and dissociation. There were moderate to high correlations between brooding and depression and between reflection and depression. Also, dissociation and thought suppression were moderately associated with depressive symptoms.

Table 2: Correlations (2-tailed Pearson *r*) between Shame traumatic memory with others (IES-R_Others), Shame traumatic memory with attachment figures (IES-R_AttachFig), Depression (DASS-42 Depression), Rumination (RRQ-Brooding; RRQ-Reflection), Dissociation (DES-II) and Thought suppression (WBSI) (*N* = 90).

	IES-R Others	IES-R AttachFig	DASS-42 Depression	RRQ Brooding	RRQ Reflection	WBSI
IES-R_AttachFig	.50***					
DASS-42 Depression	.30**	.47***				
RRQ Brooding	.38***	.37***	.46***			
RRQ-Reflection	.18	.22*	.31**	.37***		
WBSI	.39***	.41***	.35***	.56***	.22*	
DES-II	.36***	.39***	.35***	.43***	.36***	.54***

* $p < .050$. ** $p < .010$. *** $p < .001$.

Note. IES-R = Impact of Event Scale-Revised; DASS-42 = Depression, Anxiety and Stress Scales; RRQ = Rumination Responses Questionnaire; WBSI = White Bear Suppression Inventory; DES-II = Dissociative Experiences Scale—Revised.

The Mediator Effect of Emotion Regulation Strategies on the Relationship between Shame Traumatic Memory with Others and Depression

In order to further explore these findings, we conducted a series of mediator analyses using linear regression models to test whether brooding, thought suppression and dissociation mediate the relationship between shame traumatic memory with others and depression (see Table 3).

The Mediator Effect of Rumination

A regression analysis was conducted with shame traumatic memory with others entered as the independent variable and depression as the dependent variable. The model was significant [$F_{(1,88)} = 8.59, p = .004$], accounting for 8.9% of depression ($\beta = .30, p = .004$). The next analysis was conducted to examine whether traumatic memory with others predicted brooding. The model was also significant [$F_{(1,88)} = 14.44, p < .001$] with $\beta = .38 (p < .001)$. Finally, a regression analysis was performed to determine whether the proposed mediator significantly predicted depression. We entered shame traumatic memory with others and brooding as the independent variables and depression as the dependent variable. The final model was significant [$F_{(2,87)} = 12.97, p < .001$], accounting for 23% of the variance in depression. Results indicate that when the mediator is added in, the predictor β is reduced to .15 ($p = .153$) and is no longer significant (see Table 3). *Sobel test* was significant ($z = 2.73, p = .006$), indicating that brooding fully mediates the effect of shame traumatic memory with others on depression.

The Mediator Effect of Thought Suppression

The same procedure was conducted to examine the mediator effect of thought suppression (Table 3). First, when shame traumatic memory with others was entered as the independent variable and depression as the dependent variable, it produced a significant model. On the second step, a regression analysis was conducted to examine whether traumatic memory with others predicted thought suppression. The model was also significant [$F_{(1,88)} = 15.54, p < .001$] with $\beta = .39 (p < .001)$. Finally, a regression analysis was performed to determine whether the proposed mediator significantly predicted depression. Shame traumatic memory with others and thought suppression were entered as the independent variables and depression as the dependent variable. The final model was significant [$F_{(2,87)} = 8.02, p < .001$], accounting for 15.6% of depression. Results indicate that when the mediator is added in, the predictor β is reduced and is no longer significant ($\beta = .19, p = .079$). *Sobel test* was significant ($z = 2.18, p = .029$), suggesting that thought suppression fully mediates the effect of shame traumatic memory with others on depression.

Table 3. Mediation effect of Brooding, Thought Suppression and Dissociation on the relationship between Shame Traumatic Memory with Others and Depression

Testing steps for mediation	Depression					
	<i>B</i>	<i>SE B</i>	β	<i>F</i>	<i>Adjusted R</i> ²	ΔR^2
Step 1						
Outcome: Depression						
Predictor: IES-R_Others	1.10	.38	.30**	8.59**	.08	.09
Step 2						
Outcome: Brooding						
Predictor: IES-R_Others	.11	.30	.38***	14.44***	.13	.14
Step 3						
Outcome: Depression						
Predictor: IES-R_Others	.54	.37	.15			
Mediator: Brooding	5.17	1.30	.41***	12.97***	.21	.23
Step 1						
Outcome: Depression						
Predictor: IES-R_Others	1.10	.38	.30**	8.59**	.08	.09
Step 2						
Outcome: Thought Suppression						
Predictor: IES-R_Others	2.02	.51	.39***	15.54***	.14	.15
Step 3						
Outcome: Depression						
Predictor: IES-R_Others	.70	.40	.19			
Mediator: Thought Suppression	.20	.08	.28**	8.02***	.14	.16
Step 1						
Outcome:						
Predictor: IES-R_Others	1.10	.38	.30**	8.59**	.08	.09
Step 2						
Outcome: Dissociation						
Predictor: IES-R_Others	1.65	.45	.36***	13.40***	.12	.13
Step 3						
Outcome: Depression						
Predictor: IES-R_Others	.74	.40	.20			
Mediator: Dissociation	.22	.09	.27*	7.85***	.13	.15

* $p < .050$. ** $p < .010$. *** $p < .001$.

The Mediator Effect of Dissociation

Similarly, the proceedings described above were performed to test for the mediator effect of dissociation (Table 3). First, when shame traumatic memory with others was entered as the independent variable and depression as the dependent variable, the regression model was significant. Next analysis was conducted to examine whether traumatic memory with others predicted dissociation. The model was also significant [$F_{(1,88)} = 13.36, p < .001$] with $\beta = .36 (p < .001)$. Finally, a regression analysis was performed to determine whether the proposed mediator significantly predicts depression. We entered shame traumatic memory with others and dissociation as the independent variables and with depression as the dependent variable. The final model was significant [$F_{(2,87)} = 7.89, p < .001$], accounting for 15.4% of depression. Results indicate that when the mediator is added in, the predictor β is reduced and non significant ($\beta = .20, p = .063$). *Sobel test* was significant ($z = 2.11, p = .035$), indicating that dissociation fully mediates the effect of shame traumatic memory with others on depression.

Study II: Shame traumatic memory with attachment figures, emotion regulation and depression

In this study, we explore the relationship between shame traumatic memory with attachment figures, emotion regulation processes (rumination, thought suppression and dissociation) and depression.

Correlations

Table 2 illustrates Pearson's correlation coefficients (two-tailed) for the associations between these variables. Shame traumatic memory with attachment figures was positively and significantly correlated with depressive symptoms. Pearson correlations showed that shame traumatic memory with attachment figures was positively and moderately correlated with brooding, thought suppression and dissociation and poorly correlated with reflection. Correlation coefficients for the relationship between brooding, thought suppression, dissociation and depression were described above. In addition, reflection was moderately correlated with depression.

The Mediator Effect of Emotional Regulation Strategies on the Relationship between Shame Traumatic Memory with Attachment Figures and Depression

Given these results, a series of mediator analyses using linear regression models were performed to test the mediator effect of brooding, reflection, thought suppression and dissociation on the association between shame traumatic memory with attachment figures and depressive symptoms.

Analyses testing for the mediating effect of these emotion regulation processes followed the same procedures described above.

The Mediator Effect of Rumination

A regression analysis was performed with shame traumatic memory with attachment figures entered as the independent variable and depression as the dependent variable. The model was significant [$F_{(1,88)} = 24.22, p < .001$], accounting for 21.6% of the variance in depression ($\beta = .47, p < .001$). Then, a regression analysis was conducted to examine whether traumatic memory with attachment figures predicted

brooding. The model was also significant [$F_{(1,88)} = 13.60, p < .001$]. Finally, a regression analysis was performed to determine whether the proposed mediator significantly predicts depression. We entered shame traumatic memory with attachment figures and brooding as the independent variables and with depression as the dependent variable. The final model was significant [$F_{(2,87)} = 19.80, p < .001$], accounting for 31.3% of depression. Results show that when the mediator is added in, the predictor β is reduced to .34 but remains significant ($p = .001$). *Sobel test* was computed to determine the significance of the indirect effect of brooding on depression (through its effects on shame traumatic memory with attachment figures). Results demonstrate that these indirect effect was significant ($z = 2.54; p = .011$) indicating that brooding partially mediates the relationship between shame traumatic memory with attachment figures and depression.

Similar procedures were performed to test for the mediator effect of reflection (Table 4). The first model was significant [$F_{(1,88)} = 24.22, p < .001$], with reflection accounting for 21.6% of depression ($\beta = .47, p < .001$). The subsequent analysis, with shame traumatic memory with attachment figures predicting reflection, was also significant [$F_{(1,88)} = 4.45, \beta = .22, p = .038$]. Finally, a regression analysis was performed to determine whether the proposed mediator significantly predicts depression. We entered shame traumatic memory with attachment figures and reflection as the independent variables and with depression as the dependent variable. The final model was significant [$F_{(2,87)} = 15.33, p < .001$], accounting for 26% of depression. Results indicated that when the mediator is added in, the predictor β only reduces to .42 and is significant ($p < .001$). *Sobel test* was computed to determine the significance of the indirect effect of reflection on depression (through its effects on shame traumatic memory with attachment figures) and this indirect effect was not significant ($z = 1.56, p = .119$).

The Mediator Effect of Thought Suppression

The same proceedings described above were performed for the mediator effect of thought suppression on the relationship between shame traumatic memory with attachment figures and depression. These analyses showed no mediator effect considering that when the mediator is added in the final regression, shame traumatic memory remains a significant predictor of depression ($\beta = .38, p < .001$) and thought suppression β is not significant (see Table 4).

The Mediator Effect of Dissociation

Similarly, a series of regression analyses were conducted to test for the mediator effect of dissociation on the relationship between shame traumatic memory with attachment figures and depression. No significant mediation was found since shame traumatic memory still significantly predicts depression after the mediator is added in ($\beta = .39, p < .001$) and the mediator contribution is not significant (see Table 4).

In summary, results from these mediator analyses show that emotion regulation processes, such as brooding, thought suppression and dissociation, mediate the association between shame traumatic memory with others and depression. In contrast, shame traumatic memory with attachment figures seems to have a direct effect on depression, not mediated by emotion regulation processes, with only brooding partially mediating this relation.

Table 4. Mediation effect of Brooding, Reflection, Thought Suppression, Dissociation on the relationship between Shame Traumatic Memory with Attachment Figures and Depression

Testing steps for mediation	Depression					
	<i>B</i>	<i>SEB</i>	β	<i>F</i>	<i>Adjusted R²</i>	ΔR^2
Step 1 Outcome: Depression Predictor: IESR_AttachFig	1.84	.38	.47***	24.22***	.21	.22
Step 2 Outcome: Brooding Predictor: IESR_AttachFig	.11	.03	.37***	13.60***	.12	.13
Step 3 Outcome: Depression Predictor: IES_AttachFig Mediator: Brooding	1.36 4.27	.38 1.22	.34*** .33***	19.80***	.30	.31
Step 1 Outcome: Depression Predictor: IESR_AttachFig	1.84	.38	.47***	24.22***	.21	.22
Step 2 Outcome: Reflection Predictor: IESR_AttachFig	.08	.04	.22*	4.45*	.04	.05
Step 3 Outcome: Depression Predictor: IESR_AttachFig Mediator: Reflection	1.66 2.51	.38 1.10	.42*** .22*	15.33***	.24	.26
Step 1 Outcome: Depression Predictor: IESR_AttachFig	1.84	.38	.47***	24.22***	.21	.22
Step 2 Outcome:Thought Predictor: IESR_AttachFig	2.27	.54	.41***	17.42***	.16	.17
Step 3 Outcome: Depression Predictor: IESR_AttachFig Mediator: Thought	1.53 .14	.40 .07	.38*** .20	14.37***	.23	.25
Step 1 Outcome: Depression Predictor: IESR_AttachFig	1.84	.38	.47***	24.22***	.21	.22
Step 2 Outcome:Dissociation Predictor: IESR_AttachFig	1.89	.48	.39***	15.56***	.14	.15
Step 3 Outcome: Depression Predictor: IESR_AttachFig Mediator: Dissociation	1.55 .16	.40 .08	.39*** .19			

* $p < .050$. ** $p < .010$. *** $p < .001$.

Discussion

Early relationships and care are central to human brain development and functioning, well-being, affect regulation and self-other schema (Baldwin, 2005; Baumeister & Leary, 1995; Bowlby, 1969, 1973; Gilbert, 1989, 2003, 2007a; Guidano & Liotti, 1983; Safran & Segal, 1990; Schore, 1994; Siegel, 2001).

The current study explored the relationship between shame traumatic memory with attachment figures and with others (e.g., peers, teachers, strangers), emotion regulation processes (rumination, thought suppression and dissociation) and depressive symptoms. Particularly, the main goal of this study was to test a mediator model of emotion regulation processes (rumination, thought suppression and dissociation) on the association between shame traumatic memory, with attachment figures and with others, and depressive symptoms.

In line with our first prediction, we found that shame traumatic memory with others and shame traumatic memory with attachment figures were significantly correlated with brooding, thought suppression and dissociation. So, individuals whose shame experiences from childhood and adolescence, involving either a caregiver or other people, function as traumatic memories (with intrusion, hyperarousal and avoidance characteristics) tend to engage in maladaptive emotion regulation processes, tend to ruminate, suppress unpleasant thoughts and dissociate to regulate their emotions. These results are consistent with the idea that early attachment and social relationships crucially influence the development of affect regulation systems (Cozolino, 2006; Gilbert, 2007a; Mikulincer & Shaver, 2007). Moreover, these data can be viewed according to studies showing that rumination, thought suppression and dissociation are emotion regulation processes that may arise from adverse or traumatic life events, such as abuse or neglect (Michael et al., 2007; Chu, Frey, Ganzel, & Mattwes, 1999; Wegner & Zanakos, 1994). These emotion regulation processes have also been linked to shame proneness (Cheung et al., 2004; Irwin, 1998; Talbot, Talbot, & Xin Tu, 2004).

In addition, shame traumatic memory with others and shame traumatic memory with attachment figures were positively related to depressive symptoms. This is in line with our hypothesis and previous research that showed shame memories that function as traumatic and central memories to one's identity and life story are associated to psychopathological symptoms, particularly depression (Matos & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011; Matos, Pinto-Gouveia, & Gilbert, 2012). We also found that rumination, thought suppression and dissociation were associated with depressive symptoms. This is consistent with several studies identifying these emotion regulation processes as important factors in the development and maintenance of psychopathology, especially depression and post-traumatic stress (Moberly & Watkins, 2008; Nolen-Hoeksema, 2000; Nolen-Hoeksema, et al. 2008; Offen et al., 2003; Speckens et al., 2007; Szasz, 2009; Szentagotai, 2006; Wegner & Zanakos, 1994).

Taking into account these data and recent findings that suggest the quality and type of attachment relationships are crucial in how shame traumatic autobiographical memories are related to psychopathology (Matos & Pinto-Gouveia, 2011a), we further investigated these results using a series of mediator analyses. In these mediator analyses, emotion regulation processes – rumination, thought suppression and dissociation, were entered as mediators between shame traumatic memory with others and depressive symptomatology and between shame traumatic memory with attachment figures and depressive symptomatology.

We found that brooding, thought suppression and dissociation fully mediated the relationship between shame traumatic memory with others and depressive symptoms. That is, the influence of these shame

memories upon depression was through their effect upon emotion regulation processes. This implies that individuals, whose shame memories with others function as traumatic memories and who ruminate, suppress unpleasant feelings and thoughts and dissociate to regulate their emotions, tend to present more depressive symptoms. These findings are consistent with empirical evidence showing that these emotion regulation processes emerge in the context of stressful or traumatic life events and act as important mediating factors between the traumatic event (e.g., childhood sexual, physical or emotional abuse) and psychopathology, particularly depression (Cheung et al., 2004; Griffin, Resick, & Mechanic, 1997; Kuyeken & Brewin, 1994; Raes & Hermans, 2008; Speckens et al., 2007; Talbot et al., 2004).

In contrast, no fully mediator effect of brooding, reflection, thought suppression and dissociation was found between shame traumatic memory with attachment figures and depressive symptoms. Only brooding showed a partial, but small, mediator effect on this association. In other words, when the shame memory involves an attachment figure its effect upon depression seems to be direct and not explained through the influence of emotion regulation processes, such as rumination, thought suppression or dissociation. This is an important finding because it points out to the importance of the role of attachment figures in the way shame experiences are structured in autobiographical memory and adds to previous research showing that only shame memories with attachment figures moderate the impact of shame on depression (Matos & Pinto-Gouveia, 2011a).

According to the attachment theory (Baldwin, 1997; Bowlby, 1969, 1980; Mikulincer & Shaver, 2007), it might be that shame memories where an attachment figure has shamed the self, where one has experienced the self as someone defective, unlovable, unworthy, undesirable in the mind of a parent or caregiver, determine the formation of negative internal working models of self (e.g., as unworthy, unlovable) and others (e.g., as threatening, harsh, hostile, powerful) and become part of negative relational schema. Furthermore, these shame traumatic memories might function as self-defining memories in the self-memory system forming highly available reference points that influence emotional, cognitive and attention processing and the organization of autobiographical knowledge (Conway, 2005; Bernsten & Rubin, 2007; Singer & Salovey, 1993). So, these shame-based internal working models and relational schema, by becoming highly accessible and easily primed emotional memories, may determine involuntary defeat responses, that is, depressive symptoms, in face of adverse life events (Irons et al., 2006; Gilbert, 2007a).

In addition, our results are in line with recent neuroscience research (Cozolino, 2006; Depue & Morrone-Strupinsky, 2005; Gilbert, 2005b, 2009a; Irons et al., 2006; Panksepp, 1998, 2010) emphasizing that the quality of attachment relationships is crucial in brain maturation, promoting feelings of safeness, shaping social interactions, and regulating affect systems (e.g., toning down distress via access to care). In particular, these data can be viewed in light of Gilbert's (2005b, 2010) tripartite model of affect regulation that posits three types of affect regulation systems: affiliation/soothing, drive-seeking and threat-focused. It might be that when one is shamed by an attachment figure, not only these experiences activate one's threat system but, more importantly, they undermine the development and access to the affiliation system. This affiliation system is triggered by signals of care and affiliation and linked with feelings of warmth, safeness, connectedness to others, well-being and regulates both threat systems and drive-seeking. Furthermore, when the need for care and understanding in a child is neglected or the attachment figure is associated with shame and abuse, then the soothing and the felt need for soothing, becomes linked to sadness, yearning, grief, threat or punishment (Gilbert, 2009a). So, emotional memories where one has been shamed by an attachment figure not only elicit feelings of fear and shame when reactivated, but also activate feelings of sadness, grief and loneliness and compromise the regulation of these threat-focused feelings through blocking the access to the affiliation-soothing system. This is probably why these

memories operate as traumatic memories that have a direct impact on psychopathology, especially on depressive symptoms, in which emotion regulation processes play no mediator role. Also, these individuals might experience an approach-avoidance conflict in relation to their attachment figures, in that they are seen as both sources of safeness but also sources of threat (Liotti, 2000). This may further amplify the power of these shame traumatic memories and increase the vulnerability to depressive symptoms.

Another possible explanation for these results may have to do with the association between shame traumatic memories with attachment figures and with others and the emotional intensity felt in the shame experience. It is possible that shame traumatic memories with attachment figures may be more linked to higher emotional intensity. So when these memories are triggered by current stimulus, they would elicit stronger emotional reactions less permeable to cognitive emotion regulation processes (e.g., rumination, thought suppression or dissociation). This could explain the direct effect of shame traumatic memories with attachment figures in depressive symptoms. This hypothesis should be investigated in future studies.

Clinical implications

The current findings therefore shed light on the role of attachment figures on the structuring of shame traumatic memories and on their impact on psychopathological symptoms.

Moreover, this study adds to recent research on processes that block compassion (Gilbert, McEwan, Matos, & Rivis, 2011; Gilbert, McEwan, Gibbons, Chotai, Duarte, & Matos, 2011; Rockliff, Karl, McEwan, Gilbert, Matos, & Gilbert, 2011) showing that some patients might find it difficult or overwhelming to be self-compassionate and receive compassion from others (e.g. from the therapist) since the experience of these feelings in therapy may reactivate emotional memories of being, for example, shamed by an attachment figure, which then triggers conditioned emotional reactions (e.g., fight, flight, avoidance). Hence, feelings of warmth can be frightening and strange for these individuals and lead to anxiety, avoidance, aggression or dissociation. This can be a major block to recovery, especially for people with high shame and self-criticism.

Therefore, in a therapeutic context, our results highlight the relevance of targeting shame memories, mainly those that involve attachment figures using Compassion Focused Therapy (Gilbert, 2006a, 2007b, 2009a, 2009b, 2010), particularly when working with patients suffering from depressive symptoms and/or that find compassion difficult or scary. Also, our findings emphasize the pertinence of recreating the autobiographical meaning associated with these memories in order to lessen their traumatic impact on current symptoms and to reevaluate and reconstruct the patient's negative inner working models of self and others and relational schemas.

In addition, psychotherapy with individuals with depressive symptomatology and who disclose shame traumatic memories involving others, should involve not only the assessment and work with these memories using a compassion focused approach, but also the evaluation and intervention on emotion regulation processes that prove to be important in the maintenance of the patient's difficulties. In fact, while the sporadic use of these processes seems adaptive to cope with trauma events (e.g., shame events), their chronic use may increase susceptibility to serious psychopathology, namely depression. So, it becomes essential to intervene in them. Particularly, therapists should use specific strategies to target rumination, thought suppression and dissociation, as proposed by prominent authors in the field (Aldao et al., 2010; Greenberg, 2002; Gross, 2007; Nolen-Hoeksema et al., 2008; Rottenberg & Gross, 2007).

Limitations and future research

One possible limitation of the present study is its transversal design, so prospective studies could be conducted in the future to enhance the understanding on the causal relations between the variables. The findings from this study conducted in a non-clinical sample may not be generalized to clinical populations. Nevertheless, when dealing with shame and shame memories the same processes and mechanisms may apply at a clinical or nonclinical level. To further sustain our conclusions, future studies could replicate these findings using clinical samples, such as depressed patients. Although we used self-report instruments, a major strength of this study is the fact that the data on shame memories were collected through the administration of a semi-structured interview (SEI). Finally, attachment styles were not investigated in this study, so future research could look into how different attachment styles are related with shame memories and psychopathology.

In conclusion, this study shed light on the role of attachment in shame memories and in their relation to psychopathology. We found that the relationship between shame traumatic memory with attachment figures and depressive symptoms was not mediated by emotion regulation processes, particularly rumination, thought suppression and dissociation. In contrast, these processes emerged as mediators on the association between shame traumatic memory with others and depression. Therefore, these findings support and add to recent neuroscience research and Gilbert's approach on shame and compassion, underlining the importance of the quality of attachment relationships in shame dynamics and vulnerability to psychopathology.

Acknowledgements

This research has been supported by the first author (Marcela Matos) Ph.D. grant number SFRH/BD/36617/2007, sponsored by FCT (Portuguese Foundation for Science and Technology).

Chapter 7

The role of attachment in shame memories relation to psychopathology

Chapter summary

This chapter extended earlier research and explored the relationship between shame traumatic memories involving attachment figures and shame memories involving other social agents and current shame feelings, emotion regulation processes and psychopathological indicators. The empirical studies indicated that shame memories with attachment figures seem to be more strongly related to current internal shame and depressive symptoms whereas shame memories involving others seem to be more strongly related to current external shame. Also, only shame traumatic memory and centrality of shame memory involving attachment figures moderated the impact of current external and internal shame on depressive symptoms, by amplifying their effects. In addition, mediator analyses demonstrated that emotion regulation processes, namely brooding, thought suppression and dissociation, mediated the association between shame traumatic memory with others and depression. Conversely, shame traumatic memory with attachment figures revealed a direct effect upon depression, not mediated by emotion regulation processes. This chapter' findings thus emphasize the importance of the quality of attachment relationships in the structuring of shame traumatic memories and on their impact on psychopathological symptoms. Such evidence appends to recent neuroscience research and existing conceptualizations of shame, affect regulation and attachment.

Chapter 8

Protection against shame:
Shame memories, safeness memories and feelings, shame
and psychopathology

Chapter 8

Protection against shame: Shame memories, safeness memories and feelings, shame and psychopathology

Chapter overview

- Study IX. Constructing a self protected against shame: The importance of warmth and safeness memories and feelings on the association between shame memories and depression.
- Study X. Internalizing early memories of shame and lack of safeness and warmth: The mediating role of shame on depression.

Chapter summary

Chapter 8

Protection against shame: Shame memories, safeness memories and feelings, shame and psychopathology

Chapter overview

This chapter expands upon the previous empirical studies establishing that shame events are construed as traumatic and central memories to self-identity and life story, and that the quality of attachment interactions in shame episodes may play a crucial role in structuring these memories as traumatic and central and on the way they impact on psychopathology. Derived from these findings and from research showing that resilience to aversive life events is linked to positive affiliative memories of significant others (Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006; Masten, 2001; Richther, Gilbert, & McEwan, 2009), this chapter sets out to answer the following key research question: Are positive affiliative memories with significant others capable of buffering the damaging effects of shame and shame traumatic memories? Hence, this chapter investigates the protective effects of affiliative safeness memories and feelings against the negative impact of shame traumatic and central memories on depressive symptoms in two empirical studies. In Study IX, we examine the association between early memories of safeness and early shame traumatic and central memories, current feelings of social affiliation and connectedness and depressive symptoms. In Study X we explore whether the effects of early safeness memories and of shame traumatic and central memories on depressive symptoms would operate through current external and internal shame.

8 | Study IX

**Constructing a self protected against shame:
The importance of warmth and safeness memories and feelings on
the association between shame memories and depression**

Matos, M., Pinto-Gouveia, J., & Duarte, C. (2011). Constructing a self protected against shame: The importance of warmth and safeness memories and feelings on the association between shame memories and depression. (*Manuscript submitted for publication in an international scientific journal with peer review*).

**Constructing a self protected against shame:
The importance of warmth and safeness memories and feelings
on the association between shame memories and depression**

M. Matos, J. Pinto-Gouveia, & C. Duarte

Abstract

Positive and negative affiliative experiences in early life have a major impact on affect regulation and vulnerability to psychopathology. However, while shame memories have been linked to psychopathology, the protective effects of affiliative experiences against/on this relationship were never explored. This study examines two moderator models of early memories of warmth and safeness on the association between shame memories and depressive symptoms. A mediator model of current feelings of social safeness on these linkages is further tested.

Student participants ($N = 181$) described an early shame experience and completed a set of self-report measures assessing the centrality and traumatic characteristics of that shame memory, early memories of warmth and safeness, current social safeness and connectedness and depressive symptoms.

Early memories of warmth and safeness moderated the relationship between centrality of shame memory and depression, by attenuating its impact. No moderator effect was found for the relation between shame traumatic memory and depression. Furthermore, feelings of social safeness fully mediated the effect of early affiliative memories on depression, and partially mediated the effect of centrality of shame memories on depression.

Affiliative relationships may engender the source of safeness and warmth that buffers the effects of early shame experiences on negative affect.

Keywords: Shame memory; Safeness affiliative memories; Social safeness; Depression; Path analysis

Introduction

Human's survival and well-being greatly depends on affiliative relationships (Baumeister & Leary, 1995; Bowlby, 1969, 1973; Buss, 2003; Gilbert, 1989). It is now well established that early rearing interactions have a major impact on expression of genes, brain maturation, autonomic, neuroendocrine and immune function, development of a whole range of cognitive competencies and affect regulation (Belsky & Pluess, 2009; Belsky, Steinberg, & Draper, 1991; Cacioppo, Berston, Sheridan, & McClintock, 2000; Cacioppo & Patrick, 2008; Carter, 1998; Cozolino, 2006; Gerhardt, 2004; Kennedy, Kiecolt-Glaser, & Glaser, 1989; Mikulincer & Shaver, 2004, 2007; Schore, 1994; Siegel, 2001).

In fact, the quality of early care/affection one receives significantly impacts on brain neurodevelopment, especially on affect regulation systems (Belsky & Pluess, 2009; Gerhardt, 2004; Panksepp, 1998, 2010; Schore, 2001; Siegel, 2001; Teicher, 2002). Recently, based on neuroscience research, authors have proposed the existence of three evolved interacting affect regulation systems that comprise central and peripheral physiological systems and are linked to specific neurohormones. These are *threat-protection*, *resource-seeking*, and *contentment-affiliation and soothing* systems (Depue & Morrone-Strupinsky, 2005; Gilbert, 2005a, 2009a, 2010; Wang, 2005). Common to all living things is the *threat system*, which comprises basic and quick threat detection (through attention-focusing and attention-biasing) and protection devices, such as the activation of defensive feelings (e.g., anxiety, anger, disgust) and consequent protective actions (e.g., fight, flight, freeze and submission; Gilbert, 1989, 2001b). This threat protection system can be activated by several threat signalling stimuli, such as emotional memories or social cues. It operates through specific brain structures (e.g., the amygdala and the hypothalamic-pituitary-adrenal axis) and is linked to serotonin genetic and synaptic regulation (Caspi & Moffitt, 2006; LeDoux, 1998; Gilbert, 2009a, 2010). This system can be linked to the *drive system* which promotes positive feelings of activation, pleasure and excitement, directing and motivating individuals towards important rewards and resources (such as food, alliances or sexual opportunities; Depue & Morrone-Strupinsky, 2005; Gilbert, 2009a).

When animals are neither threatened nor seeking resources, they may experience contentment (Depue & Morrone-Strupinsky, 2005). These positive feelings of warmth, soothing and well-being refer to the *contentment-affiliative and soothing system*, which is linked to endorphins/opiates and oxytocin (Depue & Morrone-Strupinsky, 2005; Gilbert, 2009a, 2010; MacDonald & MacDonald, 2010). This system developed with the evolution of the attachment system to register social safeness, and is triggered by signals of affection and care. In this sense, affiliative interactions stimulate this system by promoting feelings of safeness, connectedness and warmth, and soothing the over-arousal and distress generated by threat (Gilbert, 2009a, 2010, Gilbert, McEwan, Mitra, Franks, Richter, & Rockliff, 2008). Experiencing feelings of safeness and soothing in childhood is not only related to the absence of threat, but also to the presence of specific affiliative signals and experiences (e.g., affection, being valued, accepted, praised) that can lay down positive soothing emotional memories that become major emotional regulators latter in life (Baldwin & Dandeneau, 2005).

Experiencing safeness in early life

Early positive social relationships operate through this safeness system, by promoting a sense of being loved, accepted, valued and chosen by others (e.g., caregivers, friends, lovers, one's superiors) for important social roles (e.g., friend, lover, team member), and thus, fostering feelings of safeness, connectedness and a sense of belonging (Baumeister & Leary, 1995; Bowlby, 1969, 1973; Gilbert, 2005a, 2010; Gilbert et al., 2009). These feelings provide the deactivation of the threat system and offer important resources to cope with adversity (Atwood, 2006; Cacioppo et al., 2000; Cacioppo & Patrick, 2008; Masten, 2001; Porges, 2003, 2007). There is considerable evidence that safe, warm and nurturing environments are related to well-being and various health indices (Martin, 2006), to the development of self-esteem, happiness, self-accepting/nurturing abilities and to protection against vulnerability to psychopathology (Cacioppo et al., 2000; Cheng & Furnham, 2004; DeHart, Pelham, & Tennen, 2006; Gilbert, Baldwin, Irons, Baccus, & Palmer, 2006; Mikulincer & Shaver, 2004; Schore, 1994). A recent study by Richter, Gilbert & McEwan (2009) demonstrated that recall of positive emotional memories, that is, of feeling warmth, safe, and cared for as a child within the family, was significantly and negatively associated with psychopathology (e.g., depressive symptoms) and positively related to a disposition to experience positive affects (e.g., of safeness, warmth and security). Furthermore, recall feeling loved and safe in childhood was linked to a less harsh critical self-evaluative attitude (self-criticism) and to a higher ability to reassure oneself (self-reassurance) when facing setbacks or failures.

The quality of one's early interactions with caregivers regulate the maturation of positive affect and stress sensitivities and constitute the bio-emotional foundation for the emergence of internal working models of self (e.g., as worthy or unworthy of care and support) and others (e.g., as caring and available or threatening and unavailable; Bowlby, 1969, 1973, 1980; Gilbert, 1989; Mikulincer & Shaver, 2005, 2007). These self-other schemas are believed to operate consciously and non-consciously to guide emotional and thought processing about the self and others throughout life, and impact on one's social behaviour (Baldwin, 1992, 1997; Bowlby, 1969, 1973; Gilbert, 1989, 1993; Mikulincer & Shaver, 2005, 2007).

Experiencing threat in early life

In contrast, there is strong empirical evidence emphasizing that neglectful, rejecting, shaming, critical and abusive experiences damage brain development (e.g., of caring behaviour and cognitive abilities) in a drastic and lasting way and are one of the most powerful elicitors of stress responses (e.g., cortisol and serotonin), triggering the threat system (Dickerson & Kemmeny, 2004; Eisenberger, 2011; Eisenberger, Lieberman, & Williams, 2003; Perry, 2002; Perry, Pollard, Blakley, Baker & Vigilante, 1995; Taylor, Karlamangla, Friedman, Seeman, 2011; Taylor, Way, Welch, Hilmert, Lehman, & Eisenberg, 2006). In turn, they undermine the development of the affiliative-soothing system (Gilbert et al., 2006). Such adverse rearing experiences elevate vulnerability to physical and mental health problems, namely depression (Andrews, 2002; Gilbert, Cheung, Grandfield, Campey, & Irons, 2003; Gilbert & Gerlsma, 1999; Parker, 1983; Perris, 1994; Perris & Gilbert, 2000; Rohner, 2004; Webb, Heisler, Call, Chickering, & Colburn, 2007). In fact, when those negative experiences occur in early life, children are unable to develop secure attachments and are left in a threatened state, where safety-defensive and damage limitation behaviours are over-stimulated (Bowlby, 1969, 1973; Mikulincer & Shaver, 2005; Perry et al., 1995).

Furthermore, Gilbert (1989, 2005c, 2007a) argued that when one does not feel safe in the world, and particularly in one's social context, threat and social rank concerns guide self-other processing. So, one becomes prone to feel inferior to others and believe others perceive him/her negatively (i.e., experiencing

shame), adopting defensive submissive strategies in social relationships which, in turn, make one more vulnerable to psychopathological symptoms. Particularly, shame emerges as a response to such social threat of being an unattractive social agent, that is, as a warning signal that one exists negatively in the mind of others and thus, stands at risk of rejection, exclusion, being passed by, harmed or even persecuted (Gilbert, 1998c, 2003, 2007a). Also, shame can be internalized, being linked to the experience of the self as undesirable, worthless, inferior, and defective or flawed in some way (Kaufman, 1989; M. Lewis, 1992; Gilbert, 1998c, 2002a; Tangney & Dearing, 2002; Tangney & Fisher, 1995).

Shame experiences encompass a major threat to the (social) self and can occur early in life. According to recent research (Matos & Pinto-Gouveia, 2010), shame events may be recorded as conditioned emotional memories which function as traumatic ones, characterized by intrusion, hyperarousal and avoidance symptoms. In addition, these threat activating memories can texture the whole sense of self and become central to one's personal identity and life narrative (Pinto-Gouveia, & Matos, 2011). Besides, these memories can deeply impact on the way and with whom one engages socially (Gilbert, 2007a). In fact, these self-defining trauma memories can influence the development of negative internal working models of self and others and structure autobiographical knowledge, guiding emotional, attentional and cognitive processing (Berntsen & Rubin, 2007; Conway, 2005; Matos, Pinto-Gouveia, & Costa, 2011; Matos, Pinto-Gouveia, & Gilbert, 2012). Thus, the self is felt as defective and inferior, a target of a world experienced as a threatening and hostile place, where others may reject, criticize or harm the self. Moreover, shame traumatic central memories have been associated with shame feelings in adulthood and found to increase the impact of shame on depression (e.g., they moderate such relationship; Matos & Pinto-Gouveia, 2010, 2011a; Pinto-Gouveia & Matos, 2011).

Also, the quality of attachment relationships was found to be key in the way shame memories are structured and impact mental well being (Matos & Pinto-Gouveia, 2011a; Matos, Pinto-Gouveia, & Costa, 2011). So, when a child is shamed, neglected or fearful of withdrawal of love and support, this may over stimulate several brain pathways that mediate the threat system leading to more easily triggered and intense negative affect and defensive strategies, such as depression (Matos & Pinto-Gouveia, 2011a; Perry et al., 1995). At the same time, the affiliative-soothing system may be under stimulated in these individuals compromising physiological and emotional regulation. This makes them less able to articulate positive self (as lovable and worthy) and others (as soothing and reassuring) schema and to self-soothe when facing distress (Gilbert, 2009b; Gilbert et al., 2006).

Aims

In summary, there is considerable evidence that resilience to aversive life events is linked to positive memories of others (Atwood, 2006; Gilbert et al., 2006; Masten, 2001; Richter et al., 2009). Nevertheless, the research on the protective effects of affiliative experiences on the face of shame events has never been investigated.

So, this study set out to explore the relationship between of memories of warmth and affection and current experiences of social affiliation and connectedness to the pathogenic effects of the shame memory on depression. We hypothesise that shame traumatic and central memories would show a positive association with depression and negative with feelings of social connectedness and safeness, whereas recall feeling loved and cared for as a child would be positively linked to such positive social feelings and negatively to depressive symptoms.

Specifically, the primary aim of the current study is to test two moderator models in which it is predicted that early memories of warmth and safeness moderate the effect of, in the first moderator model, centrality of shame memory and, in the second moderator model, shame traumatic memory, on depressive symptoms. Furthermore, we aim at completing these moderator models testing the mediating effect of social safeness and pleasure on the direct effects of shame memories and affiliative positive memories and their interaction on depression. We predict that the extent to which early positive or shame memories impact on depression is further explained through their effects on current feelings of the social world as a safe and warm place.

Method

Participants and procedure

Participants in this study were 181 undergraduate and graduate students (26 men and 155 women) from the University of Coimbra. Participants mean age was 23.39 ($SD = 6.45$) with age ranging from 18 to 60. Ninety three per cent of the subjects were single ($n = 168$). The participants years of education mean was 14.67 ($SD = 1.74$). These participants were recruited as part of a larger study examining the relationship between affiliative and shame memories and psychopathology.

All participants completed a battery of self-report questionnaires, administered in the same order, at the end of a lecture after the consent of the educational institution board. In line with ethical requirements, before filling the measures it was emphasized that their co-operation was voluntary and their answers were confidential and only used for the purpose of the study.

Measures

Priming for the shame memory

Before completing the measures, participants were given a brief introduction on the concept of shame and were asked to recall a significant and stressful shame experience from their childhood or adolescence. Afterwards they were asked to briefly describe the shame event, identify who was the shamer or present in the situation and the age they were at that time. Then, they were instructed to answer the two shame memory related questionnaires based on that experience. This adjustment in the instructions has been made in other studies (Matos & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011) and it does not seem to affect the validity of this measure, since the items' content is well suited for both instructions.

Centrality of Event Scale (CES; Berntsen & Rubin, 2006; Portuguese version by Matos, Pinto-Gouveia, & Gomes, 2010) assesses the extent to which a memory for a stressful event (in this case a shame experience reported by each participant) forms a reference point for personal identity and to attribution of meaning to other experiences in a person's life. This self-report questionnaire consists of 20 items, rated on 5-point Likert scale (1-5), that measure three interdependent characteristics of a highly negative emotional event that load on to a single underlying factor: the extent to which the event is a central component of one's personal identity (e.g., "I feel that this event has become part of my identity."), is

viewed as a landmark in one's life story (e.g., "*I feel that this event has become a central part of my life story.*") and acts as a reference point for inferences and attributions in everyday life (e.g., "*This event has coloured the way I think and feel about other experiences.*"). In its original study and Portuguese version, CES showed sound psychometric properties with a high internal consistency (Cronbach $\alpha = .94$ and $.96$ respectively). Cronbach' alpha for this measure in the current study is given in Table 1.

Impact of Event Scale – Revised (IES-R) was developed by Weiss & Marmar (1997; Portuguese version by Matos, Pinto-Gouveia, & Martins, 2011). The IES-R is a self-report instrument designed to measure current subjective distress for any specific life event, and specifically in this study in relation to the shame memory described by the participants. This scale has 22 items rated on a 5-point Likert scale (0–4). The IES-R is composed by three subscales that measure the three main characteristics of traumatic memories: avoidance (e.g., "*I stayed away from reminders of it*"), intrusion (e.g., "*Any reminder brought back feelings about it*") and hyperarousal (e.g., "*I was jumpy and easily startled*") that parallel the DSM-IV criteria for PTSD. In the original study, Cronbach alphas of the subscales ranged from $.87$ to $.92$ for intrusion, $.84$ to $.86$ for avoidance and $.79$ to $.90$ for hyperarousal (Weiss & Marmar, 1997). The Portuguese version revealed a one-dimensional structure with sound psychometric properties, with a Cronbach' alpha of $.96$ (Matos, Pinto-Gouveia, & Martins, 2011). Cronbach' alpha for this measure in this study is shown in Table 1.

Early memories of warmth and safeness scale (EMWSS, Richter et al., 2009; Portuguese version by Matos, Pinto-Gouveia & Duarte, 2011d) was designed to measure personal emotional memories, specifically recall of feeling warm, safe, accepted and cared for in childhood. It comprises 21 items (e.g., '*I felt cared about*', '*I felt appreciated the way I was*' and '*I felt part of those around me*') rated on a Likert scale assessing how frequently each statement applied to the participants childhood (0 = No to 4 = Yes, most of the time). Both in its original study and in the Portuguese version, the EMWSS presented an excellent internal consistency, with a Cronbach's alpha of $.97$. Cronbach' alpha for the current study is reported in Table 1.

Social Safeness and Pleasure Scale (SSPS, Gilbert et al., 2009; Portuguese translation and adaptation by Pinto-Gouveia, Matos, & Dinis, 2008) was developed to measure the positive affects linked to experiencing one's social world as safe, warm and soothing (e.g., "*I feel content within my relationships*"; "*I feel secure and wanted*"; "*I feel a sense of warmth in my relationships with people*"). Respondents rate on a five-point Likert scale the extent to which they agree with each of the 12 statements ranging from 0 ("almost never") to 4 ("almost all the time"). In its original version, the scale presented a Cronbach' alpha of $.91$. Cronbach alpha for this subscale in this study is presented in Table 1.

Depression, Anxiety and Stress Scales (DASS-42; Lovibond & Lovibond, 1995; Portuguese version by Pais-Ribeiro, Honrado & Leal, 2004) is a self-report measure composed of 42 items and designed to assess three dimensions of psychopathological symptoms: depression, anxiety and stress. The items indicate negative emotional symptoms and are rated on a 4-point Likert scale (0-3). On the original version, Lovibond and Lovibond (1995) found the subscales to have high internal consistency (Depression subscale Cronbach's $\alpha = .91$; Anxiety subscale Cronbach's $\alpha = .84$; Stress subscale Cronbach's $\alpha = .90$). In the present study, only the Depression subscale will be considered. Cronbach alpha for this subscale in this study is shown in Table 1.

Results

Data analysis

Statistical analyses were carried out using PASW (Predictive Analytics Software, version 18, SPSS Inc., Chicago, IL, USA) for PCs and path analyses were estimated in AMOS (Analysis of Moment Structures, version 18, Amos Development Corporation, Crawfordville, FL, USA).

Two studies were conducted. The first one tested for the moderator effect of early memories of warmth and safeness on the relationship between measures of shame memories (CES, IES-R) and depressive symptoms. Two path models were examined, considering early memories of warmth and safeness to be the moderator (EMWSS). The independent (exogenous) variables were, in the first model, centrality of shame memory (CES), and in the second model shame traumatic memory (IES-R). The dependent (endogenous) variable in both models was depression (DASS-42 Depression subscale). The second study tested whether current feelings of social safeness and connectedness (SSPS) had a mediational effect on the previous model relationships.

Pearson correlation coefficients were conducted to explore the association between independent, outcome, moderator and mediator variables (Cohen, Cohen, West, & Aiken, 2003).

Three path analyses were conducted testing for the moderator and mediator effects described above. This technique is a special case of structural equation modeling (SEM) and considers hypothetic causal relations between variables that have already been defined. A Maximum Likelihood method was used to evaluate the regression coefficients significance. SEM procedure estimates the optimal effect of one set of variables on another set of variables in the same equation, controlling for error (Byrne, 2010; Kline, 2005). Multivariate outliers were screened using Mahalanobis squared distance (D^2) method (Kline, 2005). Uni and multivariate normality was assessed by skewness and kurtosis coefficients. There was no severe violation of normal distribution ($|Sk| < 3$ and $|Ku| < 8-10$; Kline, 2005).

Regarding moderation models, to reduce error associated with multicollinearity, the variables were standardized converting their raw score into z scores and then obtained the interaction product by multiplying the created variables (Kline, 2005). Furthermore, considering that both the CES and IES-R refer to the same shame memory, sharing covariance between them, two separate path analyses were performed. The significance of the direct, indirect and total effects was assessed using Z tests (Maroco, 2010). To illustrate the relationship between the independent variables (CES, IES-R) and depression with different levels of the moderator variable (EMWSS), we plotted a graphic considering one curve for each of the three levels of the moderator ($M-SD$, M , $M+SD$) (Cohen et al., 2003).

For tests of mediation, the significance of direct, indirect and total effects was assessed using χ^2 tests (Kline, 2005). Bootstrapping resampling method was further used to test the significance of the mediational path, using 1000 bootstrap samples and 95% confidence intervals (CIs; Kline, 2005).

Effects with $p < .050$ were considered statistically significant.

Shame memories phenomenology description

The phenomenology of the shame memory from childhood and adolescence was assessed concerning the 'shamer', type of shame situation and age when the situation occurred.

The majority of the participants identified themselves as the shamer in the experience (55.2%, $n = 100$), for being responsible of having a negative or devaluing personal attribute, characteristic or behaviours exposed in front of others, followed by those who reported the peers (13.3%, $n = 24$) or friends (5%, $n = 9$) as being the shamers. Twelve subjects (6.7%) reported situations where their parents shamed them and 10% of the subjects ($n = 18$) remembered situations where they were shamed by more than one type of shamer, e.g., teacher and peers, sibling and friends. Participants mean age when the shame event occurred was 11.17 ($SD = 3.53$).

When asked to describe the episode that elicited shame 55% ($n = 100$) of the participants recalled situations where they felt shame due to having had a depreciative behaviour, personal attribute or characteristic of the self exposed in front of others, 18% ($n = 32$) described situations where they criticized, put-down or teased by significant others and 13% ($n = 23$) remembered the shame situation as being related to having had their body, weight or physical appearance criticized or commented on by others. Eleven (6%) participants reported situations where they were criticized by their parents as being a shame experience, 7 (4%) described reflected shame situations (where shame emerged due to behaviour or attributes of the attachment figure) and 1 person recalled being physically abused.

Descriptives

The means, standard deviations and Cronbach' alphas of the variables studied are reported in Table 1. All scales showed high internal consistency. The means and standard deviations for these variables are similar to those obtained in previous studies (Gilbert et al., 2009; Matos & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011; Richter et al., 2009). No significant gender differences were found.

Table 1: Means (M), Standard Deviations (SD), Cronbach' alphas (α) and Intercorrelation scores on self-report measures ($N = 181$)

Measure	M	SD	α	CES	IES-R	EMWSS	SSPS
CES	41.26	17.08	.97	-			
IES-R	3.57	2.34	.94	.52	-		
EMWSS	65.91	14.72	.97	-.28	-.26	-	
SSPS	42.34	8.38	.94	-.31	-.22	.59	-
Depression	7.08	8.43	.95	.26	.26	-.26	-.36

Note. All coefficients are significant at $p < .001$. CES = Centrality of shame memories; IES-R = Shame traumatic memory; EMWSS = Early memories of warmth and safeness; SSPS = Social safeness and pleasure; Depression = DASS-42 Depression subscale.

Correlations

Table 1 shows the Pearson product-moment correlations for all variables. Centrality of shame memory and shame traumatic memory were significantly and positively correlated with each other and with depression. On the other hand, these shame memories variables were negatively associated with early memories of warmth and safeness and feelings of being connected with and cared by others. Early memories of warmth and safeness within the family correlated positively with social safeness and pleasure. These two variables were negatively related to depressive symptoms.

Path analysis

Given the previous findings and the proposed hypotheses, we intended to test whether recalls of feeling safe, nurtured and cared for within the family lessen the impact of centrality of shame memories and shame traumatic memories on depressive symptoms.

Study 1: The moderator effect of early memories of warmth and safeness on relationship between shame memory measures and depression

In the first path model (Figure 1) we tested for the moderator effect of early memories of warmth and safeness on the relationship between centrality of shame memory and depression. A fully saturated model (i.e., zero degrees of freedom) was used consisting of 14 parameters. Given that fully saturated models always produce a perfect fit to the data, model fit indices were neither examined nor reported.

All the paths considered in the model were statistically significant. Centrality of shame memory (CES) presented a direct effect of .24 ($Z = 3.200$; $p < .001$) on depression, early memories of warmth and safeness (EMWSS) presented a direct effect of $-.16$ ($Z = -2.165$; $p = .030$) and the moderation effect between the two variables was $-.16$ ($Z = -2.135$; $p = .033$).

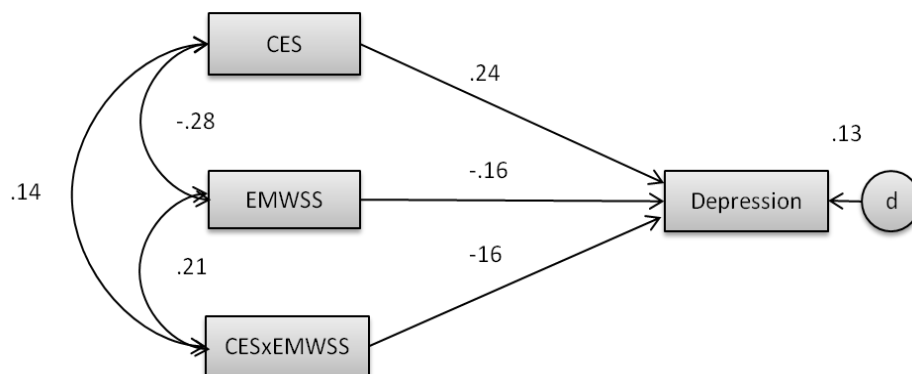


Figure 1. Results of a moderation path analysis showing the relationships among centrality of shame memory (CES), early memories of warmth and safeness (EMWSS), the interaction between the two (CESxEMWSS), and depression variables, with standardized estimates ($N = 178$).

To better understand the relation between centrality of shame memory and depression with different levels of early memories of warmth and safeness, we plotted a graphic considering one curve for each the three levels of the moderator (EMWSS) ($M-SD = -14.8084$; $M = 0$; $M+SD = 14.8084$) (Figure 2).

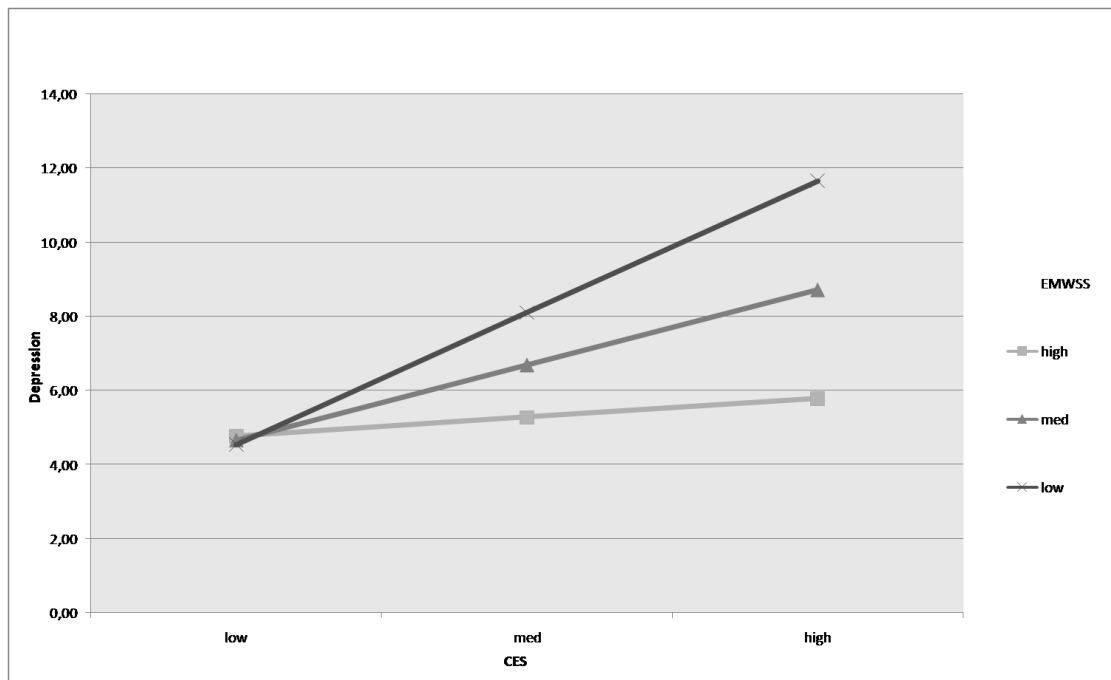


Figure 2. Graphic for the relation between centrality of shame memory (CES) and depression with different levels of early memories of warmth and safeness (EMWSS).

Results show that individuals who present low or medium levels of recall feeling safe and cared for in childhood show a positive and high relation with depression comparing to those who have high values. In this case the relation is much less expressive, suggesting that individuals with high levels of centrality of shame memory but that, simultaneously, present high levels of early memories of warmth and safeness, show only a moderate association with depression. So, amongst individuals with the same levels of centrality of shame memory, those who recall feeling nurtured and cared for the most are the one who reveal less depressive symptoms.

In the second moderator model (Figure 3), we tested for the moderator effect of early memories of warmth and safeness on the relationship between shame traumatic memory and depression. Again, a fully saturated model with 14 parameters was used. All the paths considered in the model were statistically significant with the exception of the direct effect of the interaction terms on depression ($b_{IES-R \times EMWSS} = .003$; $Z = .185$; $p = .854$; $\beta_{IES-R \times EMWSS} = .013$). Shame traumatic memory (IES-R) presented a direct effect of .20 ($Z = 2.737$; $p = .006$) on depression, early memories of warmth and safeness (EMWSS) presented a direct effect of -.21 ($Z = -2.868$; $p = .004$). Hence, there was no significant interaction of early memories of warmth and safeness and shame traumatic memory on predicting depression.

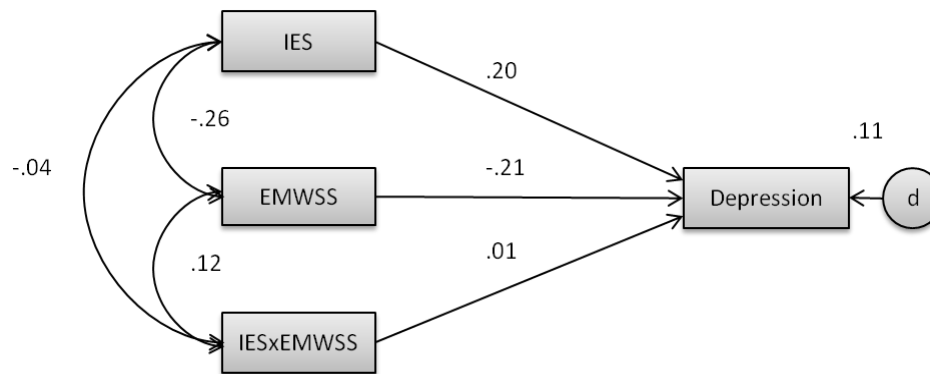


Figure 3. Results of a moderation path analysis showing the relationships among shame traumatic memory (IES-R), early memories of warmth and safeness (EMWSS), the interaction between the two (IES-RxEMWSS), and depression variables, with standardized estimates ($N = 178$).

To sum up, these results show that early memories of warmth and safeness are a moderator on the relationship between centrality of shame memory and depression, by lessening its impact. The same is to say that, in individuals whose shame memories became central to their identity, those who simultaneously recall feeling safe and nurtured in family interactions tend to present less depressive symptoms. In turn, in individuals whose shame experiences were structured as traumatic memories, their effect on depression seems to be independent and not diminished by early affiliative memories, which also have a significant independent effect on depression.

Study 2: The mediation effect social safeness and pleasure on the relationship between early memories and depression

The previous findings allowed for the test of a mediational model of social safeness and pleasure (SSPS) as a mediator on the relationship between centrality of shame traumatic memory, early memories of warmth and safeness, the interaction between these two variables and depression. The hypothesized model was tested through a fully saturated model, consisting of 18 parameters. The model explained 18% of depression variance. In this model all paths were statistically significant with the exception of the direct effect of the early memories of warmth on depression ($b_{EMWSS} = -.014$; $SE_b = .048$; $Z = -.286$; $p = .775$; $\beta_{EMWSS} = -.025$) and the direct effect of the interaction terms on social safeness and pleasure ($b_{CESxEMWSS} = .001$; $SE_b = .002$; $Z = .517$; $p = .606$; $\beta_{CESxEMWSS} = .032$). Thus, these non significant paths were removed and the model recalculated (Figure 5). In the evaluation of the adjusted model, we found a very good model fit with a non significant chi-square test [$\chi^2_{(2)} = .349$; $p = .840$]. We chose well-known and recommended goodness of fit indices to evaluate the model fit (Kline, 2005). The analysis of these indices indicated an excellent model fit (CMIN/DF = .174; CFI = 1.000; TLI = 1.060; RMSEA = .000). All the paths were statistically significant, according to the Bootstrap resampling method, and the model accounted for 17% of depression variance. Centrality of shame memory (CES) presented a total effect of .243 on depression, with a direct effect of .199 and an indirect effect, mediated by social safeness and pleasure (SSPS), of .045 (95% CI = .005 to .114). Early memories of warmth and safeness (EMWSS) had an indirect effect, fully mediated by social safeness and pleasure (SSPS), of -.153 (95% CI = -.252 to -.046) on depression. The interaction between CES and EMWSS presented a direct effect of -.154. Figure 4 presents the mediation model with regression coefficients standardized estimates and depression R^2 .

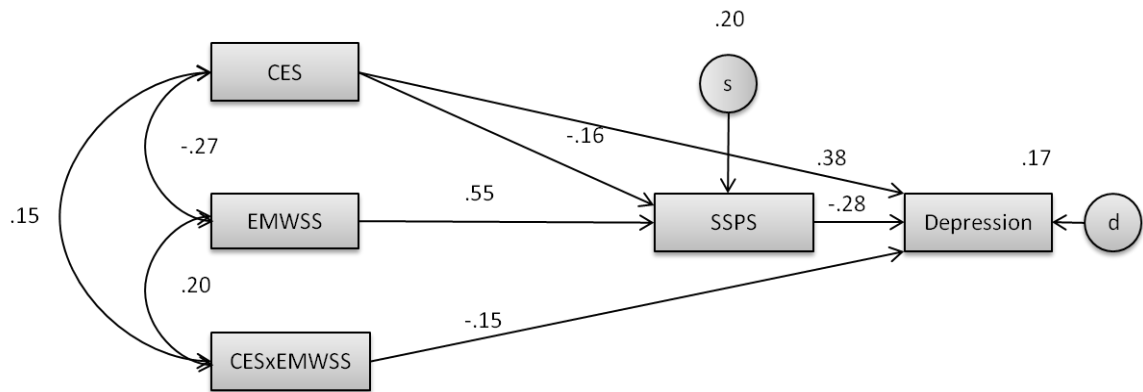


Figure 4. Results of moderation mediation path analysis showing the relationships among centrality of shame memories (CES), early memories of warmth and safeness (EMWSS), the interaction between the two (CESxEMWSS), and depression variables, having social safeness and pleasure (SSPS) as a mediator, with standardized estimates ($N = 178$).

In conclusion, these findings reveal that social safeness and pleasure fully mediates the effect of early affiliative memories on depression, and partially mediates the effect of centrality of shame memories on depression. The moderation effect between early affiliative memories and centrality of shame memories has a direct effect on depression. The same is to say that early affiliative memories impact on depressive symptoms through their influence on one's ability to feel socially safe and connected to others. In turn, the impact of shame memories that become central to one's identity on depressive symptomatology is partially explained by their influence on current feelings of the social world as a safe and warm place. Besides, these results confirm the previous analyses by showing that recall of warmth and safeness emotional experiences within the family, diminishes the impact of shame memories central to one's identity on depression.

Discussion

There is increasing evidence showing that early exposure to threats, in form of shame, neglect, abuse, are associated with increased vulnerabilities to mental health difficulties (Gilbert et al., 2003; Matos & Pinto-Gouveia, 2010; Perris, 1994; Perry et al., 1995; Schore, 1994; Taylor, 2010). In contrast, feeling safe, connected and supported in attachment and social relationships is linked to affiliative positive affects and well-being, and promotes resilience against adverse life events (Atwool, 2006; Cacioppo et al., 2000; Cacioppo & Patrick, 2008; Gilbert et al., 2009; Masten, 2001; Richter et al., 2009). Thus, this study focused on the protective effect of recalls and current experiences of feeling soothed, safe and connected with others, on the negative impact of shame memories on depression.

Consistent with theory, previous research (Gilbert, 2010; Gilbert et al., 2009; Matos & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011; Richter et al., 2009) and our hypothesis, centrality of shame memory and shame traumatic memory were positively associated with depression and negatively linked to early memories of warmth and safeness and feelings of being connected with others in adulthood. Also, we found that recall feeling loved and cared for as a child was negatively associated with depressive symptoms and positively related to positive affiliative social feelings.

Key to this investigation was to examine whether early affiliative memories would buffer the impact of shame central and traumatic memories on depression. The path moderator models revealed that early memories of warmth and safeness were a moderator on the relationship between centrality of shame memory and depressive symptoms, by lessening its impact. Hence, these findings suggest that individuals whose shame experiences become central to their personal identity and autobiographical narrative, but that, simultaneously, recall feeling nurtured and safe in the family, present lower levels of depressive symptoms. The same is to say that, in face of shame memories that reveal the same level of centrality, individuals who recall feeling nurtured and cared for are the ones who reveal less depressive symptoms. However, no moderator effect of positive emotional memories was found on the relationship between shame traumatic memories and depression. So, it seems that when shame experiences are structured as traumatic memories, their effect on depression seems to be independent and not diminished by early affiliative memories, which also have a significant independent effect on depression.

These results partially confirm our hypothesis in that only when shame memories become central to one's identity and life story, early affiliative emotional memories seem to have a buffering effect on psychopathology. However, this is not true when the same shame experiences function as traumatic memories. These data adds to previous empirical evidence on the protective role of affiliative early experiences against the negative effects of early life events (Atwool, 2006; Cacioppo et al., 2000; Cacioppo & Patrick, 2008; Gilbert et al., 2006; Masten, 2001; Richter et al., 2009).

This may be understood in light of the tripartite model of affect regulation (Depue & Morrone-Strupinsky, 2005; Gilbert, 2005a, 2009a, 2010; Wang, 2005), according to which shame memories that operate as self-defining memories, by guiding self-other processing (where the self is viewed as inferior, defective and undesirable and others as rejecting, critical or harmful; Baldwin & Dandeneau, 2005; Berntsen & Rubin, 2007), encompass a threat to the (social) self, and thus may trigger the threat system. By becoming highly accessible and integrated in autobiographical memory, shame central memories function as reference points to emotional, attentional and cognitive processing, and may further activate the threat system. This system triggers, in turn, defensive feelings (e.g., anxiety, sadness, anger) and behaviours (e.g., submission, avoidance), rendering one more vulnerable to engage in involuntary defeat responses in face of aversive life events (e.g., being rejected by a lover or for a job, feeling inferior to others because of personal qualities), where one feels defeated and/or trapped in an unwanted and low unfavourable social rank position (Gilbert, 1992; Sloman, Gilbert, & Hasey, 2003).

However, affiliative memories may work in different ways. Emotional memories where one recalls feeling safe, reassured and accepted in childhood underlie the development of the affiliative-soothing system, responsible for promoting feelings of safeness and connectedness and soothing the distressed caused by threat (Gilbert, 2009a, 2010). Notably, a central shame memory in the context of an affiliative environment, where one recalls to feel loved, cared for and nurtured as a child, which provides opportunities for reparation or re-connectedness to others, may be encoded and function differently than the shame event experienced in the context of a less affiliative and hostile environment. Hence, recall of central shame memories may have their impact buffered by being able to recall affiliative memories. Without an affiliative memory an individual is more likely to feel alone and withdraw from others, and be open to shame, which is known to involve a feeling of loneliness and inferiority (Cacioppo & Hawkley, 2009; Gilbert, 2003, 2007a).

Interestingly, when considering shame memories that act as traumatic ones, their effect on depressive symptoms is independent and not diminished by their interaction with early affiliative memories. A possible explanation for this may be linked to the phenomenology of trauma and intrusive memories, especially those that occur in the context of depression (Brewin, Gregory, Lipton, & Burgess, 2010; Ehlers & Clark, 2000; Patel,

Brewin, Wheatley, Wells, Fisher, & Myers, 2007; Reynolds & Brewin, 1999), and to recent accounts on the role of shame in post traumatic stress disorder (Brewin, Andrews, & Rose, 2000; Harman & Lee, 2010; Holmes, Grey, & Young, 2005; Lee, Scragg, & Turner, 2001). Hence, shame traumatic memories, by eliciting intrusions, flashbacks, intense reliving of emotions, hyperarousal symptoms and strong emotional avoidance, might represent an ongoing attack to one's psychological integrity, leaving one to constantly feel defective, inferior, powerless, and unattractive. This might cause a sense of current threat to one's sense of self, representing a constant triggering of the threat system, and having a direct effect on negative affect, which cannot be toned down by the affiliative-soothing system related memories.

In addition, we tested the mediating effect of feelings of social safeness and pleasure on the effects of shame and affiliative positive memories and their interaction on depression. As hypothesised, and consistent with previous findings (Gilbert et al., 2009), current social related positive affect fully mediated the effect of early affiliative memories on depression, and partially mediated the effect of centrality of shame memories on depression. This means that the protective impact of early affiliative memories on depressive symptoms operates through their influence on one's ability to feel safe with others and use social relationships as ways of soothing oneself. In turn, the impact of shame memories that become central to personal identity on depressive symptomatology is partially explained by their negative influence on current feelings of the social world as a safe and warm place. This means that those who cannot use others as agents of soothing may be more vulnerable to experience negative affect and have fewer sources of positive affect (Cassidy & Shaver, 1999; Mikulincer & Shaver, 2005) when dealing with shame recollections.

Overall, our findings illuminate the crucial role of affiliative relationships on providing the source of security and safeness that weakens the effects of early shame experiences (that become central memories to self-identity and life narrative) on generating negative affect linked to the threat system. Therefore, the quality of one's early experiences may either foster (warmth and safeness interactions) or undermine (shame experiences) one's ability to generate warmth and feel safe within social relationships using them to soothe one's distress which, in turn, determines the vulnerability to depressive symptoms.

Several clinical implications may be derived from these data. First, they suggest the importance of using specific strategies to assess (e.g., through structured clinical interviews such as the Shame Experiences Interview, Matos & Pinto-Gouveia, 2006a) and intervene on shame memories and current feelings of shame in order to lessen their impact on current symptoms. This seems to be especially pertinent when working with high shame and/or depressed patients. Compassion Focused Therapy (Gilbert, 2005a, 2009a, 2009b, 2009c, 2010) is well known to be suited for these individuals since it was specifically developed to address these issues and focuses on developing compassionate attributes and skills that enable effective affect regulation. By emphasizing the importance of early and current feelings of affiliation, safeness and closeness, for mental well-being, our findings point to the relevance of cultivating the undeveloped affiliative soothing system, promoting a self-to-self relationship based on feelings of kindness, warmth and compassion which enable the individual to tone down distress and negative affect via self-soothing. This is particularly true given that the human brain evolved to be highly sensitive to cues of warmth and affection (Belsky & Pluess, 2009; Cacioppo et al., 2000; Cacioppo & Patrick, 2008; Panksepp, 1998, 2010). So, building up and experiencing these compassionate feelings, both from the self and from others (e.g., within a supportive therapeutic relationship), and helping patients to recognize the evolved defensive function of their symptoms, may be fundamental when early shame memories become the basis for experiencing and understanding the self and translate on emotional difficulties. However, clinicians should be aware that, as argued elsewhere (Gilbert, 2010; Gilbert et al, 2006; Gilbert, McEwan, Matos, & Ravis, 2011; Matos & Pinto-Gouveia, 2011a), some patients, especially those for whom early shame experiences

function as conditioned traumatic memories, might feel frightened and uncomfortable when experiencing self-compassion and receiving compassion from others. So, dealing with these patients shame memories and developing their self-warmth and soothing abilities should be a key goal in therapy.

Our results should be interpreted considering some limitations. The first is the predominantly female student sample, which restrains the generalization of conclusions to other populations. Future studies should seek to replicate these path models using more heterogeneous and representative samples from the general community population. Also, future research could test these models in clinical samples, e.g., with depressed patients. Another limitation is the cross-sectional design of the present study which precludes robust conclusions regarding causality. Longitudinal studies using younger samples (e.g., adolescents) to test the effect of these social experiences over time should be carried out to strengthen the conclusions drawn from our data. At last, although the type of shame experiences were controlled for and confidentiality was assured, the use of self-report questionnaires to tap early memories may raise some concerns regarding the influence of current emotional states on these recollections. However, Brewin, Andrews and Gotlib (1993) argue that retrospective recall data are generally accurate and stable over time, not distorted by depressed mood. Recent research using structured interviewing methodology along with self-report measures to assess shame memories also support the reliability of these self-report data (Matos & Pinto-Gouveia, 2011a; Matos, Pinto-Gouveia & Costa, 2011).

Nonetheless, the data presented here offers tantalizing suggestions that the presence of love, approval, warmth and mirroring in early interactions and its impact on how one comes to feel socially safe and connected in adulthood has a protective effect against the pathogenic nature of aversive, harming and threatening experiences in early life to later vulnerability to psychopathology.

8 | Study X

Internalizing early memories of shame and lack of safeness and warmth: The mediating role of shame on depression

Matos, M., Pinto-Gouveia, J., & Duarte, C. (2011). Internalizing early memories of shame and lack of safeness and warmth: The mediating role of shame on depression. (*Manuscript submitted for publication in an international scientific journal with peer review*).

Internalizing early memories of shame and lack of safeness and warmth: The mediating role of shame on depression

M. Matos, J. Pinto-Gouveia, & C. Duarte

Abstract

Objectives: Even though growing theoretical and empirical evidences support the association between early memories of shame and lack of safeness and warmth and current shame feelings and depression, it is unclear whether shame serves as a mediator between such early memories and depressive symptoms. This study aimed at exploring the pathways among these variables testing whether current shame feelings (external and internal shame) would be mediators between shame traumatic memory, centrality of shame memory, early memories of warmth and safeness and depressive symptoms.

Methods: Student participants ($N = 178$) recalled an early shame experience and completed self-report instruments measuring centrality and traumatic characteristics of the shame memory, early memories of warmth and safeness, external and internal shame and depressive symptoms.

Results: Path analyses results revealed that current feelings of external shame, despite highly linked to internal shame, did not significantly predict depression. Key in this study was the finding that internal shame fully mediated the relationship between shame traumatic memory, centrality of shame memory, and early memories of warmth and safeness and depression.

Conclusions: These findings shed light on the importance of internalizing early shame and lack of safeness memories into a sense of self as globally self-condemning, key in vulnerability to experience depressive symptoms. These assumptions offer insight towards a more complex conceptual model about these relationships, which might be incorporated into already existent and evolutionary based approaches about shame and depression.

Keywords: Shame memory; Positive affiliative memories; Shame; Depression; Path analysis; Mediator effect

Practitioner Points

- Emotional memories of shame and of lack of safeness/warmth may have a detrimental effects on mental well-being, by fostering a sense of being a globally bad, flawed, inadequate person.
- Clinicians working with highly shamed patients with depressive symptomatology should carefully evaluate the quality of and address their early interactions and memories of shame experiences.
- Clinical interventions targeting shame memories could decrease current levels of internal shame and, therefore, depressive symptoms, by addressing the development of feelings of compassion, warmth and kindness directed at the self and others.
- The cross-sectional nature of this study limits our conclusions regarding causality; prospective studies are warranted.
- The college-aged and predominantly female sample weakens generalization of results to other populations.

Introduction

Human beings evolved sharing something unique to their species. Only humans, in the realm of social dynamics, can feel shame and shame others. One approach that offers important insights into the evolutionary nature of shame is the biopsychosocial approach (Gilbert, 1992, 1998c, 2002a, 2007a). This perspective is based on the notion that evolution plays a powerful role on human's proneness to be highly regulated within social relationships. In fact, evolution has shaped the human mind and brain to be extremely sensitive to signals of care and affection from others, making humans highly dependent on them from the day we are born until we die (Buss, 2003; Bowlby, 1969, 1973; Threvarthen & Aitken, 2001). The care and affection we receive will not only determine our chances of survival, but also the interaction of such inputs with our genetic potential will shape the maturation of our brain and the self we will become (Gilbert, 2007a; Gilbert & Miles, 2000a; Caspi & Moffitt, 2006; Taylor, Way, Welch, Hilmert, Lehman, & Eisenberg, 2006).

In this sense, throughout life social relationships are vital physiological and psychological regulators (Cacioppo, Berston, Sheridan, & McClintock, 2000; Carter, 1998; Cozolino, 2006; Gerhardt, 2004; Siegel, 2001). Thus, for humans, growing up with a sense of being loved, accepted, valued and chosen by others (e.g., caregivers, friends, allies, peers, lovers, superiors) for important social roles (e.g., friend, lover, team member), makes one's world safer and promotes affect regulation (Cacioppo et al., 2000; Gilbert, 2005, 2009a; Masten, 2001). In fact, the quality of these early interactions will set the bio-emotional foundation for the development of internal working models of the self (e.g., as lovable and worthy or unlovable and unworthy) and others (e.g., as soothing and reassuring or threatening and unavailable) (Baldwin, 1992, 1997; Bowlby, 1969, 1973, 1980; Gilbert, 1989, 2009a; Mikulincer & Shaver, 2005, 2007).

Ultimately, humans' innate motives to form attachment to carers (Bowlby, 1969; Cassidy & Shaver, 1999), group belonging (Baumeister & Leary, 1995), and compete for an advantageous social rank position (Gilbert, 1992, 2000a), guaranteed survival, prospering and welfare along the course of human evolution. This disposition to feel safe, to fit in and belong is related to the importance of creating positive images and affect in the mind of the others to be seen as an attractive social agent. So, for both purposes of making the social world safe and engaging others to choose in one's favour to form advantageous social roles, it is crucial to social success and survival to stimulate positive affects and beliefs about the self in the mind of others. Failure or rejections in these vital human needs make the world a dangerous place and may drastically compromise several reproductive strategies (e.g., attracting sexual partners, allies and kin support; Gilbert, 1992, 1997, 2003; Gilbert & McGuire, 1998).

Therefore, our innate unfolding motives and abilities to mature into complex social beings and to be able to co-create and navigate our self-identities to fit social ecologies are linked to the maturation of a series of cognitive competencies. These competencies for processing social information (e.g., theory of mind, mentalising, empathy; Byrne, 1995; Liotti & Gilbert, 2011) and for self-conscious awareness (Lewis, 2003; Tracy & Robins, 2004) have evolved to monitor self-in-relationship-to-others, and influence social behaviour and self-evaluation (Baldwin, 2005). These conscious and non-conscious cognitive processing systems and abilities allow one to monitor one's attractiveness for others and answer the question "What do others think and feel about me?" (Gilbert, 1998c, 2003, 2007a).

Shame occurs in the context of such competition for social attractiveness and emerges from these evolved cognitive abilities to be aware of how we exist for others. Hence, shame unfolds in our interactions with others and acts as a warning signal that we exist negatively in their minds, as someone with negative qualities (e.g., inferior, defective, inadequate), or lack of positive ones, and thus standing at risk of being rejected, excluded, passed by or even harmed or persecuted. Besides, shame has been conceptualized as one's experience of feeling inferior, worthless, inadequate, unlovable or powerless in some way, as having flaws, inadequacies exposed – as being an unattractive and undesirable self (Gilbert, 1998c, 2007a; Lewis, 1992; Lindsay-Hartz, de Rivera & Mascolo, 1995; Tangney & Dearing, 2002). Therefore, shame is a self-conscious but socially shaped emotion that is linked to threats to (social) self-identity, and plays a fundamental role in the formation of one's sense of self and self-identity as a social agent (Dearing & Tangney, 2011; Gilbert, 1998c, 2007a; Tracy, Robins, & Tangney, 2007). In addition, this emotion evolved as a strategy to keep the self safe, by evoking defensive submissive responses along with self-monitoring and self-blaming, in an attempt to de-escalate possible attacks from the shamer and restore one's image in his/her eyes (Gilbert, 1997, 1998c).

In this sense, and according to Gilbert (1992, 1998c), shame begins in the social arena and is intimately linked to how others think about and judge the self. This specific evaluation of how the self exists in the mind of the others (e.g., as an unattractive, defective, inferior, inadequate social agent) has been defined as *external shame*. In external shame one's attention is focused externally and one's behaviour might be orientated towards trying to positively influence how others see the (e.g., by appeasing, submitting or displaying desirable qualities; Gilbert, 1992, 1998c, 2002a).

In turn, shame can be internalized in that one may start shaming oneself, by perceiving and evaluating the self in the same way others have, as being worthless, inadequate, inferior, defective, rejectable and globally self-condemning (Gilbert, 1998c, 2002a; Mikulincer & Shaver, 2005). In this case shame is related to the internal dynamics of the self and to how one feels and judges oneself – *internal shame* (Gilbert, 1998c, 2002a, 2003). Here one's attention, cognitive and emotional processing are directed inwardly to flaws and shortcomings and accompanied by self-devaluations and negative feelings. In this scheme of things, it is the closeness to an unwanted, undesirable and unattractive self rather than the distance from a desirable self that is key in internal shame (Gilbert, 1992, 1997, 2002a; Lindsay-Hartz, de Rivera, & Mascolo, 1995). Thus, these negative evaluations of the self as seen through one's own eyes explain the pain of internal shame (Gilbert, 2002a, 2007a; Tracy & Robins, 2004).

The internalized shame response may be seen as one of the major defenses to (external) shame in that it involves a harsh self-blaming and self-persecutory attitude towards the self and the adoption of subordinate submissive strategies (Gilbert, 1998c, 2002a). There is, therefore, an intimate link between external and internal shame, since they both are important for social functioning and shame experiences typically involve their interaction, fueling one another.

In this sense, there is a growing body of research showing the strong link between shame, both internally and externally focused, and the development and maintenance of psychopathology, such as depressive symptoms (Alexander, Brewin, Vearnals, Wolff, & Leff, 1999; Andrews, Qian, & Valentine, 2002; Ashby, Rice, & Martin, 2006; Cheung, Gilbert & Irons, 2004; Matos & Pinto-Gouveia, 2010; Tangney & Dearing, 2002; Tangney, Stuewig, & Mashek, 2007a, 2007b; Thompson & Berenbaum, 2006; for a review, see Kim, Thibodeau, & Jorgensen, 2011).

As a social shaped and threatening experience, shame can occur early in life. In fact, a shame episode may be recorded as a conditioned emotional memory, which may operate as a threat activating memory and

reveal traumatic memory characteristics, involving intrusion, hyperarousal and avoidance symptoms (Matos & Pinto-Gouveia, 2010, 2011a). These early shame experiences can shape the entire sense of self and become central to one's identity and life story (Pinto-Gouveia, & Matos, 2011). Recently, shame memories central to personal identity and operating as traumatic memories were found to be linked to feelings of shame in adulthood and to increased vulnerability to psychopathological symptoms, such as depression, anxiety, stress or paranoia (Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Matos, Pinto-Gouveia, & Gilbert, 2012; Pinto-Gouveia, & Matos, 2011). Hence, these traumatic self-defining memories can drastically influence the formation of negative internal working models of self (e.g., as defective and inferior) and others (e.g., as agents of a threatening and hostile world, who may reject, criticize or harm the self) and structure autobiographical knowledge, guiding emotional, attentional and cognitive processing (Berntsen & Rubin, 2007; Conway, 2005; Matos, Pinto-Gouveia, & Costa, 2011; Matos, Pinto-Gouveia, & Gilbert, 2012). In addition, these memories can have a major influence on how and with whom one engages socially (Gilbert, 2007a).

Moreover, early shame interactions with attachment figures were found to be key in the way shame memories are structured and impact mental well being (Matos & Pinto-Gouveia, 2011a; Matos, Pinto-Gouveia, & Costa, 2011). So, rearing interactions characterized by shame, neglect, fear of withdrawal of love and support, may over stimulate numerous brain pathways that mediate the threat system leading to more easily triggered and intense negative affect and defensive strategies, such as depression (Matos & Pinto-Gouveia, 2011a; Perry, Pollard, Blakley, Baker, & Vigilante, 1995). Simultaneously, one's ability to feel safe, warm, connected to others, and tone down distress via self-soothing may be undermined in individuals growing up in such adverse environments (Gilbert, 2009a, 2009b; Gilbert, Baldwin, Irons, Baccus, & Palmer, 2006).

In contrast, early positive affiliative interactions, especially those unfolding within the family, where a child experiences a sense of being loved, accepted, valued and cared for, foster feelings of safeness, stimulate adaptive physiological and emotional regulation, and offer important coping resources to deal with adversity (Cacioppo et al., 2000; Gilbert, 2005a, 2010; Masten, 2001; Porges, 2003; Schore, 1994). Increasing evidence converge on the notion that memories of experiencing safeness, warmth and nurture during childhood are associated with well-being and health (Martin, 2006), heightened self-accepting and nurturing abilities, and ultimately that they protect against psychopathology, such as depression (Cacioppo et al., 2000; Cheng & Furnham, 2004; DeHart, Pelham, & Tennen, 2006; Gilbert et al., 2006; Mikulincer & Shaver, 2004; Richter, Gilbert, & McEwan, 2009; Schore, 1994, 2001).

According to evolutionary accounts of depression (Gilbert, 1992; Price, Sloman, Gardner, Gilbert, & Rohde, 1994; Sloman & Gilbert, 2003), depressive symptoms may be seen as a defensive reaction designed by natural selection to cope with certain types of adverse situations (e.g., social defeat, loss of resources). Depression corresponds to the activation of an involuntary defeat strategy, genetically preprogrammed, triggered by one's recognition of the inevitability of one's defeat in social competition. Specifically for humans, defeats are usually about being unattractive to others and thus not being chosen for advantageous social roles (i.e., shame). So it is when one feels unable to compete in the social arenas because one lacks qualities that others will value (e.g., seeing oneself as inferior, inadequate unworthy, incompetent, ugly, too fat), that defeat states may arise and lead to depressive symptoms (Gilbert, 1992, 1997; Price et al., 1994; Sloman & Gilbert, 2003; Sloman, Gilbert, & Hasey, 2003).

Although theoretical and empirical evidence support the link between early memories of shame and lack of safeness and warmth, and current feelings of shame and depressive symptoms, it remains unclear

whether such early memories are indirectly linked to depression through their impact on shame. Thus, in the present study we were interested in expanding on prior research by: i) developing a more complex conceptual model; ii) testing the mediator effect of current feelings of external and internal shame on the relationship between early shame and affiliative memories and depression; and iii) using path analyses, a more powerful statistical technique, based on structural equation modeling. It was expected that shame traumatic memory and centrality of shame memory would be associated with increased levels of internal and external shame and depressive symptoms. In contrast, we expect that early memories of warmth and safeness would predict lower levels of external and internal shame and depressive symptoms. Furthermore, we hypothesize that early shame and affiliative memories impact on depressive symptoms partially through their effect on current feelings of external and internal shame (see Figure 1).

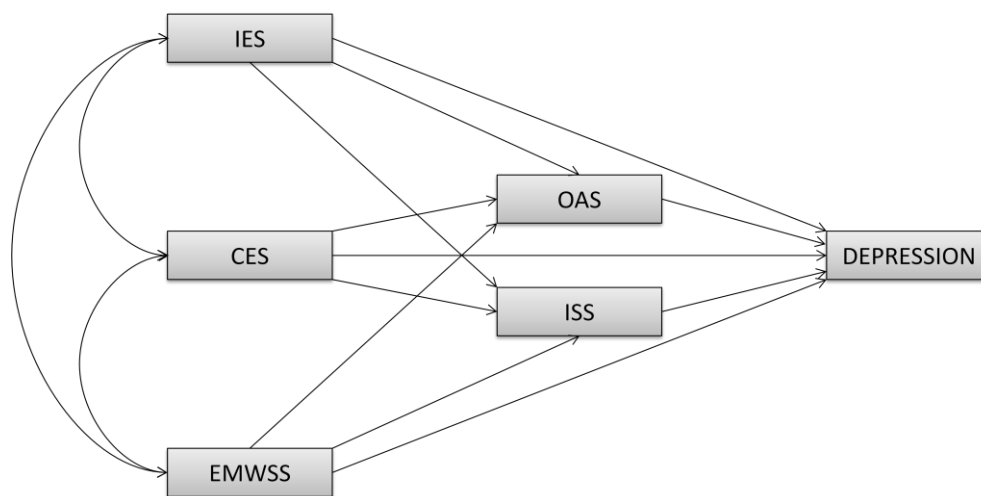


Figure 1. The theoretical model. Key: CES = Centrality of shame memories; IES-R = Shame traumatic memory; EMWSS = Early memories of warmth and safeness; OAS = External shame; ISS = Internal shame; Depression = DASS-42 Depression subscale.

Method

Participants and procedure

One hundred and seventy eight undergraduate and graduate students (26 men and 152 women) from the University of Coimbra participated in the current study. Participants age ranged from 18 to 60, with a mean of 23.42 ($SD = 6.49$). Ninety three per cent of the subjects were single ($n = 165$). The participants years of education mean was 14.67 ($SD = 1.65$). These participants were recruited as part of a more comprehensive research investigating the relationship between affiliative and shame memories and psychopathology.

A series of self-report questionnaires was completed by all participants. The instruments were administered at the end of a lecture after the consent of the educational institution board. In line with

ethical requirements, before filling the measures it was emphasized that their co-operation was voluntary and their answers were confidential and only used for the purpose of the study.

Measures

Priming for the shame memory

Before completing the shame memory' measures, participants were given a brief introduction on the concept of shame and were asked to recall a significant and stressful shame experience from their childhood or adolescence. Afterwards they were asked to briefly describe the shame event, identify who was the shamer or who was present in the situation and the age they were at that time. Then, they were instructed to answer the two shame memory related questionnaires based on that experience. This adjustment in the instructions has been made in other studies (Matos & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011) and it does not seem to affect the validity of this measure, since the items' content is well suited for both instructions.

Impact of Event Scale – Revised (IES-R; Weiss & Marmar, 1997; Portuguese version by Matos, Pinto-Gouveia, & Martins, 2011). The IES-R is a self-report instrument designed to measure current subjective distress for any specific life event, and specifically in this study in relation to the shame memory described by the participants. This scale has 22 items rated on a 5-point Likert scale (0–4). The IES-R is composed by three subscales that measure the three main characteristics of traumatic memories: avoidance (e.g., “*I stayed away from reminders of it*”), intrusion (e.g., “*Any reminder brought back feelings about it*”) and hyperarousal (e.g., “*I was jumpy and easily startled*”) that parallel the DSM-IV criteria for PTSD. In the original study, Cronbach alphas of the subscales ranged from .87 to .92 for intrusion, .84 to .86 for avoidance and .79 to .90 for hyperarousal (Weiss & Marmar, 1997). The Portuguese version revealed a one-dimensional structure with sound psychometric properties, with a Cronbach' alpha of .96 (Matos, Pinto-Gouveia, & Martins, 2011). Cronbach' alpha for this measure in this study is shown in Table 1.

Centrality of Event Scale (CES; Berntsen & Rubin, 2006; Portuguese version by Matos, Pinto-Gouveia, & Gomes, 2010) assesses the extent to which a memory for a stressful event (in this case a shame experience reported by each participant) forms a reference point for personal identity and to attribution of meaning to other experiences in a person's life. This self-report questionnaire consists of 20 items, rated on 5-point Likert scale (1-5), that measure three interdependent characteristics of a highly negative emotional event that load on to a single underlying factor: the extent to which the event is a central component of one's personal identity (e.g., “*I feel that this event has become part of my identity.*”), is viewed as a landmark in one's life story (e.g., “*I feel that this event has become a central part of my life story.*”) and acts as a reference point for inferences and attributions in everyday life (e.g., “*This event has coloured the way I think and feel about other experiences.*”). In its original study and Portuguese version, CES showed sound psychometric properties with a high internal consistency (Cronbach $\alpha = .94$ and .96 respectively). Cronbach' alpha for this measure in the current study is given in Table 1.

Early memories of warmth and safeness scale (EMWSS, Richter, Gilbert, & McEwan, 2009; Portuguese version by Matos, Pinto-Gouveia & Duarte, 2011d) was designed to measure personal emotional memories, specifically recall of feeling warm, safe, accepted and cared for in childhood. It comprises 21 items (e.g., ‘*I felt cared about*’, ‘*I felt appreciated the way I was*’ and ‘*I felt part of those around me*’) rated on a Likert scale assessing how frequently each statement applied to the participants childhood (0 = No to

4 = Yes, most of the time). Both in its original study and in the Portuguese version, the EMWSS presented an excellent internal consistency, with a Cronbach's alpha of .97. Cronbach' alpha for the current study is reported in Table 1.

Other As Shamer (OAS; Allan, Gilbert, & Goss, 1994 and Goss, Gilbert, & Allan, 1994; Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011c). This 18 item scale measures external shame (global judgements of how people think others view them). Respondents rate on a 5-point Likert scale (0–4) the frequency of their feelings and experiences, for example, “*I feel other people see me as not quite good enough*” and “*I think that other people look down on me*”. Scores can range from 0 to 72 with higher scores on this scale indicative of higher external shame. A Cronbach alpha of .92 was reported in the original study of this scale Goss et al. (1994). The Cronbach alpha for this study is given in Table 1.

Internalized Shame Scale (ISS; Cook, 1994, 2001; Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011e) comprises a 24-item measure of internal shame, consisting of negatively worded items (e.g., “*compared with other people, I feel like I somehow never measure up*”) assessing the frequency in which people experience feelings of shame and a 6-item scale consisting of positively worded items (e.g., “*all in all, I am inclined to feel that I am a success*”) assessing self-esteem. All of the items are rated on a scale of “0,” meaning “never,” to “4,” meaning “almost always.” The shame subscale items were based on phenomenological descriptions of shame feelings. In this study, only the shame subscale was used as a measure of internal shame. Previous studies (Cook, 1996) have reported test–retest correlations of .84 and .69, respectively, and have reported good convergent and divergent validity. The Cronbach alpha for this study is reported in Table 1.

Depression, Anxiety and Stress Scales (DASS-42; Lovibond & Lovibond, 1995; Portuguese version by Pais-Ribeiro, Honrado & Leal, 2004) is a self-report measure composed of 42 items and designed to assess three dimensions of psychopathological symptoms: depression, anxiety and stress. The items indicate negative emotional symptoms and are rated on a 4-point Likert scale (0-3). On the original version, Lovibond and Lovibond (1995) found the subscales to have high internal consistency (Depression subscale Cronbach's $\alpha=.91$; Anxiety subscale Cronbach's $\alpha=.84$; Stress subscale Cronbach's $\alpha=.90$). In the present study, only the Depression subscale will be considered. Cronbach alpha for this subscale in this study is shown in Table 1.

Results

Data analysis

Data analyses were conducted using PASW (PASW (Predictive Analytics Software, version 18, SPSS Inc., Chicago, IL, USA) and AMOS (Analysis of Moment Structures, version 18, Amos Development Corporation, Crawfordville, FL, USA) was used to estimate path analyses.

Pearson correlation coefficients were performed to explore the association between shame memory variables, early memories of warmth and safeness, external and internal shame and depressive symptoms (Cohen, Cohen, West & Aiken, 2003).

A mediational study was then conducted, in which we tested whether external shame (OAS) and internal shame (ISS; mediator variables) mediated the relationship between centrality of shame memory (CES)

shame traumatic memory (IES-R), early memories of warmth and safeness (EMWSS; independent, exogenous variables) and depression (DASS-42 Depression subscale; dependent, endogenous variables).

A path analysis was carried out to test for the mediator effects described above. This technique is a special case of structural equation modeling (SEM) and considers hypothetical causal relations between variables that have already been defined. A Maximum Likelihood method was used to evaluate the regression coefficients significance. SEM procedure estimates the optimal effect of one set of variables on another set of variables in the same equation, controlling for error (Byrne, 2010; Kline, 2005). Multivariate outliers were screened using Mahalanobis squared distance (D^2) method and uni and multivariate normality was assessed by skewness and kurtosis coefficients. There was no severe violation of normal distribution ($|Sk| < 3$ and $|Ku| < 8-10$; Kline, 2005). The significance of direct, indirect and total effects was assessed using χ^2 tests (Kline, 2005). Bootstrapping resampling method was further used to test the significance of the mediational paths, using 1000 bootstrap samples and 95% confidence intervals (CIs; Kline, 2005).

Effects with $p < .050$ were considered statistically significant.

Descriptives

The means, standard deviations and Cronbach' alphas of the variables studied are presented in Table 1. All scales showed high internal consistency. The means and standard deviations for these variables are similar to those obtained in previous studies (Cook, 1996; Goss et al., 1994; Matos & Pinto-Gouveia, 2010; Matos, Pinto-Gouveia & Duarte, 2011c, 2011d, 2011e; Pinto-Gouveia & Matos, 2011; Richter et al., 2009). There were no significant gender differences.

Table 1: Means (*M*), Standard Deviations (*SD*), Cronbach' alphas (α) and Intercorrelation scores on self-report measures ($N = 178$)

Measure	<i>M</i>	<i>SD</i>	α	CES	IES-R	EMWSS	OAS	ISS
CES	41.47	17.07	.96	-				
IES-R	3.59	2.34	.94	.52	-			
EMWSS	65.80	14.81	.97	-.27	-.26	-		
OAS	21.49	10.79	.93	.46	.40	-.43	-	
ISS	33.28	17.7	.95	.41	.38	-.46	.83	-
Depression	7.04	8.41	.95	..26	.26	-.27	.51	.67

Note. All coefficients are significant at $p < .001$. CES = Centrality of shame memories; IES-R = Shame traumatic memory; EMWSS = Early memories of warmth and safeness; OAS = External shame; ISS = Internal shame; Depression = DASS-42 Depression subscale.

In addition, we assessed the phenomenology of the shame memory from childhood and adolescence concerning the *type of shame episode*, the *shamer*, and participants' *age* when the situation occurred. Fifty five per cent ($n = 98$) of the participants recalled *situations* where they felt shame due to having had a negative personal attribute, behaviour or characteristic of the self exposed in front of others, 18% ($n = 32$) remembered situations where they were criticized, put-down or teased by significant others and 13% ($n = 23$) described the shame situation as being related to having had their body, weight or physical

appearance criticized or commented on by others. Ten (5.6%) participants identified situations where they were criticized by their parents, 7 (3.9%) reported reflected shame situations (i.e., where shame emerged due to behaviour or attributes of the attachment figure), 4 (2.2%) recalled situations where they felt shame due to personal habits (e.g., clothing, hygiene), 2 (1.1%) felt shame because of their family social status (e.g., being poor), and 1 (0.6%) person selected a physical abuse shame situation. Most participants identified themselves as the *shamer* in the experience (i.e., for being responsible of having a negative or devaluing personal attribute, characteristic or behaviours exposed in front of others; 55.1%, $n = 98$), 33 named their peers (13.5%) or friends (5%) as being the shamers, 11 (6.2%) identified episodes where their parents shamed them, 11 (6.2%) indicated situations where another person was the shamer (e.g., teacher), 4 (2.2%) designated other family members (e.g., siblings, cousin), 2 (1.1%) nominated strangers and 18 (10%) recalled being shamed by more than one type of shamer (e.g., teacher and peers, sibling and friends). In average, participants age in the shame memory was 11 years old ($SD = 3.53$).

Correlations

Pearson product-moment correlations for all variables are presented in Table 1. Shame traumatic memory and centrality of shame memory were significantly and positively correlated with each other and negatively associated with early memories of warmth and safeness. Both shame memory variables revealed positive moderate correlations with external and internal shame and were also positively and significantly correlated with depressive symptoms. In turn, early memories of warmth and safeness were negatively and moderately related to external and internal shame and also presented a negative significant association with depression. External shame showed a positive and moderate relation to depression whereas internal shame presented a high positive correlation with depressive symptoms. External and internal shame were highly linked to each other.

Path analysis

Taken together these findings and our hypotheses, we aimed at testing whether external and internal shame mediated the effect of centrality of shame memory, shame traumatic memory and early memories of warmth and safeness on depressive symptoms.

The hypothesized model (Figure 1) was tested through a fully saturated model (i.e., zero degrees of freedom), consisting of 30 parameters. Given that fully saturated models always produce a perfect fit to the data, model fit indices were neither examined nor reported. The model explained 45% of depression variance. In this model the following paths were not statistically significant: the direct effect of shame traumatic memory on depression ($b_{IES-R} = .103$; $SE_b = .241$; $Z = 1.427$; $p = .670$; $\beta_{IES-R} = .029$), the direct effect of centrality of shame memory on depression ($b_{CES} = -.002$; $SE_b = .034$; $Z = -.072$; $p = .942$; $\beta_{CES} = -.005$), the direct effect of early memories of warmth and safeness on depression ($b_{EMWSS} = .024$; $SE_b = .036$; $Z = .672$; $p = .502$; $\beta_{EMWSS} = .042$), and the direct effect of external shame on depression ($b_{OAS} = -.095$; $SE_b = .080$; $Z = -1.813$; $p = .237$; $\beta_{OAS} = -.121$).

For this reason, these non significant paths were removed and the model recalculated (see Figure 2). In the evaluation of the adjusted model, a very good model fit with a non significant chi-square test [$\chi^2_{(4)} = 2.126$; $p = .713$] was found. Well-known and recommended goodness of fit indices were selected to assess the model fit (Kline, 2005). The analysis of these indices indicated an excellent model fit (CMIN/DF = .531; CFI = 1.000; TLI = 1.016; NFI = .995; RMSEA = .000).

All the paths were statistically significant and the model accounted for 44% of depressive symptoms variance. The model also accounted for 33% of external shame and 32% of internal shame variances. Regarding depression, only internal shame presented a significant direct effect on depression of .67 ($b_{ISS} = .317$; $SE_b = .027$; $Z = 11.894$; $p < .001$).

Indirect mediational test results suggest that shame traumatic memory (IES-R) predicted greater depression fully through elevated feelings of internal shame (ISS) ($b_{IES-R} = .110$, 95% CI = .000 to .230). Centrality of shame memory (CES) also indirectly predicted increased depressive symptoms again through increased internal shame (ISS) ($b_{CES} = .153$, 95% CI = .034 to .252). On the contrary, higher levels of memories of warmth and safeness in childhood (EMWSS) predicted lesser levels of depression fully through diminished feelings of internal shame (ISS) ($b_{EMWSS} = -.234$; 95% CI = -.319 to -.149). Figure 2 presents the mediation model with regression coefficients standardized estimates and R^2 for depression, external and internal shame.

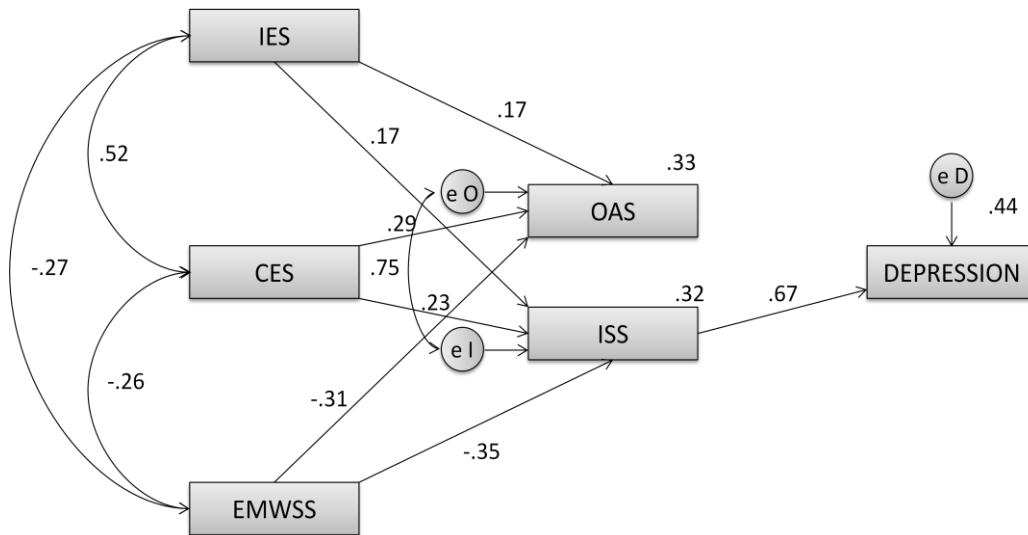


Figure 2. Results of mediation path analysis showing the relationships among shame traumatic memory (IES-R), centrality of shame memory (CES), early memories of warmth and safeness (EMWSS), external shame (OAS) and depression, having internal shame (ISS) as a mediator, with standardized estimates and square multiple correlations ($N = 178$).

In conclusion, these findings reveal that internal shame fully mediated the effects of shame traumatic memory, centrality of shame memory and early memories of warmth on depression. Contrary to our prediction, external shame neither accounted significantly for depression variance nor mediated the aforementioned associations.

Discussion

Shame has been pointed out as one of the major sources of human suffering and vulnerability factor for a range of psychopathological symptoms, such as depressive ones (see Kim et al., 2011 for a review). Increasing evidence suggests that early shame experiences that become central to personal identity and

that operate as traumatic memories are associated with increased shame feelings in adulthood and elevated vulnerability to depression (Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Pinto-Gouveia & Matos, 2011). Contrastingly, there is good empirical support for the importance of feeling safe and supported in attachment and social relationships to well-being and resilience against difficult life events (Cacioppo et al., 2000; Masten, 2001; Richter et al., 2009). Yet the question remained as to the role shame plays on the link between early shame and affiliative memories and depression. Therefore, based upon these existing evidence and theory, the present study sought out to test a mediator model, through path analyses, in which it was predicted that external and internal shame would mediate the association between shame traumatic memory, centrality of shame memory, early memories of warmth and safeness and depressive symptoms.

Consistent with prior findings (Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Pinto-Gouveia & Matos, 2011; Richter et al., 2009) and our predictions, results showed that shame traumatic memories and centrality of shame memory were associated with increased levels of external shame and internal shame. Also, as expected, early memories of warmth and safeness predicted a decrease in feelings of current external and internal shame. These findings give further support to the assumption that emotional memories of shame and of lack of safeness and warmth may influence the emergence of shame feelings in adulthood. So, individuals whose shame memories reveal traumatic memory features and function as central components of their identity and life story, tend to believe they exist negatively in the mind of the others (e.g., as inferior, worthless, inadequate) and to see and judge themselves negatively as inferior or undesirable. On the contrary, individuals who recall feeling safe, nurtured and cared for as a child, are less prone to experience a sense of self as existing negatively for others and as globally self-condemning. Therefore, these data are in line with evidence from attachment and neuroscience research (Bowlby, 1969, 1971, 1980; Cacioppo et al., 2000; Gilbert, 2007a; Mikulincer & Shaver, 2005; Siegel, 2001; Taylor, Way et al., 2006), suggesting that the quality of early interactions with significant others drastically impacts on the formation on internal working models of self and others, which, in turn, guide emotional and thought processing, and influence one's social behaviour.

In addition, the key finding in the present study is that internal shame fully mediated the relationships between shame traumatic memory, centrality of shame memory and early memories of warmth and safeness, and depression. The same is to say that the impact of shame memories, which operate as traumatic ones (e.g., with intrusion, hyperarousal and avoidance symptoms) and that become central to personal identity and life narrative, on depressive symptoms is totally through their influence on generating current feelings of the self as flawed, undesirable, inadequate or unlovable in its own eyes. Simultaneously, recalls of feeling safe and cared for as a child within the family protect against depression by their influence on lessening a sense of the self as inferior, inadequate, defective or globally bad.

Surprisingly, and contrary to our expectation, current feelings of external shame were not a significant predictor of depression nor mediated the above stated relationships. Nevertheless, external shame was highly linked to internal shame. This corroborates the idea that the pain that derives from recognizing that one's social attractiveness has declined is likely to encompass harsh self-devaluation and self-blame. At the same time, it is unlikely that the hurting affect of private depreciation arises in the absence of an awareness that others share the same negative view of the self (Gilbert, 2003, 2007a; Kim et al., 2011).

These results extend previous research (Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Matos, Pinto-Gouveia, & Duarte, 2011c, 2011e; Richter et al., 2009) and can be understood in light of the biopsychological approach of shame (Gilbert, 1998c, 2002a, 2007a) and evolutionary perspectives on depression (Gilbert, 1992; Price et al., 1994; Sloman & Gilbert, 2003). In fact, early attachment or social

interactions, characterized either by shame and threat or by the absence of safeness and affiliation, seem to be the source of shame feelings in adulthood, translating into beliefs one exists negatively in the mind of the others and into negative self-evaluations and feelings. Our data further implies that the internalization of these early shame experiences, that become structured as traumatic and central memories to one's identity and life narrative, along with the dearth of recalls of feeling safe and cared for in childhood, may lead one to see and evaluate the self the same way others have (e.g., as worthless, unlovable, unattractive, inferior) and thus compromise one's ability to articulate positive self and others schema, undermining one's emotional regulation abilities (e.g., one's ability to self-soothe when facing distress). In addition, this internalized shame response, involving feelings of being unattractive and unable to compete in the social arenas, is usually accompanied by self-blaming, self-monitoring and negative affects directed at oneself (e.g., contempt, anger, disgust). These self-devaluation and self-persecutory attitude, although aiming at defend the self against the negative evaluations and possible rejection from others, may render one more prone to enter defeat states and activate involuntary defeat strategies when facing aversive life events, and thus elevating vulnerability to experience depressive symptoms. Of note is also the buffering effect of early memories of safeness and nurturance against the emergence of a negative sense of self and the proneness to enter depressive states.

The present study provides some suggestions for clinicians intervening with patients with high levels of shame and suffering from depressive symptoms. First, our results imply the relevance of using specific strategies to evaluate these memories (e.g., through structured clinical interviews such as the Shame Experiences Interview, Matos & Pinto-Gouveia, 2006a) and that working with these individuals' shame memories may help decrease current levels of shame feelings, thus lessening current depressive symptoms. Furthermore, clinicians must keep in mind the importance of addressing and intervening in shame feelings, especially when shame memories become the foundations for experiencing and understanding the self and translate on emotional difficulties. In these cases, treatment interventions should be tailored to help patients develop compassionate attributes and skills, that is, promoting a self-to-self relationship based on feelings of compassion, warmth and kindness, which enable the individual to tone down distress and negative affect via self-soothing, facilitating effective emotional regulation. These are all key points addressed in Compassion Focused Therapy (Gilbert, 2005a, 2009a, 2009b, 2009c, 2010), that aims to help the patient build up and experience compassionate feelings, both from the self and from others (e.g., within a supportive therapeutic relationship), and help them recognize the evolved defensive function of their symptoms.

Even though these results may significantly contribute to the conceptualization of shame and its relation to early interactions with significant others and to current emotional difficulties, this study does suffer some limitations. First of all, our results reflect the responses of a college-aged and predominantly female sample. Replication of the present study with more heterogeneous and representative samples from the general community population is necessary before the findings can be generalized. Although the processes involved in shame and shame experiences may apply at a clinical or nonclinical level, the replication of the present study in clinical samples would add additional robustness to our findings. We should also note that, albeit we used path analyses, a powerful statistical technique based on structural equation modeling, these were based on correlational data, impairing the establishment of strong causal relations. To overcome this limitation, researchers might continue this line of research by conducting prospective studies using younger samples (e.g., adolescents). Finally, we assessed the type of shame experiences and confidentiality was guaranteed, but our study is mostly limited to self-report measures to evaluate early memories. Despite this may raise some concerns regarding the influence of current emotional states on these recollections, retrospective recall data were found to be generally reliable,

accurate, stable over time (Brewin, Andrews, & Gotlib, 1993; Matos, & Pinto-Gouveia, 2010, 2011a; Matos, Pinto-Gouveia & Costa, 2011).

Nevertheless, we hope that the findings presented here offer insight towards the development of a more complex conceptual model on the links between early shame and safeness memories, current shame and depressive symptoms, which can be incorporated into already existing approaches (Gilbert, 1992, 1998c, 2007a; Sloman & Gilbert, 2003).

Chapter 8

Protection against shame: Shame memories, safeness memories and feelings, shame and psychopathology

Chapter summary

This chapter explored the protective effects of affiliative memories and feelings against the detrimental effect of shame memories and shame on psychopathology. The first empirical study suggested that affiliative memories may work in different ways in protecting against the negative impact of shame memories. Whilst early memories of warmth and safeness seem to moderate the relationship between shame memories central to self-identity and depressive symptoms, by attenuating their impact, when shame memories operate as traumatic ones their effect upon depressive symptoms is not lessened by early affiliative memories of safeness and warmth. This study further revealed that the protective impact of early affiliative memories and the detrimental effect of shame memories central to personal identity on depressive symptoms seem to operate through their influence on one's current feelings of social safeness.

In addition, this chapter presented findings indicating that internal shame, but not external shame, fully mediated the relationship between shame traumatic memory, centrality of shame memory, and early memories of warmth and safeness and depression. This suggests that internalizing early shame memories and lack of safeness memories into a sense of self as globally self-condemning seems to be key in vulnerability to experience depressive symptoms.

Taken together, this chapter's studies pointed to the critical role affiliative relationships may play on fostering a sense of social safeness that seems to weaken the effects of early shame memories central to self-identity on vulnerability to depression and also on attenuating a sense of self as globally bad and thus buffering the impact of internalized shame on depression. This chapter results might be incorporated into existing evolutionary based approaches about shame, affiliation and depression.

Chapter 9

**A new tool to assess shame phenomenology:
Understanding the phenomenology of shame memories in
non-clinical and clinical populations using the Shame
Experiences Interview**

Chapter 9

A new tool to assess shame phenomenology: Understanding the phenomenology of shame memories in non-clinical and clinical populations using the Shame Experiences Interview

Chapter overview

Study XI. Early shame experiences: Toward the further understanding of shame memories phenomenology I. Studies in the general population.

Study XII. Early shame experiences: Toward the further understanding of shame memories phenomenology II. Studies in a mixed clinical sample.

Chapter summary

Chapter 9

A new tool to assess shame phenomenology: Understanding the phenomenology of shame memories in non-clinical and clinical populations using the Shame Experiences Interview

Chapter overview

This chapter drew upon the preceding studies and shame literature and research highlighting both the vital role of shame on human psychosocial functioning and the pathogenic effects shame and shame memories might have on psychopathology (e.g., Gilbert & Andrews, 1998; Gilbert & Miles, 2002; M. Lewis, 2003; Tangney & Dearing, 2002; Tracy, Robins, & Tangney, 2007). In addition, the dearth of research on the phenomenology of shame memories in clinical and non-clinical populations, the methodological limitations related to shame measurement, and the absence of an instrument that captured the richness of shame experiences' phenomenology, further encouraged the studies hereby presented. This chapter therefore explores the phenomenology of early shame experiences, involving attachment figures and involving other social agents, their traumatic, centrality and autobiographical memory properties, and relation to current emotional and psychological distress, both in a general population sample and a mixed clinical sample. Here we also present the Shame Experiences Interview, the semi-structured interview developed by us to carry out this research' aims and overcome some of the limitations associated with the measurement of shame phenomenology.

This chapter outlines several studies on the phenomenology of early shame experiences (that correspond to manuscripts in preparation for publication in peer-reviewed scientific journals) which were structured in two major empirical studies, for reasons related to the length of the present thesis.

Hence, Study XI corresponds to the first part of this research and explores the phenomenology of early shame experiences involving attachment figures and of those involving others from wider social contexts, and their traumatic, centrality and autobiographical memory characteristics in a general population sample. Furthermore, this study examines the association between certain phenomenology components of the two shame memories and their traumatic and centrality features, and investigates the accessibility of early negative and positive memories, as well as the centrality and autobiographical memory properties of an early positive memory with an attachment figure.

Study XII, the second part of this research, explores the phenomenology of early shame experiences involving attachment figures and of those involving other social agents, and their traumatic, centrality and autobiographical memory characteristics, in a mixed clinical sample. The relationship between phenomenology features of the two shame memories and their traumatic and centrality qualities is examined. Furthermore, we investigate differences between the clinical and non-clinical population on the phenomenology characteristics of the two shame memories. The accessibility of general early negative and positive memories, and the centrality and autobiographical memory properties of early positive memories with attachment figures in the mixed clinical sample are also examined. Finally, this study

explores the association between traumatic and centrality properties of the two shame memories and current shame, social comparison, and psychopathological symptoms.

In addition, this chapter' studies present the Shame Experiences Interview and evaluate its validity and utility as a semi-structured interview to assess the phenomenology of early shame experiences and memories.

9 | Study XI

Early shame experiences: Toward the further understanding of shame memories phenomenology

I. Studies in the general population

Matos, M. & Pinto-Gouveia, J. (2012). Early shame experiences: Toward the further understanding of shame memories phenomenology I. Studies in the general population. (*Manuscript in preparation for publication in an international scientific journal with peer review*).

Early shame experiences:

Toward the further understanding of shame memories phenomenology

I. Studies in the general population

M. Matos & J. Pinto-Gouveia

Abstract

Background: Even though research has emphasized the vital role shame plays in psychosocial functioning and development, and revealed shame memories are structured as traumatic and central autobiographical memories with links to psychological difficulties, the phenomenological features of shame experiences remain scarcely investigated and no measure captured their richness. The present research therefore aimed at exploring in detail the phenomenology of shame experiences recalled from childhood and adolescence and their traumatic and autobiographical memory properties in a set of four studies.

Method: The Shame Experiences Interview, a new semi-structured interview designed to assess the phenomenology of shame experiences with others and with attachment figures from childhood and adolescence, was administered to 401 participants recruited from the general community population. As part of the interview, participants also completed measures of traumatic memory characteristics, centrality of event and autobiographical memory properties. In addition, one week before the SEI, respondents filled self-report questionnaires measuring shame and psychopathology.

Results: Study I indicated that shame episodes from childhood and adolescence occurred in early interactions with others within the family and in the wider social domain, and were primarily experiences of threat to one's social attractiveness and sense of self (e.g., criticism, rejection, abuse). Such shame experiences comprised a set of cognitive, emotional, physical, behavioural and motivational components, involved several defensive coping strategies, were encoded as autobiographical trauma-like memories, interfered with the achievement of important life goals and had a significant negative, but also positive, impact on one's life. Study I revealed that the phenomenological features of shame experiences were significantly associated with the traumatic features and centrality to self-identity and life narrative of such memories. Study III established that having an early shame memory that operates as a traumatic and central autobiographical memory seems to be related to current increased levels of shame and psychological difficulties. Study IV showed that people seem to have a higher accessibility to positive emotional memories in early life than negative ones and that positive attachment memories are central to identity and show autobiographical memory properties.

Conclusion: Taken together, this set of studies provides an enriched understanding of the multifaceted nature of shame experiences and the impact of their phenomenology features on traumatic and centrality qualities of shame memories, and might entail important theoretical, research and clinical implications.

Keywords: Shame; Phenomenology; Traumatic memory; Autobiographical memory; Shame Experiences Interview

Introduction

Shame is an emotional experience endemic to the human condition and represents one of the most powerful, painful and potentially destructive affects we can experience. Inevitably, all of us will experience shame through the course of our lives and, although shame plays a vital role in psychosocial functioning and development (Gilbert, 1997, 2007a, 2007c; Gilbert & McGuire, 1998; Tangney & Dearing, 2002), it can have profound detrimental effects on mental health and social relationships (Gilbert, 1998c, 2002a, 2007a; Kaufman, 1989; M. Lewis, 2003; Nathanson, 1994; Tangney & Dearing, 2002).

In the last decades we have witnessed a dramatic growth in the theoretical and empirical literature on shame and its relation to clinical and interpersonal variables (Gilbert, 1997, 2007a; Gilbert & McGuire, 1998; Kaufman, 1989; H.B. Lewis, 1971, 1987; M. Lewis, 1992, 2003; Nathanson, 1987, 1994; Scheff, 1994; Tomkins, 1963; Tangney & Dearing, 2002). However, the phenomenological features of this emotional experience remain scarcely investigated. The aim of this research is thus to explore the phenomenology of shame experiences, especially of those that take place early in life, as in childhood or adolescence.

Shame has been defined as a self-conscious emotion related to a sense of the self as globally bad and of social unattractiveness, textured by feelings of inferiority, powerlessness, defectiveness and inadequacy (Gilbert, 1998c, 2003; Kaufman, 1989; H.B. Lewis, 1971; Tangney & Fisher, 1995; Tracy & Robins, 2004). Even though it is often a private experience that involves 'the self evaluating the self' in a negative manner (Tangney & Dearing, 2002; Tracy & Robins, 2004), shame is at its core the experience of the self as flawed and undesirable in the eyes of the others (Gilbert, 1997, 1998c, 2003), of having negative aspects of self exposed (M. Lewis, 1992, 2003).

The evolutionary psychology approach

From an evolutionary psychology perspective, shame is a genetically prewired emotion that enhances humans' chances of survival and inclusive fitness (Buss, 2003; Gilbert, 1997, 1998; Gilbert & McGuire, 1998; Keltner & Harker, 1998). In light of Gilbert's evolutionary biopsychosocial approach (1998, 1998, 2007a), shame is related to human self-consciousness and rooted in the competitive dynamics of life linked to social standing and social reputation. Humans evolved as highly social mammals whose physiological and psychological states are regulated through social relationships (Baumeister & Leary, 1995; Bowlby, 1969; Buss, 2003; Cozolino, 2006; Gerhardt, 2004; Gilbert, 1989; Schore, 1994; Siegel, 2001). In this sense, we not only seek out and require care, support and help from others, but also seek acceptance and approval, to be attractive in the eyes of the others so we will be chosen for advantageous social roles (e.g., as sexual partners, friends, team members, employees). Social competition in humans is often about competing to be liked, approved, valued by others, to be seen as an *attractive* social agent (Gilbert, 1997, 2003). Thus, from the earlier days of life, humans seek to stimulate positive affect in the minds of the others about the self (i.e., to be valued, and seen as a talented, deserving and desirable individual; Barkow, 1989; Gilbert, 1989), and avoid generating negative affect which might lead to attacks, rejection, or loss of care and support from others. So, shame results from a perceived loss of social attractiveness, that is, from perceptions that others see the self as undesirable, bad or disgusting, alerting individuals to threats to their social status, reputation and sense of self (Gilbert, 1997, 1998c, 2007a).

As a self-conscious emotion, shame is relatively new on the evolutionary stage and develops later in life than primary emotions, since it depends on various unfolding competencies for social understanding (e.g., symbolic self-other representations, Sedikides & Skowronski, 1997; theory of mind, Byrne, 1995; metacognition, Wells, 2000; mentalising, Liotti & Gilbert, 2011) and self-conscious awareness (M. Lewis, 2003; Tracy & Robins, 2004). These competencies for a sense/construction of self as a social agent evolved to make us sensitive, focused and responsive to what others think and feel about us and begin to develop around two years of age (Gilbert, 2003; M. Lewis, 1992; Tangney & Fisher, 1995).

Hence, threats to the self as social agent (e.g., rejection, criticism) can recruit negative primary defensive emotions (e.g., anger, anxiety, disgust) and decrease positive emotions. These basic emotions blend with the socially orchestrated cognitive competencies giving rise to self-conscious emotions, such as shame. The experience of shame is then textured by these primary emotions, in that it can be infused with anxiety, anger and/or disgust (Gilbert, 1998c; Kaufman, 1989; Nathanson, 1994; Tomkins, 1987). This makes shame a rich and multifaceted experience that varies in form amongst people (e.g., some individuals might feel more anxious, others more angry and others may feel contempt or disgust; Gilbert, 1998c, 2002a, 2007a).

Moreover, basic defensive responses (fight, flight, submission, avoidance) can be automatically triggered in self-defense. In the shame response, earlier types of defense and nonverbal behaviour (e.g., gaze avoidance, head down, hiding) are orchestrated by self-conscious competencies (e.g., activating self-monitoring and self-blaming), and aim at de-escalating possible attacks from others, minimizing the possible consequences of rejection and mitigating damage to one's social status, and thus keep the self safe (Gilbert, 1997, 1998c, 2007c).

Shame is then a social but inner experience of the self as an unattractive social agent, an undesirable self, under pressure to limit possible damage to one's social status and sense of self via escape or appeasement (Gilbert, 1998c; Gilbert & McGuire, 1998).

The experience of shame

Shame is therefore a multifaceted experience that involves social, cognitive, affective, behavioural, physiological and cultural components (Gilbert, 2002a, 2006a, 2007c).

a) The *social and externally focused cognitive component* refers to the type of shame that is focused on what others think about the self (in contrast to what the self thinks about the self) and has been labelled *external shame* (Gilbert, 1998c, 2003). Shame affects are typically elicited in social contexts and begin with an experience of an actual or imagined self in the mind of 'the other'. External shame is linked to automatic thoughts that others see the self as inferior, bad, inadequate, different, flawed; that is, others are looking down on the self with a contemptuous or condemning view and will disengage or harm the self. One's attention and cognitive processing are attuned outwardly, to what is going on in the mind of the other about the self, and one's emotional reaction to such perceptions (e.g., with fear or anger) influences the full shame response.

b) An *internal self-evaluative component* relates to the global negative self-evaluations of oneself as bad, inferior, inadequate, different, defective or flawed, that are associated with shame (Tangney & Dearing, 2002; Tangney & Fisher, 1997; Tracy, Robins & Tangney, 2007). Shame involves negative automatic

thoughts about the self, which can take the form of self-criticism and self-attacking thoughts (e.g., 'I am worthless, bad, useless, a failure, ugly') and represent self-devaluations and internally shaming thoughts (Gilbert, 2002c, 2003). This has been referred to as *internal shame*, which corresponds to the internalization of shame where one may begin to identify with the mind of the other and engage in negative self-evaluations and feelings, for purposes of restoring one's image and protect the self against rejection or attacks from others (Gilbert, 1998c, 2003; Gilbert & Irons, 2009). Internal shame is when one experiences the self as globally flawed, inadequate, unattractive, undesired or bad, with one's attention and processing directed inwardly, to the inner landscapes of the self (e.g., emotions, personal characteristic, behaviour; Gilbert, 2003, 2007a; Gilbert & Irons, 2009; Tangney & Dearing, 2002). Typically, shame experiences involve both externally and internally focused shame, fueling each other. Still, proneness to experience one type rather than the other in a given shame episode may vary according to factors such as early history of shaming experiences or the developmental period.

c) The *emotional component* corresponds to the various emotions and feelings recruited in shame. As mentioned above, these emotions are rooted in the threat-defense system and include anxiety, anger, disgust and self-contempt. *Anxiety* is central to the shame experience, which involves an acute arousal or fear of being exposed, scrutinized and judged negatively by others. Shame episodes can have a panic-like quality (H.B. Lewis, 1987), involving involuntary primitive defense reactions, such as intense anxiety, mind going blank, heart racing, wanting to hide, disappear and flee (Gilbert, 1998c).

Anger is related to the fight defensive response and can be directed at the self and/or at the others in a shame episode (Gilbert, 1989, 1998c). Shame related anger may arise from threats to a social bond (Kaufman, 1989; H.B. Lewis, 1987) and can involve the expression of aggression and defensive fight or be inhibited and arrested, due to self-identity concerns (anger is shameful or bad), fear of others' response, or wanting to protect others (Gilbert, 1998c, 2007c). Anger is closely linked to feelings of humiliation. The *humiliation* response is focused on the other as bad with desires of revenge and arises with anger as an automatic defense to a put-down (Gilbert, 1998c). Although both shame and humiliation focus on harm done to the self, in humiliation one feels overwhelmed and severely defeated and believes they do not deserve the harsh treatment given to them, whereas in shame there is usually a sense of damaged self and of blame-worthiness. Studies have found shame to be associated with anger to self and others, and such shame can be ruminative and destructive (Gilbert & Miles, 2000b; Tangney, Wagner, Hill-Barlow, Marschall, & Gramzow, 1996; Stuewig, Tangney, Heigel, Harty, & McCloskey, 2010).

An emotion closely linked to anger is *frustration*. Frustration is an aversive state, associated with increased arousal and anger, triggered in response to losing control over something a person wants and whose function is to increase effort (Gilbert, 2007c). Frustration may also be related to shame, since a person may feel frustrated over not being able to get what he/she wants due to personal inadequacies or flaws. In such cases frustration may bind with self-directed anger and depressed feelings.

Another basic emotion linked to shame is *disgust*, which can be focused in the self and/or in the other. Disgust is an affect that warns contamination and triggers avoidance and expulsion/destruction of noxious agents (e.g., vomiting reflex; Gilbert, 1992, 1998c), and self-disgust has been considered to underpin shame (Power & Dalgliesh, 1997). Shame-related disgust is commonly focused on some aspect of the body and/or the self, is felt to be internal and is accompanied with desires to cleanse oneself, expel, destroy or get rid of parts of the self (Gilbert & Irons, 2004). Sexual abuse is thought to be linked to disgust-shame (Andrews, 1998). (Self-)Contempt is related to disgust but the focus is on being very low rank (e.g.,

'pathetic'). Self-directed disgust and contempt are associated with self-hatred (Gilbert, Clarke, Kempel, Miles, & Irons, 2004).

Guilt is another powerful human emotion (Baumeister, Stillwell & Heatherton, 1994) which, despite often confused with shame, is a distinct psychological process. Guilt, unlike shame, focuses on harm done to others, and sometimes the self, and typically the focus is on specific behaviours rather than global evaluations of the self as 'bad and flawed'. It involves tension, regret and remorse and motivates desires to repair and atone for harm done rather than hiding, concealing and running away, as in the case of shame. Furthermore, whereas in shame others are perceived as more powerful and capable of rejecting the self, in guilt it is the self who has used his/her power unwisely to hurt others. So, shame is about blame and guilt about responsibility. In addition, shame has consistently been found to be much more maladaptive and associated with psychopathology than guilt (Gilbert, Pehl, & Allan, 1994; Tangney & Dearing, 2002; see Kim, Thibodeau & Jorgensen, 2011, for a review). However, shame and guilt can co-exist, for instance when one's harmful behaviour becomes known to another, making the self an object of rejection, put-down and scorn.

Another emotion that can be present in a shame experience is *envy*. *Envy*, like shame, arises from negative self-other comparisons, where one feels others are better than oneself and the self is different from others and less than others in some way (Gilbert, 2003; Parrot & Smith, 1993; Smith & Kim, 2007). Envy involves feeling inferior to the envied, longing and resentment and acknowledging envy can be shameful, as it tends to be a disapproved emotion (Parrot & Smith, 1993). Envy-related shame can be linked to aggressiveness, since shame can be a source of envious attacks and being the recipient of an envious attack can be shaming (Gilbert, 1992).

Shame has also been associated with the sudden loss or interruption of positive affect (Kaufman, 1989; Nathanson, 1994; Tomkins, 1987). The affect of shame can be linked to feelings of diminishment and (social) loss/defeat and thus can involve feelings of *sadness*. Feelings of *indignity/loss of dignity* may also be part of the emotional experience of shame (Gilbert, 1998c), which in anthropological literature has been linked to themes of (dis)honour (Lindisfarne, 1998).

Hence, shame often binds and fuses with other emotions, conferring different textures to how shame is experienced, as it varies significantly between individuals and across situations. These different emotional textures in the self-experience (e.g., there are subtle differences between feeling an 'inadequate' or 'flawed' self and a 'contemptible' or 'horrible' self) can have important implications to the pathogenic nature of shame and associated symptomatology, and may require distinct treatment interventions (Gilbert & Irons, 2005).

Another aspect related to the shame response that is linked to the emotional dimension of shame and that precedes the behavioural reactions is *attention*. Attention can be internally focused on the self (i.e., internal shame, private self-consciousness) and/or externally oriented to what others think and feel about the self (i.e., external shame, public self-consciousness; Gilbert, 1998c; Gibbons, 1990). However, attention mechanisms and arousal control systems involved in social threats are complex (Heinrichs & Hoffman, 2001) and shame affects can be triggered before becoming conscious to the individual (Baldwin & Fergusson, 2001). Also, once an emotion is activated (which can be shame, anger, anxiety and so forth) it affects subsequent processing. Lerner and Keltner (2001) called this 'appraisal tendency', in that appraisals are guided by aroused affect. So, basic defense processing systems can organize response dispositions below the level of consciousness (Gilbert, 2002a; McNally, 2001).

d) The *behavioural component* involves the defensive behaviours that are automatically triggered in response to the threat to the (social) self that shame embodies. Such threats to one's social attractiveness and loss of positive social rewards recruit and operate through fast-track limbic centred processes and responses that automatically trigger a set of innate defensive responses (e.g., emotions and behaviours), which can be experienced and expressed before one being consciously aware of them (Baldwin & Fergusson, 2001; Gilbert, 1998b, 2001b, 2006a; LeDoux, 1998; Panksepp, 1998, 2010; Tracy & Matsumoto, 2008). In general, shame is accompanied by a strong urge not to be seen, to hide, to avoid exposure and/or run away (Gilbert, 1998c, 2002a; M. Lewis, 1992; Tangney & Dearing, 2002). Shame is marked by distinct displays from that of similar emotions (e.g., embarrassment, guilt), which comprise a set of nonverbal communicative behaviours, including gaze, face/facial expression, posture, bodily/physical sensations, behaviour and action tendencies (Keltner, 1995; Keltner & Buswell, 1996; Keltner & Harker, 1998; Tracy & Matsumoto, 2008).

In a review of observational, self-report, shame-proneness and judgment studies, Keltner and Harker (1998) identified a consistent portrait of behavioural expressions involved in shame. Nonverbal signals of shame regarding *gaze* and *facial expression* entail averted, downward eye gaze, head movements down, lowered mouth corners, blushing and embarrassed smile and frown (although these last two were also observed in other emotions' displays and seem to be more linked to embarrassment than shame; Keltner, 1995). In terms of *postural expression*, the experience of shame involves closed and avoidant body posture (i.e., head down, slumped shoulders, hands down, arms crossed or close to body, or arms or hands in front of face), body collapse, folding in of the body, shrinking and high tension. Shame is characterized by *physical sensations* of increased bodily temperature, reduced physiological arousal, feeling sick to stomach, although participants also reported sensations of increase in heart rate and general arousal. Other physical sensations reported in shame-related situations were feeling small or shrinking in size, weak and inhibited. In terms of actual *motor behaviour*, shame typically involves avoidance, such as moving away from others or withdrawing from the situation, and general behavioural inhibition. *Verbal expression* of shame is limited or inexistent (i.e., people become or remain silent), although sometimes people may make negative self-evaluative statements (Lewis, Alessandri & Sullivan, 1992) or apologize when feeling ashamed (Miller & Tangney, 1994). Additionally, people report attempting to hide or control their shame. As to *action tendencies*, people usually express a desire to hide, escape from the situation, and/or become invisible and conceal the 'defective' self from social scrutiny, while some also describe wishes to redo the situation and make amends.

These behavioural displays of shame seem to be linked to a rapid onset of a basic submissive/flight defensive response (similar to the displays that denote submission in primates) and signal submission and withdrawal by making individuals appear smaller and non threatening to the mind of the dominant other, and communicate retreat, surrender and appeasement (Darwin, 1872; Ekman, 1992; Gilbert 1997; Keltner, 1995; Keltner & Harker, 1998). Such shame displays then seem to serve appeasement functions, aimed at de-escalating or escaping from social conflict and restoring social relationships, by reducing aggression and attacks and evoking social approach (e.g., forgiveness, social reconciliation, cooperation) in the interaction partner(s) (Fessler, 2007; Gilbert & McGuire, 1998; Keltner & Harker, 1998; Keltner, Young & Buswell, 1997; MacLean, 1990). Thus, the experience of shame can be seen as an involuntary submissive response in the face of social threat, operating as a damage limitation strategy to keep the self safe from attacks and rejection and maintain social cohesion (Gilbert, 2000a; Gilbert & McGuire, 1998; MacLean, 1990).

Even though shame responses tend to be ones of submissive defensive reactions and flight (escape avoidance), when anger is the emotion elicited in shame situations, one may experience feelings of humiliation accompanied by high physiological arousal, and strong desires to gain revenge or retaliate against the one who is 'exposing' the self as bad, inferior or weak, even if these aggressive tendencies are inhibited (Gilbert, 2006a; Retzinger, 1991; Tangney & Dearing, 2002). Defensive fight, aggression and hostility in shame encounters may be related to the activation of a basic fight defensive response (counter-attacking) to the loss of status directed at defending and re-empowering the self (Gilbert, 1997, 2001b; Keltner & Harker, 1998). In addition, shame responses routed in the threat of being an unattractive social agent can activate other defensive behaviours, as short or long term demobilization (e.g., freeze-faint sensations, feelings of inner deflation, dejection, possibly linked to a parasympathetic response), or help-seeking (Gilbert, 1992, 2002a).

In short, shame displays involve a pattern of innate defensive responses to threats or losses of social attractiveness, that represent blends of earlier types of defense (flight, submit, fight) and bestow richness and complexity to the experience of shame (Gilbert, 2002a; Gilbert & McGuire, 1998).

e) The *physiological component* relates to the stress response that shame has been linked to (Dickerson, 2010; Dickerson & Kemeny, 2004; Gilbert, 2002a; Gruenewald, Dickerson & Kemeny, 2007). In cases where the behavioural profile is of disengagement and inhibition, shame may involve increased parasympathetic activity (Schore, 1994, 2001). Recently, research by Dickerson and colleagues suggested that shame orchestrates specific patterns of psychobiological changes in response to threats to the social self. Specifically, the combination of a social evaluative threat and uncontrollability (i.e., a shame experience) is associated with the highest cortisol and adrenocorticotropin hormone changes, with the longest recovery times (Dickerson & Kemeny, 2004). In a series of studies, Dickerson and colleagues further demonstrated that acute threats to the social self increase proinflammatory cytokine activity and cortisol, and these changes occur in concert with increases in shame. Also, shame seems to have specific immunological correlates, with disease-relevant immunological and health outcomes being predicted by chronic social threats and persistent shame-related cognitive and affective states (Dickerson, Gruenewald & Kemeny, 2004; Dickerson, Kemeny, Aziz, Kim, & Fahey, 2004; Gruenewald, Kemeny, Aziz, & Fahey, 2004). These psychobiological responses to social threat may have important benefits under certain contexts, such as to provide a signaling function for detection of social threats, initiate biological processes to adequately respond to the threat, support behavioural patterns of submission and disengagement. Yet, prolonged and chronic experiences of threat to the social self (i.e., shame) may have detrimental mental and physical health consequences (Dickerson, Gruenewald, & Kemeny, 2009; Gruenewald, Dickerson & Kemeny, 2007).

In addition, current social neuroscience research has found that the experience of social rejection and exclusion (i.e., social pain), closely linked to shame, actually 'hurts', as it is processed by some of the same neural regions that process physical pain (Eisenberger, Lieberman, & Williams, 2003; Eisenberger & Lieberman, 2004, 2005; MacDonald & Leary, 2005). This fits with idea that social rejection and exclusion, in other words shame, represent threats to survival, and thus feeling "hurt" by these experiences may be an adaptive way to prevent them (Eisenberger, 2011).

It is important to note that, to the extent that shame experiences may be infused with other emotions (e.g., anxiety, anger, disgust), the physiology of shame may be affected by the different sympathetic and parasympathetic systems, hormonal and neuronal correlates underlying those affect combinations.

f) Finally, the *cultural component* of shame is linked to the way social and cultural contexts shape how reputations are made or lost, what is considered attractive and acceptable to belong to a group and what is undesirable and shameful. Cultural values define what is shaming and worthy of stigma according to what is perceived as threats to the social order (Fessler, 2007; Gilbert, 2003; Kaufman, 1989; Leeming & Boyle, 2004); and shame is usually linked to narratives of (dis)honour in anthropological writings (Lindisfarne, 1998). So, shame and honour systems vary greatly between cultures and societies (e.g., gender identities, body shape-size, sexuality) and are key processes in social regulation/control. Processes of social threat, shaming and responses to being shamed socially texture and choreograph a variety of cultural, social and political domains, going far beyond their impact on the individual (Gilbert, 2003, 2007a). Noteworthy, in cultures where shame and honour systems are closely tied to the behaviours of one's associates, issues of *reflected shame* become relevant. Reflected shame is related to the shame others can bring on you by your association with them and shame you may bring to others (e.g., my family's or group's behaviour or attributes can shame me and my behaviour or attributes can shame them; Gilbert, 2007a).

In brief, phenomenology of shame involves a complex set of feelings, cognitions, behaviours and tendencies, whose precise complexion can differ from person to person, with prominent implications to how shame is experienced, encoded and retrieved and how it comes to be pathogenic. To date, however, no study has examined in the detail this set of shame-defining features. Existing studies tend to focus on specific components of shame, such as emotions, cognitions or behaviours, and to distinguish it from other self-conscious emotions (e.g., Gilbert et al., 1994; Keltner, 1995; Lindsay-Hartz, de Rivera, & Mascolo, 1995; Tangney, Miller, Flicker, & Barlow, 1996), instead of focusing on the shame experience as a whole.

Shame threats

Shame can be triggered by various interpersonal threats, such as being criticized by a parent, bullied by peers, rejected by a lover, failing at something important, being neglected, sexually or physically abused. These correspond to two major types of social threat related to exclusion and intrusion (Dugnan, Trower, & Gilbert, 2002). In *threats of exclusion*, shame is focused on displays that fail to impress others and/or on deficits of the self (in comparison to others; can trigger self-criticism and self-blame). It is related to feeling that one is rarely noticed or wanted and others are too distant, and to experiences such as being actively rejected or passively ignored (Gilbert, 2007a, 2010). In *threats of intrusion*, shame is related to intrusions of others into one's private world and one can feel powerless to stop or defend against them and is rendered small, powerless and frightened. Others can get too close and hurt the self (e.g., verbal, physical or sexual abuse) or one may not want to be seen and fears the exposure of one's negative attributes (Gilbert, 2007a, 2010; M. Lewis, 1992). Although distinct, these types of shame 'fears' are not mutually exclusive and texture how shame is experienced and how one copes with shame.

Coping with shame

While some may be able to tolerate shame feelings to some degree, others may find it intolerable and will engage in defensive behaviours, for example, to avoid shame eliciting situations or shame feelings. There are in fact several coping strategies that can be used to deal with shame after a shame encounter, which

involve both basic defensive behaviours and other human coping behaviours (Gilbert, 2002a). Nathanson (1994) proposed four possible defensive reactions to the experience of shame affect and cognitions: Withdraw, Attack Self, Avoidance and Attack Others. Gilbert (1998c, 2002a) further suggested that the same defensive behaviours automatically triggered in a shame encounter can be used to cope with shame.

Therefore, the host of defensive coping behaviours and damage limitation strategies (e.g., also called safety behaviours, see Clark & Wells, 1995 and Clark, 2001) to deal with shame include: attempts to withdraw from others, escape or avoid shame-eliciting situations (*flight/escape*); exhibit submissive displays (*submission*); avoid to be seen (*hiding*); conceal the self and one's inner feelings and shame (*camouflage*); hostility, aggression and attacks directed at others (*defensive fight*); disengagement from others and demobilization in shame evoking situations (*demobilization*); and reassurance seeking (*help-seeking*); which might be inhibited due to fear of further shame, MacDonald, 1998; Gilbert, 1998c, 2002a). People may also engage in efforts to repair and restore self and social images (e.g., as attractive, desirable) and positively influence how others see the self (e.g., displaying desirable qualities, try to please others; *reparation*). Others might try to make up for or prove the self as good and able and aim at reaching high standards, striving and competing to avoid inferiority (*compensation/striving*; Gilbert, 1989, 1998c; Gilbert, McEwan, Bellew, Mills, & Gale, 2009). *Self-criticism* and self-blame may function as a safety/defensive strategy to shame, when it is safer to blame the self than being angry at others, linked to efforts to calm the self and the other, control one's outputs/behaviours and avoid further attacks and rejection from the others (Gilbert, 2007c; Gilbert et al., 2004). *Self-harm* can be used for emotional and physiological regulation of shame, distracting attention from internal painful shame-related feelings (e.g., anger, frustration, disgust) and memories, and communicate distress and elicit care from others (Gilbert & Irons, 2005; Gilbert et al., 2010). A more adaptive approach to shame may involve the acknowledgment and *acceptance* of one's shame and inner flaws, with a compassionate attitude towards the self (Gilbert, 2007c; Gilbert & Irons, 2005).

In addition, when there is a threat to one's social attractiveness, people may use problem-focused coping (e.g., try to manage the things they are ashamed about, such as school grades, body appearance) and emotion-focused coping (e.g., efforts to control emotional expression and automatic defensive behaviours, since expressing too much anxiety or anger can be shaming and damage self-identity and social reputation; Gilbert, 2001b). In emotion-focused coping efforts to deal with the powerful emotions related to shame include using *alcohol or drugs*, *suppression/emotional avoidance*, *denial* or *dissociation* (Gilbert, 2002a; Nathanson, 1994). *Rumination* is another relevant post-event aspect of shame, which can have detrimental effects on stress arousal, mood and activation of negative self-schema (Gilbert, 2007c).

Nonetheless, coping related to shame and its impact on how shame episodes are encoded in autobiographical memory remain scarcely investigated.

Early shame experiences and shame memories

Shame and shaming are common experiences that permeate our lives and can leave deep scars and fears in the self. From childhood and throughout life, shame experiences occur in specific interactions within the family environment or in wider social groups (Gilbert, 1998c, 2002a, 2007a). Early episodes of shame take place in adverse rearing interactions within the family, in the form of parental criticism, put-down, rejection, high parental expectations, sibling favouritism (Gilbert, Allan, & Goss, 1996; Gilbert & Gerlsma, 1999; Mills, 2005; Tangney & Dearing, 2002; Wyatt & Gilbert, 1998); high expressed emotion within the

family (Wearden, TARRIER, Barrowclough, Zastowny & Rahil, 2000); neglect (Claesson & Sohlberg, 2002) and emotional maltreatment (Gibb, Abramson, & Alloy, 2004); feeling threatened and submissive (Gilbert, Cheung, Grandfield, Campey, & Irons, 2003); and verbal, physical and sexual abuse (Andrews, 2002; Andrews & Hunter, 1997; Gibb, Chelminski, & Zimmerman, 2007; Feiring, Taska, & Lewis, 2002; Stuewig & McCloskey, 2005; Teicher, Samson, Polcari, & McGreenery, 2006), all of which have been found to increase vulnerability to psychopathology. With the transition into adolescence, the social world focus shifts to peer-group relationships, opening up the potential to experience shame in this domain. So, being seen as unattractive in this social realm may result in peer rejection, exclusion, bullying, teasing or discrimination, which are known to be linked to psychological problems (Gibb et al., 2004; Gilbert & Irons, 2009; Hawker & Boulton, 2000; Pinel, 1999).

Therefore, shame experiences (where one felt unable to elicit positive affect in the mind of the other and devalued) are often extremely negative emotional events that comprise a primary threat to one's sense of self and self-identity as a social agent. Gilbert (2003, 2007c) suggested that shame episodes may be recorded as conditioned emotional memories of threat, where negative emotions stimulated in the other (e.g., having elicited withdrawal or anger in others) and how the other acted towards the self (e.g., being treated as undesirable or bad), ignite negative emotions in the self (e.g., shame), and influence self-evaluations and beliefs (e.g., I am undesirable or bad), and may become associated with the display behaviour. Tomkins (1987) argued that shame experiences are laid down in memory as scenes and fragments of self in relationships, and such scenes can become 'mini coordinators' of attention, thinking, feeling and behaviour. Kaufman (1989) suggested that shame memories operate like mini-scenes in the mind, and emotional hot-spots. Therefore heightened emotional memories of threat may work at implicit levels (Gilbert, 2003, 2007a) and become linked to a basic orientation to the world where one's threat systems and protective psychobiological response patterns are easily activated (Perry, 2002; Perry, Pollard, Blakley, Baker, & Vigilante, 1995) and one can suffer from intrusive aversive memories (Brewin, 2006).

Recent research has empirically supported these claims, demonstrating that adult's recollections of shame experiences from childhood and adolescence function as traumatic memories, involving intrusions, hyperarousal symptoms and strong emotional avoidance (Matos & Pinto-Gouveia, 2010, 2011a). Hence, shame memories seem to engender a sense of current threat to one's sense of self and psychological integrity, leaving one to feel inferior, defective, socially unattractive or powerless (Ehlers & Clark, 2000; Harman & Lee, 2010). These threat memories can shape the entire sense of self and become central to self-identity, structure one's life narrative, forming a highly available reference point to attribute meaning to past, current and future experiences (Pinto-Gouveia & Matos, 2011; Matos & Pinto-Gouveia, 2011b). Also, shame traumatic and central memories were found to be related to increased feelings of external and internal shame in adulthood and greater depression, anxiety, stress, social anxiety and paranoid symptoms (Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Pinto-Gouveia & Matos, 2011; Matos, Pinto-Gouveia & Duarte, 2012; Matos, Pinto-Gouveia & Gilbert, 2011). In addition, several autobiographical memory properties, especially strength of recollection, reliving and similarity of emotions, importance to self and less rehearsal, were associated with traumatic and centrality qualities of the shame memory, shame feelings and psychopathology, in particular, depression, anxiety and stress symptoms (Matos & Pinto-Gouveia, 2011c).

Therefore, shame memories construed as central and traumatic autobiographical memories seem to operate as self-defining memories in the self-memory system (Conway, 2005; Conway, & Pleydell-Pearce, 2000; Singer, 1995; Singer & Salovey, 1993), giving meaning and continuity to one's sense of self and life

story (McAdams, 2001; McAdams, Josselson, & Lieblich, 2006) and influencing behaviour and goals (Sutin, & Robins, 2008).

In addition, shame memories may shape the emotional foundations for negative internal working models of self (e.g., as being defective, inferior, inadequate, and negatively evaluated by others) and others (e.g., as critical, threatening, hostile that may criticize, reject, exclude or harm the self), and integrate interpersonal schemas (Baldwin, 1997; Baldwin & Holmes, 1987; Gilbert, 2007c). These may then direct attention, cognitive, emotional and self-other processing and translate into emotional and psychological problems (Baldwin & Dandeneau, 2005; Matos & Pinto-Gouveia, 2011a, 2011b; Mikulincer & Shaver, 2005). Furthermore, research suggests that shame memories involving attachment figures may function differently from those involving other people (e.g., peers or relatives), with attachment playing an important role in the structuring of shame traumatic memories and on their impact on psychopathological symptoms (Matos & Pinto-Gouveia, 2011a; Matos, Pinto-Gouveia & Costa, 2011).

Still, results from these studies rely predominantly on shame memories elicited and assessed through self-report questionnaires, which carry limitations as to the exact nature, accuracy and features of the shame recollections and warrant confirmation using other non self-report instruments. Besides, the better understanding of the phenomenological features of shame experiences and their autobiographical and traumatic memory properties could give further support to these conceptualizations of shame and shame memory but also have significant clinical implications, both for evaluation and intervention. However, no research has yet pursued to explore these defining components of shame experiences as a whole. A possible reason for the lack of empirical studies on the phenomenology of these emotional experiences might be related to problems inherent to the measurement of shame.

Measurement of shame

In spite of growing empirical investigations on shame, research on its measurement has lagged behind and the need to operationalize the unique individual phenomenological experience of shame is as relevant as ever. The difficulties experts encounter in shame measurement can be related to a number of problems specific to the study of this emotion. Shame is an internal affective state whose direct assessment is limited and whose definition is not consensual among theorists (Andrews, 1998; Harder, 1995; Tangney, 1996). Also, the nature of the topic is extremely sensitive, increasing the possibility of social desirability bias (Rizvi, 2010).

Although there are numerous instruments designed to measure shame, most of which are self-report questionnaires, and can be classified into 'state' measures (i.e., measures of the current level and intensity of shame) and 'trait' measures (i.e., global measures of dispositional proneness to experience shame; Robins, Nofle, & Tracy, 2007; Tangney & Dearing, 2002). Due to the lack of agreement among experts regarding the definition of shame, these different measures actually have distinct underlying conceptualizations of shame. Most of these questionnaires do not provide a clear definition of shame and rely on participants themselves to distinguish shame from other emotions, such as guilt (Andrews, 1998; Rizvi, 2010). Furthermore, people may not be willing to openly discuss their feelings of shame or may even be unaware of them (Robins et al., 2007). These issues raise concerns as to whether shame measures are accurately capturing the construct they intend to assess. Additionally, these paper-and-pencil questionnaires lack ecological validity and can be influenced by mood.

Moreover, there is a dearth of alternative evaluation methods to assess shame, such as interviews. Two exceptions are Andrews and Hunter' (1997; Andrews, 1995) interview about personal experiences of shame related to bodily, characterological and behavioural shame, and Skarderud (2007) study using a semi-structured interview to assess aspects of shame related to eating disorders. In fact, interview measures of this nature have been found to be more effective in predicting psychopathological symptoms than questionnaires (Andrews & Brown, 1993; Brown, Andrews, Bifulco, & Veiel, 1990). Nonetheless there is no existing measure (self-report or interview) that captures the richness and idiosyncrasies of the phenomenology of shame experiences.

In an attempt to overcome the limitations in shame measurement, the problems inherent to the use of self-report questionnaires to evaluate the emotion of shame, the facets of a shame experience and recollections of shame episodes, and the absence of an instrument to assess the phenomenology of shame, we developed a semi-structured interview: the *Shame Experiences Interview* (SEI; Matos & Pinto-Gouveia, 2006a).

The SEI was designed to assess the phenomenology of shame experiences recalled from childhood and adolescence and address some limitations of existing measures. The SEI was developed based on existing theoretical models and empirical research on shame (e.g., Andrews, 1995, 1998; Cook, 1994, 1996; Gilbert, 1997, 1998c, 2003, 2007a; Gilbert & McGuire, 1998; Harder, 1995; Kaufman, 1989; H.B. Lewis, 1971, 1987; M. Lewis, 1992, 2003; Lindsay-Hartz, 1984; Nathanson, 1987, 1994; Scheff, 1994, 1998; Tangney & Dearing, 2002; Tomkins, 1963, 1987) and various autobiographical and traumatic memory theories (Berntsen, & Rubin, 2006, 2007; Brewin, 2006; Brewin, Reynolds, & Tata, 1999; Conway, 2005; Ehlers & Clark, 2000; Grey, Holmes, & Brewin, 2001; Rubin, 2005; Rubin, Burt, & Fifield, 2003). SEI's questions were also derived from JPGs and MMs discussions with patients and their phenomenological descriptions of shame experiences and memories. The SEI assesses in depth the components of shame described above in relation to a shame experience involving others (e.g., peers, relatives, strangers) and a shame experience involving the attachment figure(s). Specifically, the SEI covers contextual, cognitive, emotional, bodily, behavioural and motivational components of shame experiences, coping strategies, others' reactions towards the self, autobiographical and traumatic memory characteristics, frequency of shame experiences and interference and impact of the shame experience recalled. It also measures accessibility of positive and negative memories and memory features of a positive memory with the attachment figure(s). A complete description of the SEI can be found in the Methods section.

Aims

The current study set out to explore the phenomenology of shame experiences retrieved from childhood and adolescence, using the SEI in a heterogeneous, diverse and large sample of the general community population. First, we investigate the phenomenological features of shame experiences involving others and involving attachment figures, their traumatic, centrality and autobiographical properties, and explore the differences between these two shame memories (Study I). Secondly, we investigate the relationship between certain phenomenological characteristics of the shame memories retrieved and their traumatic impact and centrality qualities (Study II). Thirdly, we explore the association between traumatic impact and centrality features of shame memories and current shame and psychopathological indicators (Study III). Finally, the last part of the SEI is explored, examining the accessibility of positive and negative memories with significant others and the centrality and autobiographical memory properties of positive memories with attachment figures (Study IV).

Method

Participants

Four hundred and one participants were recruited from the general community population (126 males and 275 females), as part of a more comprehensive study on the phenomenological characteristics of shame memories and their relation to psychopathology. Participants were aged 18-62 ($M = 31.13$, $SD = 10.14$). Sixty one per cent of the subjects were single ($n = 244$) and 26.7% were married ($n = 107$). Forty four per cent had middle class professions (e.g., academics, teachers, social workers, engineers, managers, nurses, middle-level administrators) ($n = 177$) and 26.4% were college students ($n = 106$). The participants' years of education mean was 14.54 ($SD = 3.39$).

Procedure

A convenience sample was collected from the general community population, recruited within the staff of institutions (i.e., universities, schools and private corporations). These institution's boards were contacted, the research aims were clarified and authorization was obtained so that individuals could participate in the study. Afterwards, participants were elucidated about the investigation goals and invited to voluntarily participate. In line with ethical requirements, it was emphasized that participants co-operation was voluntary and that their answers were confidential and only used for the purpose of the study.

Those who volunteered to participate were given a series of self-report questionnaires, designed to measure shame, psychopathology and other constructs which were part of a more comprehensive survey on the phenomenology of shame experiences. The questionnaires were administered by the author, MM, with the assistance of undergraduate students and were filled in by the volunteers in the presence of the researcher. Then, a session was scheduled with each participant within the following week in order to administer the SEI (Matos & Pinto-Gouveia, 2006a). The interviews were carried out by the author (MM) with assistance of graduate students. The SEI took approximately 90 to 120 minutes to complete. Data were collected between January of 2008 and July of 2011.

Measures

Shame Experiences Interview

The SEI (Matos & Pinto-Gouveia, 2006a) is a semi-structured interview designed to assess the phenomenology of shame experiences from childhood or adolescence. It measures cognitive, emotional, behavioural, motivational and contextual components of shame, and its autobiographical and traumatic memory characteristics.

The interview begins with a brief introduction explaining its purpose and defining the concept of shame. Then, three examples of shame experiences from childhood and adolescence are given to better illustrate the type of emotional experience being primed. Before beginning the questioning, the interviewer reassures the respondent and tries to "de-shame" him/her by normalizing the experience of shame in

one's life, explaining its evolutionary value and anticipating resistance and difficulty in eliciting and talking about such emotional experiences.

The SEI is divided into three main sections: In the first section a significant shame memory from childhood or adolescence that involved peers, teachers, strangers, or other people, is elicited and assessed regarding its phenomenological and memory characteristics. In the second section participants are asked to recall a significant shame memory from childhood or adolescence involving an attachment figure (father, mother or other caregiver), and its phenomenological and memory characteristics are evaluated. The third section measures the accessibility to positive and negative memories with attachment figures and friends from childhood and adolescence and respondents are asked to select and describe a positive memory from their childhood and adolescence involving their attachment figures.

The first and second sections are composed of 8 subparts, in which a series of open, open-ended and closed questions evaluate the components of the shame experience elicited, selected from the theoretical and empirical literature review. Answers to open and open-ended questions are coded by the interviewer into predetermined categories (see Table 1), created from verbal descriptions in response to questioning in a preliminary administration of the SEI to a group of 76 individuals (41 of a general population sample and 35 of a clinical sample). In closed questions, answers are in the form of numerical ratings by the interviewer, based on participants' verbal response to 5-point (0-4) or 11-point (0-10) rating scales (see Tables 2 and 3). Because the items/scales measure different aspects of shame memory phenomenology, most items/scales are considered individually. However, a few composite scores were computed to enhance clarity in data analysis. We explain below each subpart in detail and respective rating scales.

1. The *first subpart* elicits the shame experience and assesses its contextual, interpersonal and temporal component: *type* of shame event, *when* it happened, the *shamer(s)* in the situation, the *context* where it took place and *characteristics* of the shamer(s) and the audience (others who witnessed the event; i.e., degree of intimacy, age, power, gender).
2. The *second subpart* evaluates the cognitive, emotional, behavioural and bodily components of the shame experience *at the time* of the event. In terms of the cognitive and emotional component, *external shame* attributions, thoughts and feelings are assessed (descriptors; degree of external shame rating scale: 0 "None" to 10 "Totally"), as well as the internalization of these shame affects into *internal shame* cognitions and feelings (descriptors; degree of internal shame rating scale: 0 "None" to 10 "Totally") and/or their externalization into *humiliation* cognitions and feelings ("Yes" or "No"). In addition, the intensity of the emotional experience in the shame situation recalled is evaluated through participants' ratings (0 "Not at all" to 4 "Very much") of the *intensity of emotions* felt then, namely of shame, anxiety, anger, humiliation, disgust/contempt, loss of dignity, sadness, frustration, guilt and envy. Then, the behavioural and bodily component of the shame experience is targeted through participants ratings (0 "Not at all" to 4 "Very much") of a series of indicators measuring the degree of *bodily* (e.g., gaze, face, posture, bodily/physical sensations), *behavioural* (e.g., escape, hide, inhibition, verbal expression) and *attentional* (e.g., attention focus outwardly or inwardly directed) *responses* at the time of the event. Finally, the motivational component is evaluated through ratings (0 "Not at all" to 4 "Very much") of *action tendencies* felt at the moment of the event (e.g., desire to hide, to escape, to retaliate, to make amends). Given the numerous indicators assessing 'bodily', attentional, behavioural and motivational components, for the purpose of this study, we calculated overall measures (scores ranging from 0 to 4) of physiological responses (i.e., submissive; fear/activation), behavioural responses (i.e., flight/submissive; fight) and action tendencies (i.e., flight/submission/hide;

fight; freeze; make amends/reparation), based on the average of the items that were theoretically linked and moderately to strongly correlated among each other.

3. The *third subpart* focuses on the coping strategies used to deal with the shame experience *after the event* occurred. Participants are asked to describe their general *coping strategy* to deal with the shame affects triggered by the event and then rate (0 “Not at all” to 4 “Very much”) the degree in which they endorsed a series of *defensive behavioural* (e.g., escape/withdrawal, submission, defensive fight, retaliation), *affective* (e.g., suppression, dissociation), *social* (e.g., reassurance/help-seeking) and *cognitive* (e.g., externalization of blame, self-criticism) coping strategies. Overall measures of behavioural, social, affective/emotional and cognitive coping were computed for this study, based on the average of the items that were theoretically linked and moderately to strongly correlated among each other. Finally, two open-ended questions assessed whether participants positively or negatively evaluated their coping and whether it was effective in diminishing their shame.
4. The *fourth subpart* assesses others’ reactions, feelings and behaviour towards the self and acknowledgment of one’s shame in the situation. The present study will not examine these data.
5. The *fifth subpart* focuses on autobiographical and traumatic memory features of the shame experience recalled. Specifically, the SEI examines how often participants remembered that shame experience in the first month after the event and one month after it (*memory frequency*, rating scale 0 “Never” to 4 “More than once a day”); how often such shame memory suddenly intruded their mind throughout life (*memory intrusion*, rating scale 0 “Never” to 4 “Very often”); whether participants re-experience the shame event whenever it comes to mind (*memory hyperarousal/re-experiencing*, coding “Yes” or “No”); how vivid is the memory in the present (*memory vividness*, rating scale 0 “Extremely vague” to 4 “Extremely vivid”); and whether the memory corresponds to an event that occurred *once*, to a *merging* of similar events or to events that occurred over a *continuous/extended* period of time.
6. The *sixth subpart* focuses on the frequency of shame experiences throughout life. A series of open-ended and closed questions investigate the *presence* and *similarity* of recent shame triggering situations, the frequency of shame experiences in *childhood, adolescence and adulthood* (rating scale 0 “Never” to 4 “Very often”), most frequent *shamers* and *audience*, and the existence of other *non-disclosed* and difficult *shame experiences* (this question aims at exploring non-disclosed abuse situations).
7. The *seventh subpart* assesses the interference of the shame experience in one’s life. In particular, we examine whether the shame experience recalled *interfered with coping* strategies to deal with similar situations, which are the *most frequent strategies* selected to cope with similar events and the extent to which the endorsement of such coping strategies *interfered with life goals* (rating scale 0 “Not at all” to 4 “Very much”).
8. In the *eighth subpart* participants are asked to rate the degree in which the shame experience recalled had a *negative* and/or a *positive impact* in his/her life, and to evaluate the *impact* of such memory *in the present*.

After each part, participants are asked to fill the self-report questionnaires described below, considering the shame and positive memories elicited, measuring traumatic memory characteristics, centrality of memory features and autobiographical memory properties.

Impact of Event Scale – Revised (IES-R; Weiss & Marmar, 1997; Portuguese version by Matos, Pinto-Gouveia, & Martins, 2011). The IES-R is a self-report instrument designed to measure current subjective distress for any specific life event, and distinctively in our study, in relation to the shame memory involving peers, teachers, strangers or others (IES-R_Others) and to the shame memory with attachment figures (IES-R_AttachFig). This scale has 22 items rated on a 5-point Likert scale (0–4). The IES-R is composed by three subscales that measure the three main characteristics of traumatic memories: avoidance (e.g., “I stayed away from reminders of it”), intrusion (e.g., “Any reminder brought back feelings about it”) and hyperarousal (e.g., “I was jumpy and easily startled”) that parallel the DSM-IV criteria for PTSD. In the original study, Cronbach alphas of the subscales ranged from .87 to .92 for intrusion, .84 to .86 for avoidance and .79 to .90 for hyperarousal (Weiss & Marmar, 1997). The Portuguese version revealed a one-dimensional structure with sound psychometric properties (IES-R Cronbach’s $\alpha=.96$) (Matos, Pinto-Gouveia, & Martins, 2011). In this study, both questionnaires showed high internal consistencies (IES-R_Others = .95; IES-R_AttachFig = .95).

Centrality of Event Scale (CES; Berntsen & Rubin, 2006; Portuguese version by Matos, Pinto-Gouveia, & Gomes, 2010) assesses the extent to which a memory for a stressful event forms a reference point for personal identity and to attribution of meaning to other experiences in a person’s life. This self-report questionnaire consists of 20 items, rated on 5-point Likert scale (1-5), measuring three interdependent characteristics of a highly negative emotional memory: reference point for everyday inferences (e.g., “This event has coloured the way I think and feel about other experiences.”), turning point in life stories (e.g., “I feel that this event has become a central part of my life story.”) and component of personal identity (e.g., “I feel that this event has become part of my identity.”). In its original study and Portuguese version, CES reported a high internal consistency (Cronbach’ $\alpha = .94$ and .96 respectively) (Matos, Pinto-Gouveia, & Gomes, 2011). In this study, participants completed the CES in relation to the shame memory involving peers, teachers, strangers or others (CES_Others, Cronbach’ $\alpha = .96$), the shame memory with attachment figures (CES_AttachFig, Cronbach’ $\alpha = .97$), and the positive memory involving attachment figures (CES_Positive, Cronbach’ $\alpha = .97$).

Autobiographical Memory Questionnaire (AMQ; Rubin, Burt et al, 2003; Rubin, Schrauf, & Greenberg, 2003; Sheen, Kemp, & Rubin, 2001; Portuguese version by Matos & Pinto-Gouveia, 2011c) was derived from various existing autobiographical and general memory theories and is sensitive to the conscious experience of remembering. It comprises a set of questions (which may vary according to the research aims) that assess a variety of autobiographical memory properties of a particular event, in this case, the shame and positive memories nominated by participants. The full questions and rating scales used in this study can be found elsewhere (see Study IV Appendix). For questions 1 through 6 and 14 the scales ranged from 1 (not at all), to 3 (vaguely), to 5 (distinctly), to 7 (as clearly as if it were happening right now). For questions 8 through 12 and 15, the scales ranged from 1 (not at all), to 3 (vaguely), to 5 (distinctly), to 7 (as much as any memory). Questions 7, 13, and 16 through 19 had unique scales, which follow each of these questions. Because they measure different aspects of autobiographical memory, most scales were considered individually. In addition, we calculated an overall measure of *recollection* equal to the average of *relive* and *back in time*, and an overall measure of *belief* equal to (*real/imagine* + *accurate* + *testify* + (8 - *Persuade*)/4).

Set of self-report questionnaires:

Other As Shamer (OAS; Goss, Gilbert, & Allan, 1994; Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011c). This 18 item scale measures external shame (global judgements of how people think

others view them). Respondents rate on a 5-point Likert scale (0–4) the frequency of their feelings and experiences, for example, “*I feel other people see me as not quite good enough*” and “*I think that other people look down on me*”. Scores can range from 0 to 72 with higher scores on this scale indicative of higher external shame. A Cronbach alpha of .92 was reported in the original study of this scale Goss et al. (1994). The Cronbach alpha for this study was .93.

Experience of Shame Scale (ESS; Andrews, Qian, & Valentine, 2002; Portuguese version by Matos & Pinto-Gouveia, 2011d) is a 27 item scale that, although not designed to specifically measure internal shame, taps feelings of shame around three key domains of self: character (personal habits, manner with others, what sort of person you are and personal ability), behaviour (shame about doing something wrong, saying something stupid and failure in competitive situations) and body (feeling ashamed of one’s body or parts of it). Each item indicates the frequency of experiencing, thinking and avoiding any of the three areas of shame in the past year and is rated on a 4-point Likert scale (1–4). Only the total of the ESS was used in this study. Andrews et al. (2002) found this scale to have a high internal consistency (Cronbach $\alpha = .92$) and, in the present study, ESS showed a Cronbach alpha of .94.

Internalized Shame Scale (ISS; Cook, 1994, 2001; Portuguese version by Portuguese version by Matos, Pinto-Gouveia & Duarte, 2011b) and contains a 24-item measure consisting of negatively worded items (e.g., “*Compared with other people, I feel like I somehow never measure up*”) assessing the frequency in which people experience internalized shame and a 6-item scale consisting of positively worded items (e.g., “*All in all, I am inclined to feel that I am a success*”) assessing self-esteem. All of the items are rated on a scale of “0,” meaning “never,” to “4,” meaning “almost always”. In this study, only the shame subscale was used as a measure of internal shame. Previous studies (Cook, 1994, 2001; Del Rosario & White, 2006; Matos, Pinto-Gouveia & Duarte, 2011b) reported high internal consistency for the shame subscale, with alpha coefficients ranging from of .95 to .97 for non-clinical populations. The Cronbach alpha for this study was .95.

Depression, Anxiety and Stress Scales (DASS-42; Lovibond & Lovibond, 1995; Portuguese version by Pais-Ribeiro, Honrado, & Leal, 2004) is a self-report measure composed of 42 items and designed to assess three dimensions of psychopathological symptoms: depression, anxiety and stress. The items indicate negative emotional symptoms and are rated on a 4-point Likert scale (0-3). On the original version, Lovibond and Lovibond (1995) found the subscales to have high internal consistency (Depression Cronbach’s $\alpha = .91$; Anxiety Cronbach’s $\alpha = .84$; Stress Cronbach’s $\alpha = .90$). In the present study, these subscales also revealed a very good reliability (Depression Cronbach’s $\alpha = .93$; Anxiety Cronbach’s $\alpha = .88$; Stress Cronbach’s $\alpha = .93$).

Results

Data analysis

Data analyses were conducted using PASW (Predictive Analysis Software) version 18 (SPSS Inc., Chicago, IL, USA). Descriptive statistics (frequencies, means and standard deviations) are used to explore the phenomenology and memory properties of the shame experiences recalled with others (SEI part 1) and with attachment figures (SEI part 2) and of positive memories with significant others (SEI part 3) (Howell, 2006). Paired Samples *t* Tests were conducted to test the significance of the differences between the phenomenology characteristics of parts 1 and 2 of the SEI, considering different shame experiences for the same person (Howell, 2006). Pearson product-moment correlations were further performed to explore the relationships among the phenomenology features of the shame recollections, the traumatic and centrality properties of the two shame memories, current shame feelings and general psychopathological

symptoms, which are numeric latent variables (Howell, 2006). In the interpretation of correlation coefficients' magnitude, the cut points proposed by Cohen and colleagues (Cohen, Cohen, West, & Aiken, 2003) were followed (i.e., weak: r from .10 to .29; moderate: r from .30 to .49; strong: $r < .50$).

Study I: Phenomenology of shame memories with others and with attachment figures

Two participants could not recall a shame memory with others and 21 could not remember a shame memory with attachment figures. Frequencies, means and standard deviations for the phenomenology of shame memory variables are given in Tables 1 and 2.

Contextual, temporal and interpersonal components of the shame experiences

Table 1 outlines the categories of type of shame experience, context and shamer's and audience's characteristics, derived from shame literature and from individuals' verbal descriptions of shame events in the preliminary administration of the SEI to clinical and non-clinical groups. In terms of shame memory with others, the most frequent shame experiences reported were those where participants felt shame for having a negative personal attribute or characteristics or devaluing behaviour exposed in front of others, followed by situations where they were criticized, teased or rejected, and by events where an aspect related to their weight, body, physical appearance was negatively commented on or criticized by others. Less frequent shame experiences were: feeling shame due to personal habits (e.g., hygiene, clothing), feeling shame due to being negatively compared with significant others, reflected shame situations and shame of one's family status. Twelve participants recalled situations where they were physically abused (e.g., victims of bullying) and one recalled a sexual abuse experience. Regarding the context where the situation occurred, 90.5% ($n = 361$) of the recalled shame experiences happened in a public context and 9.5% ($n = 38$) in private. The shame experiences were 19.79 ($SD = 11.28$) years old and participants' mean age when the event occurred was 11.31 ($SD = 4.04$).

Table 1. Descriptive statistics (frequencies and percentages) for the phenomenological categorical variables of shame memory with others (SEI Part 1) and shame memory with attachment figures (SEI Part 2)

Variable	Shame memory with others ($n = 399$)		Shame memory with attachment figures ($n = 380$)	
	n	%	n	%
<i>Type of shame situation</i>				
Criticism/rejection by an attachment figure	-	-	143	37.7
Criticism/rejection by a significant other	93	23.1	-	-
Negative comments about weight, body, physical appearance	89	22.3	27	7.1
Comparisons with significant others	14	3.5	23	6.1
Exposure of devaluing behaviour/negative personal attributes in front of others	157	39.3	42	10.5
Reflected shame (of an attachment figure or a significant other)	10	2.5	90	23.7
Shame of family status	7	1.7	10	2.6
Shame of personal habits (e.g., clothing, hygiene)	17	4.3	0	0
Physical abuse	12	3	31	8.2
Sexual abuse	1	0.3	14	3.7
<i>Shamer characteristics</i>				
Intimacy – Loved one	18	4.6		
Intimacy – Someone you liked	60	15.4		
Intimacy – Someone you disliked	20	5.1		
Intimacy – Acquaintance	56	14.4		
Intimacy – Stranger	18	4.6		
Intimacy – Self	150	38.5		
Intimacy – Several	61	15.6		
Intimacy – Other	7	1.8		
Age – Older	101	25.8		
Age – Younger	9	2.3		

Age – Older and younger	39	10		
Age – Same age	92	23.5		
Age – Self	150	38.4		
Relative power – Authority figure/ dominant	76	19.4		
Relative power – Subordinate	1	0.3		
Relative power – Equal	155	49.6		
Relative power – Self	159	40.7		
Gender – Male	72	18.0		
Gender – Female	79	19.7		
Gender – Both	89	22.3		
Gender – Self	159	39.8		
<i>Audience characteristics</i>				
Intimacy – Loved one	9	2.5	87	30.6
Intimacy – Someone you liked	81	22.6	35	12.3
Intimacy – Someone you disliked	3	0.8	7	2.5
Intimacy – Acquaintance	77	21.4	33	11.6
Intimacy – Stranger	16	4.5	16	5.6
Intimacy – Several	173	48.2	105	37
Intimacy – Other	0	0	1	0.4
Age – Older	39	10.9	132	46.5
Age – Younger	8	2.2	11	3.9
Age – Older and younger	117	32.6	101	35.6
Age – Same age	195	54.3	40	14.1
Relative power – Authority figure/ dominant	16	4.5	110	38.7
Relative power – Subordinate	0	0	1	0.4
Relative power – Equal	257	71.8	76	26.8
Relative power – Several	85	23.7	97	34.2
Gender – Male	10	2.8	41	14.4
Gender – Female	22	6.1	60	21.1
Gender – Both	327	91.1	183	64.4
<i>External shame descriptors</i>				
Defective, flawed	44	11	8	2.1
Idiot, stupid	75	18.8	49	12.9
Different	76	19	37	9.7
Inferior	63	15.7	35	9.2
Disgusting, repulsive	11	2.8	5	1.3
Unworthy, worthless	32	8	61	16.1
Incompetent/Useless	47	11.8	45	11.2
Inadequate	15	3.8	88	23.2
Ordinary, vulgar	7	1.8	16	4.2
Ridiculous	29	7.3	36	9.5
<i>Internal shame descriptors</i>				
Defective, flawed	31	7.8	3	0.8
Idiot, stupid	51	12.8	42	11.1
Different	68	17	37	9.7
Inferior	76	19	65	17.1
Disgusting, repulsive	4	1	2	0.5
Unworthy, worthless	40	10	63	16.6
Incompetent/Useless	61	15.3	60	15.8
Inadequate	25	6.3	62	16.3
Ordinary, vulgar	5	1.3	7	1.8
Ridiculous	38	9.5	39	10.3
<i>General strategy to cope with shame after the event</i>				
Submission	19	4.8	37	9.7
Isolation	9	2.3	17	4.5
Flight	76	19	66	17.4
Rumination	28	7	25	6.6
Suppression	40	10	32	8.4
Cry	27	6.8	30	7.9
Self-criticism	20	5	12	3.2
Self-harm	1	0.3	0	0
Compensation	48	12	36	9.5
Fight/Retaliation	8	2	20	5.3
Reassurance seeking	69	17.3	52	13.7
Acceptance	45	11.3	47	12.4
Freezing	9	2.3	0	0

When asked about who shamed them in the experience described, 39.4 % ($n = 159$) participants identified themselves as the shamers (i.e., for being responsible of having a negative and devaluing personal attribute, characteristic or behaviour exposed in front of others), 16.8% ($n = 67$) remembered events where they were shamed by their friends, 15.3% ($n = 61$) by peers, and 11.5% ($n = 46$) by other people (e.g., teacher). Twenty two (5.5%) participants named strangers as responsible for eliciting shame in the event, 21 (5.4%) relatives and 23 (5.8%) several of the abovementioned shamers (e.g., peers and teacher, peers and friends). Regarding shamer(s)' characteristics, apart from those participants who identified themselves as the shamers, the shamer(s) was typically defined as being someone they liked and/or knew, older or the same age as them, equal or dominant in rank and both male and female. In respect to those who were present when the shame event took place (i.e., audience), they were mostly people who participants liked and/or knew, the same age as them, younger and older, equal in rank and both male and female. These shame experiences were 19.79 ($SD = 11.28$) years old and respondents' mean age at the time was 11.31 ($SD = 4.04$).

In regard to shame memories with attachment figures, most participants described situations where they were criticized, put down or felt rejected by a caregiver (e.g., could be due to failure to meet parental high expectation/standards), reflected shame situations (i.e., feeling shame due to characteristics or behaviour of the attachment figure), and events where they had negative personal attributes or characteristics or devaluing behaviour exposed in front of the attachment figure(s). Participants also recalled instances where the attachment figure criticized or made comments about their weight, body or physical appearance and situations where the caregiver negatively compared them with significant others (e.g., sibling favouritism). Thirty one participants recalled situations where they were physically abused by the attachment figure, and 14 sexual abuse situations. Regarding the context where the situation occurred, 73.7% ($n = 280$) participants recalled shame experiences that happened in a public context and 26.3% ($n = 100$) in a private one. The shame experiences were 18.68 ($SD = 10.97$) years old and participants' mean age when the event occurred was 12.10 ($SD = 4.22$). Paired Samples t Tests revealed that the mean differences between the shame experience with others and with attachment figures, regarding age of situation and participants' age at the time, were statistically significant [$t_{(377)} = 2.93, p = .004$].

Concerning the attachment figure who shamed them in that particular memory, 41.8 % ($n = 159$) participants identified the father and 39.5% ($n = 150$) the mother as the shamers, 7.9% ($n = 30$) were shamed by both parents and 10.8% ($n = 41$) by another caregiver. Given that these shamers were attachment figures, and thus assumed to be loved ones, older and dominant, intimacy, age and power features were not directly assessed. In terms of audience's characteristics, these people were generally loved ones or someone participants liked or knew, typically older or older and younger, dominant and/or equal in rank and both male and female.

Cognitive, emotional, bodily/physical and behavioural responses in the shame experience

Table 1 shows the frequency of descriptors used by participants to illustrate external shame and internal shame feelings and thoughts in the shame experience and Table 2 presents means, standard deviations and Paired Samples t Tests for the degree of external and internal shame, intensity of emotions, responses and action tendencies in the shame situation of the shame memories from Part 1 and 2.

Table 2. Means (*M*), Standard Deviations (*SD*) and Paired Samples *t* Tests (*t*) for the phenomenology characteristics of shame memory with others (SEI Part 1) and shame memory with attachment figures (SEI Part 2).

Variables	Shame memory others (<i>n</i> = 399)		Shame memory attachment figure (<i>n</i> = 380)		<i>t</i> (₃₇₇)	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
<i>Intensity of emotions</i>						
Shame	3.25	0.78	3.09	0.96	2.82	.005
Anxiety	2.60	1.21	2.39	1.23	3.16	.002
Anger	1.98	1.46	2.04	1.42	-0.56	.573
Humiliation	2.33	1.45	2.19	1.41	1.43	.153
Disgust	1.22	1.32	0.96	1.22	3.15	<.001
Loss of dignity	1.72	1.38	1.57	1.27	2.15	.033
Sadness	2.54	1.20	2.49	1.28	0.77	.442
Frustration	2.41	1.28	2.23	1.31	2.48	.014
Guilt	1.62	1.47	1.54	1.47	0.82	.414
Envy	1.03	1.30	.61	1.11	5.73	<.001
<i>Responses in the shame situation (body, posture, behaviour, attention/cognitive focus)</i>						
Submissive body/physical response	1.80	1.08	1.73	1.11	1.01	.311
Fear/activation body/physical response	1.64	0.90	1.53	0.91	2.49	.013
Flight/submissive behavioural response	1.76	1.02	1.66	1.00	1.58	.115
Defensive fight behavioural response	0.46	0.87	0.62	1.02	-2.39	.017
Focus on others' thoughts and feelings about the self	2.10	1.33	1.71	1.32	4.77	<.001
Focus on one's thoughts and feelings about the self	2.86	1.19	2.63	1.30	3.21	.001
Focus on the self as object of others' scrutiny	2.61	1.35	2.20	1.57	5.05	<.001
<i>Action tendencies</i>						
Flight/submission	2.24	1.46	2.16	1.43	1.40	.161
Fight	0.85	1.39	0.81	1.36	0.87	.384
Freeze	1.42	1.47	1.29	1.39	1.65	.100
Make amends/Reparation	2.02	1.70	1.99	1.65	0.21	.834
<i>Coping strategies after the shame situation</i>						
Flight/submissive behavioural strategy	1.57	1.01	1.42	1.00	2.97	.003
Defensive fight behavioural strategy	0.46	0.84	0.59	0.97	-2.38	.018
Reassurance seeking social strategy	1.40	1.56	1.34	1.54	1.10	.273
Isolation social strategy	1.84	1.81	1.91	1.81	-0.87	.385
Avoidance/suppression affective strategy	1.00	0.77	0.94	0.72	1.31	.190
Compensation affective/behavioural strategy	1.84	1.30	1.72	1.26	1.63	.104
Dissociation affective strategy	0.29	0.78	0.29	0.75	0.44	.662
Denial affective strategy	0.70	1.20	0.62	1.32	1.49	.138
Externalization cognitive strategy	1.32	1.58	1.61	1.60	-2.64	.009
Internalization cognitive strategy	1.47	1.26	1.12	1.20	4.61	<.001
Control cognitive strategy	0.72	1.24	0.58	1.08	1.48	.141
Guilt cognitive strategy(moral standard violation)	0.64	1.18	0.73	1.21	-1.25	.211
<i>Memory</i>						
Memory frequency in the first month	2.05	1.12	1.85	1.07	3.10	.002
Memory frequency after 1 month	1.32	1.06	1.10	1.04	3.45	.001
Memory intrusion since the event	1.54	0.98	1.47	0.94	1.50	.135
Memory vividness	2.67	1.06	2.57	1.07	1.68	.094
<i>Frequency of shame experiences throughout life</i>						
Childhood	1.96	1.02	1.64	0.90	6.11	<.001
Adolescence	2.16	0.87	1.86	0.86	6.54	<.001
Adulthood	1.48	0.87	1.05	0.79	8.87	<.001
<i>Interference</i>						
Interference with important life goals	1.88	1.21	1.86	1.16	0.07	.945
<i>Impact of the shame experience</i>						
Negative impact throughout life	1.48	1.23	1.27	1.22	2.96	.003
Positive impact throughout life	1.14	1.33	1.17	1.37	-0.59	.553

<i>Self-report measures</i>						
IES-R	3.62	2.37	3.32	2.39	2.91	.004
CES	46.34	18.49	44.82	18.90	1.35	.179
AMQ						
Recollection	3.82	1.69	3.90	1.65	-1.00	.319
Reliving	3.93	1.81	4.02	1.74	-0.96	.339
Back in time	3.71	1.83	3.79	1.83	-0.74	.458
Remember/know	5.12	1.31	5.14	1.38	-0.41	.685
Belief	4.71	0.95	4.69	0.98	0.67	.502
Real/Imagine	6.00	1.21	5.84	1.20	2.17	.031
Accurate	3.98	1.68	4.04	1.72	-0.62	.539
Testify	4.88	1.61	4.86	1.61	0.23	.816
Persuade	4.02	1.82	3.99	1.76	0.10	.923
See	4.55	1.50	4.48	1.51	0.90	.370
Setting	5.12	1.50	5.16	1.44	-0.52	.607
Spatial	5.36	1.33	5.33	1.45	0.29	.773
Hear	3.84	1.73	4.03	1.66	-2.13	.034
Talk	3.54	1.77	3.65	1.66	-1.05	.297
In words	3.85	1.63	3.99	1.60	-1.83	.068
Story	4.35	1.62	4.42	1.56	-0.78	.439
Emotions	3.57	1.78	3.52	1.70	0.36	.718
Importance	3.68	1.84	3.69	1.77	-.16	.873
Rehearsal	3.63	1.96	3.56	1.93	0.46	.648
Once/specific	0.45	0.50	0.60	0.49	-4.91	<.001
Merged/extended	0.29	0.46	0.37	0.48	-0.19	.854
Age of memory (years)	19.79	11.28	18.68	10.97	2.93	.004

Note. AMQ = Shame autobiographical memory properties; IES-R = Shame traumatic memory; CES = Centrality of shame memory.

Regarding external shame, in shame memories with others, 19% of participants believed that others saw and judged them as being different, 18.8% as idiot or stupid, 15.7% as disgusting or repulsive, 11.8% as incompetent or useless, and 11% as defective or flawed. In shame memories with attachment figures, 23.2% of participants felt they existed in the minds of others as inadequate, 16.1% as worthless or unworthy of love and approval, 12.9% as idiot or stupid, 11.2% as incompetent, 9.7% as different, 9.5% as ridiculous, and 9.2% as inferior. In terms of internal shame, in shame memories with others, internal shame was typically described as feeling and seeing oneself as inferior (19%), different (17%), incompetent (15.3%), idiot or stupid (12.8%) and worthless (10%). In shame memories involving an attachment figure, 17.1% of participants reported feeling and judging themselves as inferior, 16.6% as worthless or unworthy of love and approval, 16.3% as inadequate, 15.8% as incompetent, 11.1% felt stupid, and 10.3% ridiculous (see Table 1).

The degree of external shame in a scale from 0 to 10 was high, with a mean score in shame memories involving others of 7.45 ($SD = 1.90$) and 7.56 ($SD = 2.01$) in shame memories with attachment figures. Although the degree of external shame was slightly higher for shame memories with attachment figures, this difference was not statistically significant [$t_{(377)} = -0.65$, $p = .514$]. As to internal shame, participants presented significantly higher scores in internal shame severity for shame memories with others ($M = 7.23$, $SD = 2.16$) than for shame memories with attachment figures ($M = 6.25$, $SD = 2.69$) [$t_{(377)} = 4.70$, $p < .001$].

When asked about feeling humiliated and angry for believing others were being unfair or mean and want to take revenge, 53.6% ($n = 214$) of participants said they felt humiliated in the shame event with others

and 53.4% ($n = 203$) felt humiliated in the shame experience involving attachment figures. The remaining subjects answered “No” to this question.

Another phenomenology feature that we assessed was the intensity of emotions that could be present in the shame experience (see Table 2). In shame memories involving others, the emotions with the highest mean scores (above 2, which corresponds to “A lot”) were shame, anxiety, sadness, frustration and humiliation. Pertaining to shame memories with attachment figures, the highest mean scores were found for shame, sadness, anxiety, frustration, humiliation and anger. Besides, when comparing the two types of shame memory, significant differences were found in disgust, envy, anxiety, shame, frustration and loss of dignity, with participants scoring higher on these emotions in the shame memory with others.

In addition, we evaluated the bodily/physical and behavioural responses, the attention focus and action tendencies in the shame situation (see Table 2). For both shame memories involving others and with attachment figures, people reported higher levels of a general submissive bodily/physical response (e.g., averted eye gaze, head down, closed and avoidant body posture, body collapse, feeling small or shrinking in size, inhibited or weak) than of fear/activation (e.g., body tension, increased heart rate, sensation that chest/stomach is going to explode, feeling startled and aroused). Similarly, regarding the general behavioural response, higher mean scores were found for the flight/submissive response (e.g., avoidance, withdrawal, escape, hide, inhibition; limited verbal expression) in comparison to a defensive fight one (e.g., counter-attack, defend against criticism/attack, retaliate). Two significant mean differences emerged from Paired Samples t Tests. Interestingly, while individuals presented significant higher levels of a fear/activation physiological response in the shame experience involving others, the defensive fight behavioural response was significantly higher in shame experiences with attachment figures. Regarding attention and cognitive focus, mean scores showed that, in the shame experiences recalled, participants’ attention tended to be focused on what was going on in the mind of the others about the self and on one’s own self directed thoughts and feelings. Also, there was a perception of the self as being an object of others’ scrutiny. Paired Sample t Tests showed that these mean scores were significantly higher in shame memories with others in comparison to shame memories involving attachment figures.

In terms of action tendencies we can see that, in both shame memories, participants scored higher on the desire or motivation to hide, escape/flight and submit and to make amends, redo or repair the shame situation. No significant differences were found between shame memories with others and with attachment figures regarding action tendencies in the shame experience.

Coping strategies to deal with the shame experience after the event

In addition, we investigated how did participants cope with the shame experience and how did they try to deal with the shame and negative emotional states after the event occurred. Categories and frequencies for the general coping strategies reported by participants are given in Table 1. For shame memories with others and with attachment figures, the most frequent coping strategies were flight/escape, submission, reassurance seeking, compensation, acceptance, suppression and, although to a lesser extent, rumination, isolation, cry and self-criticism. We then explored, for each shame memory, the extent to which participants endorsed a series of behavioural, social, affective and cognitive coping strategies (see Table 2). Flight submissive behavioural coping, isolation social coping, compensation affective/behavioural coping and externalization and/or internalization of shame cognitive coping were the strategies with the highest mean scores in the two shame experiences. Paired Samples t Tests, however, revealed that the flight submissive coping and the tendency to internalize shame cognitively (e.g., self-blame, self-criticism)

were significantly higher for shame memories with others, whereas the defensive fight behavioural coping and the tendency to externalize shame (e.g., blame others) were higher in shame memories with attachment figures.

When asked about whether they were satisfied with their coping after the shame situation, 69.9% ($n = 279$) of participants said they were satisfied with their coping after the shame experience with others and 75.3% ($n = 279$) stated they were satisfied with their coping after the shame experience with attachment figures. The majority of participants reported that their coping after the shame event helped to decrease their shame feelings both in the experience with others (70.6%, $n = 283$) and with attachment figures (74.5%, $n = 283$).

Memory features

In regard to autobiographical and traumatic memory properties of the shame experiences recalled, we evaluated the frequency, hyperarousal, intrusion, vividness and type of memory (see Table 2). We can see that there is a higher frequency of remembering the shame event in the first month in comparison to the frequency of remembering that event after one month. In particular, the frequency of remembering the event in the first month and one month after was significantly higher for shame memories with others than for shame memories with attachment figures. Nevertheless, when asked about the incidence of intrusions and flashbacks about that particular shame memory throughout their lives, participants' mean scores were similar for both shame memories. Also, in the two shame memories, the majority of participants reported re-experiencing the original shame event with hyperarousal sensations and feelings whenever it came to mind (59.9%, $n = 239$ for the shame memory with others; 56.3%, $n = 214$ for the shame memory with attachment figures). Overall, higher mean scores (above 2.5) were found for memory vividness at the time of the retrieval for both shame memories with others and with attachment figures. When asked about the type of memory elicited, in shame memories with others, 48.6% ($n = 174$) participants referred that the shame memory corresponded to an event that occurred once, at a particular time and place, 36% ($n = 126$) stated that the memory was of several events that took place over a continuous and extended period of time and 15.4% ($n = 55$) said that the memory corresponded to a merging of similar events. In shame memories with attachment figures, a greater number of participants recalled a shame event that occurred once, at a particular time and place (66.4%, $n = 225$), 20.6% ($n = 70$) remembered a shame experience that corresponded to several events that happened over a continuous period of time and 13% ($n = 44$) a shame memory that corresponded to a merging of similar events.

Frequency of shame experiences throughout life

We then explored whether there were recently any situations that reminded them about the shame experience described and, if so, whether these were similar to the original shame event recalled. The majority of participants did not report any recent situations that triggered the shame memory (72.4%, $n = 289$ for the shame memory with others; 77.9%, $n = 296$ for the shame memory with attachment figures). For those who did state having had a recent situation that activated the shame memory, those triggering events were described as different from the original shame experience (58.6%, $n = 112$ for the shame memory with others; 63.1%, $n = 125$ for the shame memory with attachment figures).

Regarding the frequency of shame experiences with others and with attachment figures throughout life (see Table 2) there were higher mean scores for shame experiences in adolescence, followed by the means values of shame experiences in childhood and in adulthood. Furthermore, the frequencies of shame experiences in childhood, adolescence and adulthood were significantly higher for shame experiences involving others. In these shame experiences with others the most frequent shamers were the self (29.8%, $n = 119$), several significant others (e.g., peers, friends, relatives) (26.6 %, $n = 106$), friends (20.8%, $n = 83$), peers (9.5%, $n = 38$), relatives (7.1%, $n = 28$) and strangers (6.3%, $n = 25$). In terms of audience in these shame experiences with others, the most frequent audience was several significant others (e.g., peers, friends, relatives; 37.8 %, $n = 151$), friends (31.6%, $n = 126$), peers (12.8%, $n = 51$), relatives (9.3%, $n = 37$), strangers (8.3%, $n = 33$) and others (e.g., teachers; 0.3%, $n = 1$). In the shame experiences with attachment figures throughout life, where the shamers were the father and/or the mother or other caregiver, the most frequent audience was relatives (56.3%, $n = 214$), several significant others (e.g., peers, friends, relatives; 24.2 %, $n = 92$), friends (11.3%, $n = 43$), strangers (6.8%, $n = 26$) and other people (1.3%, $n = 5$).

Finally, we investigated whether there were other difficult non-disclosed shame experiences, such as sexual abuse. Notably, 22.8% ($n = 91$) of participants reported the existence of difficult shame experiences with others which they were ashamed about and wouldn't disclose to anyone and 20.5% ($n = 78$) affirmed that there were other important shame experiences with attachment figures which would be extremely hard or impossible to disclose.

Interference and impact of the shame experience

We explored whether the shame experience previously described interfered with how participants coped with similar situations from then on. Regarding the shame experience with others, 56.4% ($n = 225$) of participants considered they altered how they coped with similar situations due to fear of being shamed, and 52.9% ($n = 201$) also said to have modified their coping in relation to the shame experience with attachment figures. The most frequent general coping strategies to deal with shame situations or events that could induce shame since the original shame experience were: avoidance (62.2%, $n = 140$, for the shame memory with others; 60.6%, $n = 126$, for the shame memory with attachment figures), compensation (59.6%, $n = 134$, for the shame memory with others; 49.5%, $n = 103$, for the shame memory with attachment figures) and non use of retaliation (85.8%, $n = 193$, for the shame memory with others; 85.1%, $n = 177$, for the shame memory with attachment figures) or submission (76.4%, $n = 172$, for the shame memory with others; 77.4%, $n = 161$, for the shame memory with attachment figures). Participants then rated the extent to which these coping strategies interfered with the achievement of important life goals. The mean scores for interference with life goals were expressive and similar for the shame memory with others and with attachment figures (see Table 2).

At last, negative and positive impact of both shame experiences were investigated (Table 2). Mean scores for negative impact of the two shame memories were higher than for positive impact and participants scored significantly higher for the negative impact of shame memories with others than for those with attachment figures.

Shame memories traumatic, centrality and autobiographical properties

Means, standard deviations and mean comparisons for self-report measures assessing traumatic, centrality and autobiographical memory properties of shame memories with others and with attachment figures are presented in Table 2. Mean scores for traumatic impact and centrality of the shame memory are similar to the ones reported in earlier studies that have not used the SEI to elicit the shame memories (Matos & Pinto-Gouveia, 2010, 2011c; Matos, Pinto-Gouveia, & Duarte 2011b, 2012). Although no significant differences between the shame memory with others and with attachment figures were found concerning the centrality of these events to self-identity and life story, a significant mean difference was found for the traumatic impact of these memories, with shame memories with others showing higher IES-R mean scores than shame memories with attachment figures.

In regard to autobiographical memory properties, the descriptive statistics were also similar to the ones found in previous studies that have not used the SEI (Matos & Pinto-Gouveia, 2011c). We can see that mean scores for vividness of recollection, remembering the event rather than just knowing it happened, accuracy of memory, auditory imagery vividness, story coherence, importance, specificity and age were generally higher for the shame memory with attachment figures. However, most of these differences did not reach statistical significance with the exception of the variables hear and once/specific, meaning that shame memories with attachment figures tended to be recalled with increased auditory vividness and to correspond to events that happened once. An exception to this pattern was found for real/imagine, with participants scoring significantly higher in the belief that the event really occurred and was not imagined in the shame memory with others.

Study II: Relationship between shame memories' phenomenology characteristics and their traumatic and centrality memory properties

Another aim of the present study was to investigate the associations between certain phenomenology features of the shame memories with others and with attachment figures, as measured by the SEI, and their traumatic impact and centrality features, as measured by self-report instruments. Pearson product-moment correlations between these variables are presented in Table 3.

The severity of *external shame* in the shame experience was significantly correlated with traumatic memory characteristics and the centrality of both shame memories. The degree of *internal shame* was positively associated with the traumatic impact of shame memories with others and with attachment figures. Internal shame severity in the shame situation was also significantly but weakly correlated with centrality to identity and life story of shame memories with others and with attachment figures.

Table 3. Correlations between shame memories phenomenology variables and traumatic impact of shame memory (IES-R) and centrality of shame memory (CES) for shame memory with others (SEI Part 1) and shame memory with attachment figures (SEI Part2)

SEI phenomenology variables	Shame memory with others (n = 399)		Shame memory with attachment figures (n = 380)	
	IES-R	CES	IES-R	CES
<i>Degree of shame</i>				
External shame	.23***	.25***	.20**	.25***
Internal shame	.27***	.16*	.25***	.12*
<i>Intensity of emotions</i>				
Shame	.18***	.06	.24***	.17***
Anxiety	.29***	.13**	.32***	.25***
Anger	.29***	.20***	.36***	.29***
Humiliation	.32***	.18***	.37***	.32***
Disgust	.33***	.27***	.45***	.35***
Loss of dignity	.32***	.17***	.28***	.27***
Sadness	.29***	.15**	.36***	.25***
Frustration	.35***	.23***	.34***	.26***
Guilt	.28***	.09	.12*	.08
Envy	.22***	.30***	.18***	.24***
<i>Responses in the shame situation</i>				
Submissive body/physical response	.21***	.15**	.28***	.22***
Fear/activation body/physical response	.26***	.15**	.32***	.18***
Flight/submissive behavioural response	.21***	.14**	.26***	.18***
Fight behavioural response	.16***	.11*	.13*	.16***
<i>Action tendencies</i>				
Flight/submission	.17***	.07	.28***	.20***
Fight	.15**	.18***	.22***	.22***
Freeze	.25***	.14**	.25***	.20***
Make amends/Reparation	.10	.04	.05	.01
<i>Coping strategies after the shame situation</i>				
Flight/submissive behavioural strategy	.31***	.16**	.38***	.25***
Fight behavioural strategy	.16***	.12*	.19***	.20***
Avoidance/suppression affective strategy	-.07	.06	-.06	-.02
Reassurance seeking social strategy	.02	.08	.08	.05
Isolation social strategy	-.02	-.06	-.02	-.05
Compensation affective strategy	-.01	.06	.04	.03
Dissociation affective strategy	.22***	.14**	.19***	.17***
Denial affective strategy	.11*	.13*	.09	.16**
Externalization cognitive strategy	.07	.05	.10	.12*
Internalization cognitive strategy	.21***	.16***	.08	.05
Control cognitive strategy	.02	.07	-.10*	-.05
Guilt cognitive strategy (moral standard violation)	.21***	.05	.18***	.09
<i>Memory</i>				
Memory frequency in the first month	.35***	.29***	.48***	.35***
Memory frequency after 1 month	.37***	.30***	.46***	.41***
Memory intrusion since the event	.43***	.49***	.48***	.45***
Memory hyperarousal/re-experiencing	.30***	.20***	.42***	.33***
Memory vividness	.13*	.27***	.21***	.26***
<i>Frequency of shame experiences throughout life</i>				
Childhood	.26***	.23***	.28***	.36***
Adolescence	.27***	.18***	.24***	.25***
Adulthood	.15**	.12*	.20***	.22***
<i>Interference and impact of the shame experience</i>				
Interference with important life goals	.25***	.38***	.30***	.46***
Negative impact throughout life	.43***	.49***	.49***	.42***
Positive impact throughout life	.11	.20***	.03	.21***

* $p < .050$. ** $p < .010$. *** $p < .001$

In regard to the *intensity of emotions* experienced in the shame situation, significant correlations were found between all emotions and the traumatic impact of shame memories with others and with attachment figures. Specifically, anxiety, anger, humiliation, disgust, frustration and sadness revealed the strongest association with the traumatic impact of both shame memories, with frustration being the emotion most strongly related to traumatic impact of shame memories with others, and disgust, humiliation, sadness and anger the emotions most strongly linked to the traumatic impact of shame memories with attachment figures. Envy, disgust, frustration and anger showed the highest correlations with centrality of shame memory with others but shame and guilt revealed no significant association. In relation to centrality of shame memories with attachment figures, all emotions, with the exception of guilt, were positively linked to regarding the shame event as central to self-identity, with disgust, humiliation, anger, loss of dignity, frustration, sadness and anxiety revealing the higher correlations. Overall, stronger magnitude correlations were found between intensity of emotions and shame memories with attachment figures traumatic impact and centrality properties.

The *bodily/physical* and *behavioural responses* in the shame situation were significantly linked to the traumatic impact and centrality of both shame memories. However, stronger correlations were found for traumatic impact and centrality of shame memories with attachment figures. In particular, the submissive and fear/activation physiological responses and the flight submissive behavioural response revealed the highest associations with traumatic impact of shame memories with attachment figures and the fear/activation physiological response showed the strongest association with traumatic impact of shame memories with others. The fight behavioural response revealed the weakest correlation with both shame memories traumatic and centrality features.

In terms of *action tendencies* in the shame experience, freezing in the situation with no motivation to submit or retaliate, revealed the highest correlations with traumatic impact of the two shame memories. The motivation to flight and submit was especially related to the traumatic impact of shame memories with attachment figures. A desire to fight back and retaliate was also positively linked to the traumatic impact and centrality of both shame memories, although with lower correlations. The motivation to repair the shame situation, driven by guilt, was not significantly associated with shame memories' traumatic and centrality characteristics.

The flight submissive behavioural *coping strategies* were the coping strategies used after the shame event most strongly related to the traumatic impact and centrality of the two shame memories. The defensive fight coping was also associated with these memory's properties, although with weaker correlations. No significant correlations were found for social coping strategies. Regarding emotional coping, dissociation was positively associated with traumatic impact and centrality properties of both memories, and denial of shame revealed a weak but significant association with traumatic impact and centrality of shame memories with others and with centrality of shame memory with attachment figures. As to cognitive coping strategies, internalizing shame (e.g., self-blame, self-criticism) was positively correlated with traumatic impact and centrality of shame memories with others and externalize shame (e.g., blame others) was weakly linked to centrality of shame memory with attachment figures. Thinking one infringed severe moral standards (guilt cognitive strategy) was significantly correlated with traumatic impact of the two shame memories.

The *memory properties* of the shame experiences, as assessed by the SEI, were all significantly associated with the traumatic and centrality features of both shame memories. Of note, these correlations were generally stronger in magnitude for the shame memories with attachment figures. Specifically, the frequency of remembering the shame event in the first month and one month after were moderately associated with the traumatic impact and centrality of the two shame memories. Memory intrusions and flashbacks throughout life revealed the strongest correlation with the traumatic impact and centrality of

both shame memories. Hyperarousal sensations and re-experiencing the original event while remembering it were moderately correlated with the traumatic impact of shame memories with attachment figures, but also significantly associated with the centrality to identity of the two shame memories and with the traumatic impact of shame memories with others. Memory vividness was more strongly related to regarding the shame memory as central to personal identity and life story.

Concerning the *frequency* of shame experiences throughout life, continuing to have shame experiences with others and with the caregivers throughout life was significantly associated with the traumatic impact and centrality of the two shame memories. The frequencies of shame experiences with others and with attachment figures in childhood and in adolescence showed the highest correlations with both shame memories features, with the frequency of shame experiences with attachment figures in childhood revealing the highest correlation with the centrality of shame memories with attachment figures. Less expressive associations were found for the frequencies of shame experiences in adulthood, and the highest ones were found for shame memories with attachment figures.

Positive correlations were found between the *interference* with the achievement of important life goals and the traumatic impact and centrality of both shame memories. In addition, the negative *impact* of the shame experience with others and with attachment figures throughout life showed the strongest associations with their traumatic impact and centrality properties. Interestingly, the centrality of shame memories with others and with attachment figures was positively related to their positive impact throughout life.

Study III: Relationship between shame memories' traumatic and centrality properties and shame and psychopathology

We then explored how shame memories traumatic and centrality properties, as elicited by the SEI, were associated with self-report measures of current external shame, internal shame and psychopathological symptoms. Table 4 presents means and standard deviation for these self-report variables and correlations with traumatic and centrality of memory features.

Table 4. Means (*M*) and standard deviations (*SD*) for external shame, internal shame, and psychopathology variables and correlations with shame traumatic memory (IES-R_Others; IES-R_AttachFig) and centrality of shame memory (CES_Others; CES_AttachFig).

Variables	Total (<i>N</i> = 401)		IES-R Others	CES Others	IES-R AttachFig	CES AttachFig
	<i>M</i>	<i>SD</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
OAS	18.42	10.41	.36	.43	.31	.31
ESS	49.88	13.13	.34	.31	.33	.36
ISS	29.95	16.56	.40	.38	.39	.38
Depression	6.31	7.07	.32	.28	.33	.29
Anxiety	5.27	5.91	.37	.29	.33	.33
Stress	12.26	8.03	.30	.31	.28	.30

Note. IES-R = Shame traumatic memory; CES = Centrality of shame memory; OAS = External shame; ESS = Internal shame. All correlation coefficients are significant at $p < .001$.

External shame, as measured by the OAS, and internal shame, as measured by the ISS and ESS, were positively and moderately correlated with the traumatic impact and centrality of shame memories with others and with attachment figures. Depression, anxiety and stress symptoms also revealed positive correlations with these shame memories qualities.

Study IV: Positive and negative memories accessibility

The last part of the SEI measured the accessibility of positive and negative memories with parents and friends (see Table 5). In general, higher mean scores were found for the accessibility of positive memories in comparison to negative ones, with positive memories with friends being the most accessible. Accessibility of negative memories was slightly higher for memories with the father and friends than with the mother.

Table 5. Means (*M*) and standard deviations (*SD*) for the accessibility of positive and negative memories, centrality of memory features, autobiographical memory properties for the positive memory with an attachment figure (SEI Part 3)

Variables	Positive memory with attachment figures (<i>n</i> = 397)	
	<i>M</i>	<i>SD</i>
Accessibility of positive memories with father	12.64	17.07
Accessibility of positive memories with mother	15.58	19.23
Accessibility of positive memories with friends	28.90	29.40
Accessibility of negative memories with father	6.51	10.23
Accessibility of negative memories with mother	5.57	6.84
Accessibility of negative memories with friends	6.65	6.65
<i>Self-report measures</i>		
CES	57.60	19.73
AMQ		
Recollection	4.79	1.60
Reliving	4.90	1.68
Back in time	4.67	1.74
Remember/know	5.46	1.28
Belief	4.86	1.07
Real/Imagine	6.01	1.16
Accurate	4.13	1.95
Testify	5.30	1.49
Persuade	3.99	1.93
See	5.17	1.48
Setting	5.55	1.36
Spatial	5.52	1.23
Hear	4.53	1.69
Talk	4.15	1.70
In words	4.32	1.68
Story	4.88	1.49
Emotions	4.62	1.73
Importance	4.78	1.66
Rehearsal	4.08	1.78
Once/specific	0.51	0.50
Merged/extended	0.34	0.47
Age of memory (in years)	20.33	11.16

Note. AMQ = Shame autobiographical memory properties; CES = Centrality of shame memory.

Positive memories with attachment figure

Participants then selected a positive memory with an attachment figure from childhood or adolescence. Four individuals could not recall any positive experience. The remaining described experiences related to leisure activities (e.g., playing, go on holiday; 45.3%, *n* = 180), situations where they felt emotionally supported and safe (24.7%, *n* = 98), receiving something they really wanted (e.g., a present; 17.6%, *n* = 70), being helped in school activities (9.3%, *n* = 37) and the birth of a sibling (3%, *n* = 12). Means and

standard deviations for the centrality to personal identity and autobiographical memory properties of these events are reported in Table 5. We can see that these positive memories are regarded as central to identity and hold autobiographical memory properties. Furthermore, CES and AMQ variables' mean scores for these positive memories were higher than the ones found for shame memories with others and with attachment figures.

Discussion

Theoretical and empirical literature has recognized shame as one of the most powerful human emotions with a vital adaptive value to our sense of self and social behaviour but with possible major damaging consequences to our mental and physical well-being (e.g., Gilbert, 2007a; Kaufman, 1989; Keltner & Lerner, 2010; Tangney & Dearing, 2002; Tracy et al., 2007). However, research on the phenomenology of shame experiences and memories is scant and there is a dearth of instruments to assess such aspects in depth. The purpose of this study was therefore to explore the phenomenology of shame experiences from childhood and adolescence, specifically shame memories with peers, friends, relatives or others and shame memories with attachment figures, using a novel semi-structured interview, the SEI, in a large general population sample.

Study I explored and compared the phenomenological features of shame memories with others and with attachment figures. In regard to the *contextual, temporal and interpersonal* phenomenological features of the two shame experiences recalled, shame memories with others were most frequently related to situations where one had negative personal attributes or behaviours exposed to others, where one was criticized, put down or teased, or where others made negative comments or criticized body-related aspects. Being unfavorably compared to others and physically abused, like being bullied by peers, were also reported as significant shame experiences in childhood or adolescence. Most of these experiences happened in a public setting with the self, friends, peers or teachers being the most frequent shamers and the audience being people who participants' liked or knew, equal in age and rank status.

These findings support and add to current research on the significant impact of peer shaming, in the form of rejection, bullying, and criticism or teasing, on one's sense of self as a social agent (Gibb et al., 2004; Gilbert & Irons, 2009; Hawker & Boulton, 2000). These results also sustain previous theoretical and empirical assumptions on the public nature of shame, which is primarily related to the public exposure of negative aspects of self and intense feelings of public scrutiny (Gilbert, 1998c; M. Lewis, 1992, 2003; Smith, Webster, Parrot, & Eyre, 2002; Tangney, Marschall, Rosenberg, Barlow, & Wagner, 1994; Tangney et al., 1996). An unexpected finding was the self being identified by a significant amount of participants as the *shamer* in the situation. Although this might seem surprising at first, given that shame encounters are typically described as involving others shaming the self (e.g., Gilbert & McGuire, 1998; Kaufman, 1989; M. Lewis, 1992; Tangney & Dearing, 2002), we suggest that this finding does not contradict the social nature of shame because the self here was identified as being responsible for having devaluing characteristics or behaviours exposed to others. In other words, respondents blamed themselves for being ashamed, as they let others 'see' their flaws and inadequacies, and created negative images of themselves in the mind of the others. Although it was the 'inadequate' or 'flawed' self who ignited the shame feelings, central to the experience of shame was still others' thoughts and feelings about the self and existing in their minds as an unattractive social agent (Gilbert, 2003, 2007a).

In line with existing theory and research (e.g., Andrews, 2002; Gibb et al., 2004; Gilbert, 2007a, 2007c; Gilbert et al., 1996; Gilbert et al., 2003; Perris & Gilbert, 2000; Perry et al., 1995; Schore, 1998; Teicher et al., 2006; see Mills, 2005 for a review), experiences of parental criticism, put down and rejection, reflected shame, having negative aspects of the self exposed, body-related criticism, unfavourable comparisons with others/favouritism, and physical and sexual abuse were described by participants as the most significant shame memories from childhood and adolescent with their attachment figures. Again, most of these experiences occurred in a public context, although a significant amount took place in a private setting, where only the shamer and the self were present. It thus seems that shame experiences involving attachment figures not only may have a public nature, but may also unfold within more private parent-child interactions without exposure to others. As suggested by Buss (2001) just because an emotion-inducing situation happens in private that does not preclude it having a social nature. Both the father and the mother were the shamers in these accounts, with a smaller proportion of respondents naming both parents or other caregiver as shame elicitors. The audience was slightly different from that of shame memories with others, involving people they liked or knew, equal in age and rank status, but also loved ones, older and more dominant in rank. This is probably related to the context where shame experiences occurred, one being related to the wider social domain, for example in school where the majority of people were peers, and the other linked to more intimate contexts, within the nuclear or extended family, where grandparents, uncles, aunts, older brothers and cousins or other adults were present.

These results also fit with the idea that shame threats are related to two types of 'trauma', one related to threats of exclusion with feelings of being unwanted, rejected, or unattractive to others (e.g., criticism, negative comparisons, rejection), and other linked to threats of intrusion, where others get too close and hurt the self and one feels powerless to defend against it (e.g., bullying, physical or sexual abuse) (Dugnan et al., 2002; Gilbert, 2007a). Interestingly, although shame memories with others and with attachment figures involve both types of threat, our results showed that the former involved a significant higher number of intrusion-related shame trauma, which can have major implications to affect regulation and self-other schema (Cozolino, 2006; Gilbert, 2007a, 2007c; Gerhardt, 2004; Perry et al., 1995; Schore, 1994, 2001; Teicher, 2002).

Regarding the *externally and internally focused cognitive components*, in shame memories with others individuals tended to believe they existed in the minds of the others (i.e., external shame) as different, stupid, disgusting, incompetent or useless and flawed. In these experiences, shame was also accompanied by devaluing self-evaluative thoughts (i.e., internal shame) of the self as inferior, different, incompetent, stupid and worthless. In shame memories with attachment figures, participants thought they were being regarded as inadequate, unworthy of love and approval, stupid, incompetent, different, ridiculous or inferior by others. These external shame cognitions came with derogatory self-focused thoughts about the self as inferior, unworthy of love and support, inadequate, incompetent, stupid or ridiculous. These descriptions of external and internal shame are in line with current shame perspectives (Tangney & Dearing, 2002; Tracy & Robins, 2004), in particular with the biopsychosocial approach (Gilbert, 2002a, 2003, 2007a), showing that at the core of shame is the experience of an actual or imagined self with negative attributes in the mind of the others (external shame) who may condemn, reject, withdraw their love and support, or harm the self. Such experience of the self as an object of others scrutiny can be internalized into negative self-evaluations and feelings (internal shame) and texture the self-to-self relationship (Gilbert & Irons, 2005; Whelton & Greenberg, 2005). In spite of involving different processing systems, external and internal shame seem to blend together in the shame experience (Baldwin, 2005; Gilbert, 2003).

Furthermore, in both recollections, external and internal shame levels were high and surprisingly, the degree of internal shame was significantly higher for the experiences involving others. A possible explanation for this intriguing finding might be that in the shame experiences with attachment figures individuals may be especially attentive and responsive to what is going on in the mind of the other about the self and slightly less so to their internal self-evaluations, because being rejected, condemned or harmed by a caregiver represents a major threat to one's safeness, well-being and biosocial goals, and compromises effective affect regulation (Bowlby, 1969, 1973; Cacioppo, Berston, Sheridan, & McClintock, 2000; Cozolino, 2006; Gerhardt, 2004; Gilbert, 1989, 2007a; Schore, 1994, 2001). In shame experiences involving others however, individuals seem to be highly focused both on others' minds and on one's negative self-judgmental thoughts and feelings, perhaps aimed at restoring one's image in the eyes of the others so they do not reject or attack the self, but instead choose him/her for important social roles (e.g., friend, team member, ally); and repairing one's sense of social connectedness (Gibb et al., 2004; Gilbert, 2007c; Gilbert & Irons, 2009).

In agreement with the biopsychosocial model of shame (Gilbert, 1998c, 2002a, 2003), which postulates that people can have internalizing (e.g., internal shame, submissive behaviour) and/or externalizing defensive responses to social threats (e.g., humiliation, desires for vengeance), our results showed that nearly half of respondents had an externalizing *humiliation* response in the shame experiences recalled. This suggests that, in face of rejection or put down, many people seem to believe others are being unfair or mean and express strong desires to retaliate and get back at them.

In relation to the *emotional component* of the shame experiences, shame, anxiety, sadness, frustration, humiliation and anger were the emotions more intensely felt in shame memories with others and with attachment figures. These findings are in accordance with the idea that the shame experiences are emotionally rich, with shame affects binding with and being textured by a mixture of primary emotions, especially anxiety, anger and sadness (Gilbert, 1998c, 2002a; Kaufman, 1989; Nathanson, 1994). Of note, although the same emotions were more intense in both experiences, in shame memories with others, disgust, envy, anxiety, shame, frustration and loss of dignity were significantly higher than in shame memories with attachment figures. It seems that there is a tendency for people to rate their shame memories with others as being more affectively intense, and for anger (both directed at the self and at others) and sadness to play an important role in how shame episodes with attachment figures are textured. These results add to previous knowledge (Gilbert, 1998c, 2002a, 2007a; Nathanson, 1994) and should be considered by therapists when working with shame memories, as their affective component may impact on one's sense of self and self-to-self relationship (Gilbert & Irons, 2005) and on associated psychopathological symptoms. Nonetheless, the extent to which these differences reflect an actual discrepancy in the emotional pattern felt at the time of shame experiences with others and with attachment figures, or are rather a product of social desirability biases or even dissociation processes in the retrospective accounts, warrants further investigation.

As expected, high levels of a general submissive/flight *physical and behavioural response* (e.g., averted eye gaze, head movements down, avoidant body posture, feeling shrinking in size, withdrawal, escape, inhibition) were found for both shame experiences. This suggests that shame experiences, representing threats to the social self, are linked to the activation of a basic submissive flight display designed to positively influence how others view the self, evoke appeasement and de-escalate social conflict, supporting previous research and shame conceptualizations (Keltner, 1995; Keltner & Harker, 1998; Gilbert, 1998c, 2007a; Gilbert & McGuire, 1998). Higher levels of fear/activation (e.g., body tension, heart racing, startled and arousal sensations) were present in shame experiences in the wider social domain,

perhaps indicative of a heightened anxiety response in these situations, similar to that of social anxiety (Clark & Wells, 1995; Gilbert, 2001a; Gilbert & Trower, 1990, 2001). Although the levels of defensive fight behavioural responses were low in both memories, in shame experiences with attachment figures individuals revealed increased tendencies to protect the self against the attacks of the more powerful other. An hypothetic explanation for this unexpected finding might be that in shame from attachment figures, threats to the attachment bond and social self are more powerful and damaging and thus may elicit increased anger and trigger a basic fight defensive response as a means of re-empowering or defending the self against further loss of status in the eyes of the caregiver. In fact, when shame comes from an attachment object, the source of threat is also the source of safeness and individuals can get caught up in 'threat without resolution' states (Liotti & Gumley, 2008), which could trigger fear/submissive, as well as fight, defensive responses. However, further investigation is required, since in the shame display these aggressive tendencies are usually inhibited and, when one cannot fight with the dominant other, anger is typically arrested and redirected at the self (Gilbert, 1998c, 2007c; Tangney & Dearing, 2002). In addition, and as argued by Keltner and Karker (1998), shame experiences in the wider social domain or within attachment interactions seem to come with desires to hide, escape and submit and to redo the situation.

In line with the abovementioned results with regard to external and internal shame and with previous literature (Gilbert, 1998c, 2003, 2007a), *attention and cognitive focus* in the shame experiences was both externally directed to what others were thinking and feeling about the self and internally to one's own thoughts and feelings about the self, along with perceptions of the self as an object of others scrutiny. There is also a tendency for these attention features to be higher in shame experiences with others. Again, dissociative mechanisms at encoding or retrieval of the shame memories with attachment figures or social desirability issues could be explaining these differences. Future research should test this hypothesis.

Although the *physiological dimension* of shame was not directly assessed in this study and need further investigation, from participants' ratings of bodily and behavioural responses, our data seem to point to threat-related psychobiological changes (e.g., increased cortisol, stress physiological responses) at the time of the shame event, which have gathered increasing empirical evidence (e.g., Dickerson, Gruenwald, & Kemeny, 2004, 2009; Dickerson & Kemeny, 2004; Eisenberger, 2011).

Overall, these findings corroborate the view that threats of criticism, rejection and social put-down can be so powerful that shame responses involve the rapid activation of different types of innate defenses (e.g., flight and internalizing submissive self-focused or externalizing counter-attacking) (Gilbert 2002a, 2006a; Gilbert & McGuire, 1998; Keltner & Harker, 1998), which can have major consequences to the self-experience, interaction with others and following coping. Such defensive responses should therefore be evaluated and addressed in therapy with individuals with shame-based problems.

Another key idea that might be derived from these results concerning the emotional and behavioural dimensions of shame is that it seems shame experiences, which entail high levels of threat and stress and can have trauma-like qualities (Dickerson, 2010; Dickerson & Kemeny, 2004; Matos & Pinto-Gouveia, 2010), can set up conflicting defenses. In fact, in accordance to what has been noted by Gilbert (2007c, 2010), our findings show that in a given shame event multiple emotions, defensive behaviours and action tendencies can be aroused and sometimes conflict. And this seems to be especially true for shame memories with attachment figures. For example, in an early shame experience (and respective memory) involving an attachment figure one might feel anxious and ashamed and want to escape from the situation or hide from others and act out submissive displays. At the same time one might feel angry (at the self or

at others) or humiliated and want to fight back and retaliate. Simultaneously one might feel intense sadness, want to cry and crouch and feel loss of drive. Hence, our threat system (specifically our amygdala) can engender several contradictory defenses and for one to be acted, others need to be suppressed. Because these are conflicting defenses triggered by the same shame episode, one's affect regulation might become highly disorganized (Dixon, 1998; Gilbert, 2010). If such shame experiences are then structured as traumatic and central memories this may have important implications as it implies that whenever such memories are reactivated (at a conscious or non-conscious level) they might generate the same complex multi-textured experience in the self and drastically affect coping and emotional regulation.

In terms of *coping*, our results sustain current perspectives on shame-coping and general human coping (Gilbert, 1998c, 2002a, 2007c; Nathanson, 1994), and suggest that in the aftermath of a shame even, a host of defensive coping behaviours are triggered to deal with shame feelings and other aversive emotional states. These are mainly efforts to flight or escape from shame-eliciting situations or people, express submission, compensate for possible sources of inferiority, withdraw from others and be alone, suppress aversive inner states (feelings, thoughts or memories), ruminate, engage in self-blame and self-criticism (i.e., internalization, attack the self) and blame others (i.e., externalization, attack others). Yet, some participants report less maladaptive strategies to deal with shame, such as reassurance and help-seeking and acceptance. Our data additionally indicated that the tendency to use flight/submissive and internalizing (self-blame and criticism) coping was higher in shame experiences with others whereas the tendency to engage in defensive fight and externalizing (e.g., blame others) coping was higher in shame memories with attachment figures.

This partially mirrors the aforementioned findings regarding shame behavioural displays. Even though in general individuals tend to cope with shame experiences using flight or submissive strategies, when these experiences involve people from one's wider social domain, individuals more readily engage in internalizing coping (i.e., escape and submissive and blame the self), probably for purposes of restoring one's image in the eyes of the others and de-escalate social conflict. When shame experiences involve caregivers, however, individuals seem also to have a tendency (although with low scores) to use more externalizing coping (i.e., defensive fight and blaming others) after the event than in shame experiences with others. Such finding might be related to the fact that shame experiences with attachment figures might represent a prevailing and ongoing threat to one's sense of self and safeness, and thus activate a more continuing basic fight defensive response to keep the self attentive and responsive to possible attacks or rejection from significant others. Future research should seek to provide further empirical support to these speculations. This can also be viewed according to the above discussed idea that conflicting defenses (e.g., submissive withdrawal vs. defensive fight) can be activated to cope with shame. These data might have relevant clinical implications, since the way one copes with shame may perpetuate shame feelings and ultimately influence one's basic orientation to the world (e.g., threat-focused). Interestingly, for the majority of our sample their coping strategies seemed to be effective, as individuals revealed they helped diminishing their shame feelings. The case, however, should be different in a clinical population, and these aspects should be explored in such a sample.

Regarding *autobiographical and traumatic memory* features of the shame experiences measured by the SEI, our results demonstrate a higher frequency of remembering the event in the first month than afterwards, high memory vividness and medium levels of intrusions and flashbacks throughout life, and presence of re-experiencing and hyperarousal sensations for the two shame memories. Shame memories with others seem to be linked with higher memory frequency in the first month and one month after the episode in comparison to those with attachment figures. These findings mirror and extend previous

research using self-report measures showing that shame memories from childhood and adolescence reveal traumatic characteristics (i.e., intrusions and flashbacks, hyperarousal and avoidance symptoms; Matos & Pinto-Gouveia, 2010, 2011a; Matos, Pinto-Gouveia & Costa, 2011) and are related to heightened strength of recollection and imagery vividness in autobiographical memory (Matos & Pinto-Gouveia, 2011c). Furthermore, shame memories with attachment figures typically corresponded to a specific event that occurred once, whilst shame memories with others either corresponded to a merging or continuum of several events or to a specific situation.

In line with these results and past research (Matos & Pinto-Gouveia, 2010, 2011a, 2011b, 2011c; Pinto-Gouveia & Matos, 2011), data regarding traumatic, centrality and autobiographical properties of the two shame memories, as measured by self-report instruments, established that both shame memories revealed traumatic memory characteristics, eliciting intrusions, avoidance and hyperarousal symptoms, with individuals scoring higher in traumatic impact of shame memories with others than with attachment figures. In addition, shame memories involving others and with caregivers seem to be regarded as central to self-identity and life story. Both shame memories reveal several autobiographical memory properties (e.g., strength of recollection, belief in memory accuracy, visual and auditory imagery vividness, similarity and reliving of emotions, story coherence or importance to self), with shame memories with attachment figures being recalled with heightened auditory vividness and higher specificity. It might be that in interactions with caregivers, where one might have been shouted at, called names in hostile emotional tones, ridiculed or diminished through language, such verbal labels or descriptors of the self may texture one's self-identity and become particularly prominent components of such autobiographical memories (Matos & Pinto-Gouveia, 2011c; Teicher et al., 2006). Besides, insofar as threats to one's sense of self emerging within attachment interactions may be more powerful, shame episodes might be encoded and recalled as specific memories, limited in time and place.

On the whole, these data reinforces the argument that early shame experiences may lay down conditioned emotional threat memories, which may integrate self-other schema (e.g., of self as unworthy, flawed, inadequate, inferior, and of others as threatening, critical, rejecting, neglectful), function as traumatic self-defining memories or 'emotional hot-spots'/scripts in the mind, and regulate basic affect systems (Baldwin, 2005; Gilbert, 2003, 2007a, 2007c; Kaufman, 1989; Matos & Pinto-Gouveia, 2010, 2011a, 2011b, 2011c). Also, it seems that the SEI is a valid and reliable instrument to elicit and measure shame memory features.

In respect to the *frequency of shame experiences throughout life*, our findings suggest that, in a non-clinical population at least, just one quarter reports the existence of recent shame triggering events, most of which are described as different from the shame experiences recalled in the SEI. Besides, it seems that shame episodes are more frequent in adolescence and in childhood than in adult life. Conceivably, this finding may be related to the role of shame in self-identity formation and goals and one's sense of self (Gilbert, 2007a, 2007c; Pinto-Gouveia & Matos, 2011). Given that it is primarily in childhood and adolescence, first within family contexts and then in the wider social domains (e.g., with peers), that such developmental tasks are met, it is plausible that personal experiences of shame would be particularly relevant, and therefore memorable, in such periods. Also, while as an adult one may have developed effective (even if maladaptive) coping mechanisms to deal with shame (e.g., avoid, compensate/striving), as a child or an adolescent one might be much more vulnerable to the influence of such aversive experiences.

Noteworthy a significant amount of participants confirmed the existence of important other shame experiences with others or with attachment figures (e.g., sexual abuse), which would be extremely difficult or impossible to disclose to the interviewer. This suggests that for some individuals their most significant shame memories are too painful to disclose. As noted by several authors (Gilbert, 1998c; MacDonald, 1998; MacDonald & Morley, 2001; Pennebaker, 1997; Retzinger, 1998), and argued elsewhere (Matos & Pinto-Gouveia, 2011c), shame is an emotion associated with secrecy, concealment and non-disclosure because revealing one's most shameful memories may bring to the fore the same excruciating affects.

Our results extend previous knowledge on the *interference and impact* of early shame experiences (Gilbert, 2002a, 2007a, 2007c; Matos & Pinto-Gouveia, 2010, 2011a, 2011b, 2011c; Pinto-Gouveia & Matos, 2011), showing that shame experiences in childhood and adolescence seem to influence how individuals cope with threats to their social attractiveness throughout life. In particular, people tend to avoid shame-eliciting situations, develop submissive, appeasing and non retaliating styles of social relating and compensate and prove the self as valuable and capable by striving and competing to avoid inferiority. In addition, our data suggests that people regard their early shame experiences as having an important negative impact in their lives, but also a positive one. So, it seems that shame events, positing a primary threat to the social self and self-identity, can become a double-edged sword allowing for both debilitation and growth. In fact, previous research has demonstrated that potentially traumatic events can not only have negative effects but can also lead to post-traumatic growth, which does not necessarily imply a decrease of their negative consequences (Boals & Schuettler, 2011; Boals, Steward, & Schuettler, 2010; Linley, Joseph, Cooper, Harris, & Meyer, 2003; Tedeschi & Calhoun, 1996). Besides, resilience mechanisms related to processes of self-reconstruction have been found to help people bounce back from significant shame experiences (Van Vliet, 2008). Insofar as shame can be a traumatic experience and become central to personal identity and life story (Matos & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011), shame experiences and memories may also have negative and positive consequences. This is an interesting avenue for future research which could, for instance, explore post-traumatic growth or resilience processes related to shame trauma-like experiences.

On the whole, the set of results from Study I add to existing conceptualizations of shame (Gilbert, 1998c, 2003, 2007a; Kaufman, 1989; Keltner & Harker, 1998; Nathanson, 1994; Tangney & Dearing, 2002; Schore, 1998; Tomkins, 1987; Tracy & Robins, 2004). They suggest that early shame experiences have important phenomenological features and constitute a powerful and rich multifaceted experience, which may have potentially harmful consequences to one's sense of self, understanding and approach to the world and well-being. The cognitive, emotional, behavioural, physiological and cultural components of shame experiences, and associated traumatic and autobiographical memory properties, should then be evaluated and addressed, both in future research and in psychotherapy with high-shame individuals, with the SEI appearing to be a valid instrument for such purposes.

In **Study II** we examined how certain phenomenological features of the shame memories with others and with attachment figures were associated with their traumatic and centrality properties. Results showed that increased *external and internal shame* felt in the shame experience were associated with heightened traumatic characteristics (i.e., intrusiveness, avoidance, hyperarousal) of both shame memories. Greater internal shame severity was also related to increased centrality to identity and life story of shame memories with others and with caregivers, although the strength of such associations was weak. This suggests that the extent to which one experiences the self as unattractive, unworthy, different, inferior, disgusting or incompetent in the mind of the other in a significant shame experience from early life is

associated with the degree to which such event is structured as a traumatic and central memory, regardless of who the 'shamer' was. Furthermore, it seems that the harshness of one's negative self-evaluations (e.g., viewing the self as inferior, different, worthless, incompetent or stupid) at the time of a shame episode involving others from the wider social domain or one's attachment figures, is related to construing that event as central to personal identity.

These findings extend past research on the link between the traumatic and centrality properties of shame memories and current external and internal shame (Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Pinto-Gouveia & Matos, 2011; Matos, Pinto-Gouveia, & Duarte, 2011b). In addition, they provide corroborating evidence and can be viewed in light of shame and attachment theories (Baldwin & Dandeneau, 2005; Bowlby, 1969, 1973; Gilbert, 2007a; Kaufman, 1989; M. Lewis, 2003; Mikulincer & Shaver, 2005; Tomkins, 1987) and current conceptualizations of traumatic and autobiographical memory (Bernsten & Rubin, 2006, 2007; Brewin, 2006; Ehlers & Clark, 2000; Harman & Lee, 2010; McAdams, 2001). Thus, early shame experiences where one felt he/she generated negative emotions in others (e.g., anger, disgust, withdrawal – external shame), and intense threat (e.g., from a parent or peers) was associated with an experience of the self as undesirable or bad (e.g., internal shame), may lay down emotional memories that texture self-identity and self-other schema (i.e., shame-based internal working models), and organize one's life narrative. Besides, these shame-filled memories seem to engender an ongoing threat to one's social attractiveness and psychological integrity and hence may activate one's threat systems and threat processing and become structured as traumatic memories, with potential to create intrusions, re-experiencing symptoms and strong emotional avoidance.

A key finding was that the traumatic impact of both shame memories was significantly associated with the *intensity of several emotions* in the shame episode, and their centrality to personal identity and life story was also related to the intensity in which most emotions were experienced at the time. Interestingly, the pattern of emotions mainly associated with the traumatic and centrality characteristics of shame memories with others and with attachment figures was slightly different. The intensity of frustration, humiliation, disgust, humiliation and loss of dignity at the time of the shame event with others was most strongly associated with the degree in which such event was structured as a traumatic memory. In turn, increased disgust, humiliation, sadness, anger, frustration and anxiety felt in the shame experience with attachment figures was related to greater traumatic features of those memories. Additionally, while heightened feelings of envy, disgust, frustration and anger in the shame episode with others were associated with greater centrality to identity of those events, stronger feelings of disgust humiliation, anger, loss of dignity, frustration, sadness and anxiety in the shame experience with caregivers were linked to increased centrality to self-identity and life story of such memories. In general, stronger associations were found between emotional intensity and memory features of shame memories with caregivers.

These data point to the importance of the multiple emotional textures that permeate a shame experience and their role in how these become encoded and function as traumatic and central emotional memories. Noteworthy, our results show that shame traumatic and central memories are not all the same as to their emotional roots. In fact, it seems that experiencing frustration, humiliation, disgust, loss of dignity, envy, and anger at the time of a shame situation in the wider social domain may be particularly relevant to encoding and structuring such event as a traumatic and central in autobiographical memory. Conversely, experiencing intense disgust, humiliation, sadness, anger, frustration, anxiety and loss of dignity in a shame episode within the attachment relationship may have a significant impact on how such episode textures the whole sense of self and operates as a traumatic memory.

Thus, it seems that at the source of shame trauma-like memories are powerful emotional experiences of the self-in-relationship-with-others. Our findings fit with the view that shame experiences are rich emotional events, which may function as 'emotional hot-spots' or affect-scripts in the mind (Gilbert, 1998c, 2002a; Kaufman, 1989; Nathanson, 1994) and entail the arousal of diverse emotions which can at times conflict (e.g., anger vs. sadness; Gilbert 2007c, 2010). Also, they sustain Gilbert's (2003, 2007a, 2007c) suggestion that shame memories function as conditioned emotional memories that are stored in our threat system and can become the basis for negative self-experience and guides for emotional and cognitive processing. In addition, our data is in accordance with autobiographical memory research (Berntsen, Willert, & Rubin, 2003; Rubin, Boals, & Berntsen, 2008; Talarico, LaBar & Rubin, 2004) demonstrating that traumatic memories are linked to highly intense emotional events and the intensity of emotional experience greatly affects autobiographical memory properties (e.g., vividness, strength of recollection).

Another interesting result pertains to the association between *shame displays and action tendencies* in the shame experience and the traumatic and centrality of the respective shame memory. It seems that the more individuals express defensive submissive/flight and fear/activation physical and behavioural responses the more traumatic and central to identity the shame memories tend to be. Also, the more individuals feel desires to hide or escape, to fight and retaliate or feel paralyzed in the moment, the more traumatic and central the shame memory might be. Again, these associations tend to be stronger in shame memories with attachment figures.

This expands upon previous findings (Gilbert et al., 2003; Gilbert & McGuire, 1998; Keltner & Harker, 1998) and implies that in face of threats or losses of one's social attractiveness, the pattern of defensive behaviours (sometimes conflicting) that are automatically triggered may be linked to how the shame experience is encoded as a traumatic and self-defining memory, and more so if it occurs in attachment interactions. These results may have implications at a clinical level since early threat-related emotional memories, such as shame ones, seem to be able to create and recreate neuropsychological patterns, and may influence the ease of activation of innate protection strategies throughout life (Gerhardt, 2004; Gilbert, 2007c; Schore, 1994).

The data regarding *coping* suggest that shame memories' traumatic and centrality features are primarily associated with increased flight submissive, greater dissociation and counter-attacking coping strategies after the shame event. Self-criticism and self-blame (internalizing defensive coping) seem to be linked only to the traumatic and centrality qualities of shame memories with others, whereas blaming the self for violating moral standards seems to be related to the traumatic impact of both memories. These results add to existing literature on shame-related coping (Gilbert, 1998c, 2002a, 2007c; Nathanson, 1994), and suggest that the defensive coping behaviours activated after a shame event may affect how it is stored and operates in autobiographical memory. Therefore, these linkages should be assessed when working with high shame patients.

As expected, all *traumatic and autobiographical memory properties* assessed by the SEI were significantly associated with their traumatic impact and centrality to identity. Therefore, it seems that shame memories which are more frequently retrieved/recalled (either immediately after the event or one month after), elicit intrusions and flashbacks, trigger re-experiencing and hyperarousal sensations and are recalled as vivid emotional memories, tend to function as traumatic memories and become central to personal identity, structure one's life narrative and form highly available reference points to give meaning to other events. Furthermore, it is important to note that these associations were generally stronger in

relation to shame memories involving attachment figures. This expands upon previous evidence on the traumatic and central nature of shame memories from childhood and adolescence (Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Pinto-Gouveia & Matos, 2011), and suggests that the SEI is a valid instrument to prime and assess shame memory features.

Our results established that the *frequency of shame experiences* throughout life was positively related to the traumatic and centrality properties of both shame memories. Of note, having more shame experiences with caregivers during childhood is related to increased centrality to self-identity of the shame memory recalled involving attachment figures whereas having shame experiences with others in adulthood seems to be weakly linked to the traumatic impact and centrality of the shame memory with others. On the whole, these data imply that the recurrence of shame experiences in childhood, adolescence or adulthood, in the wider social domain or within family interactions may represent enduring threats to one's social self and thus reactivate and reinforce the traumatic nature of one's shame memories. At the same time, it might be that the more a shame memory is triggered by other experiences, the more 'reinfected' it might be by negative self/other-referent meanings and the more it might become interconnected with other concurrent memories, thus forming a central reference point for personal identity and life story.

The *interference* of the shame memories described in the achievement of important life goals and their negative *impact throughout life* was, as expected, expressively associated with the traumatic impact and centrality to identity of such memories. Interestingly, the positive impact of the two shame experiences was positively related to regarding them as central to personal identity and life narrative. Such result might be viewed in light of the literature reviewed earlier on post-traumatic growth associated with construing a potentially traumatic event as central to personal identity (Boals & Schuettler, 2011). Hence, it seems that shame events that become central memories to self-identity and life narrative may have both negative and positive effects. Perhaps depending on one's ability to formulate adaptive and alternative interpretations or views of the world, or change the self in ways that are socially reinforced (e.g., striving to reach high standards, perfectionism) as a result of the shame experience. These claims are speculative and should therefore be further investigated, since gaining insight into the factors that might protect the self against the detrimental consequences of shame experiences may have implications at prevention or clinical intervention levels.

The take-home message from these findings seems to be that the cognitive, emotional, bodily/physical, behavioural and motivational components of shame experiences play a relevant role on how such experiences come to be structured as traumatic emotional memories central to one's personal identity and life story. Beyond these phenomenological features, the way one copes with shame, the features of that memory, the reoccurrence of shame events across one's life and their interference and impact, seem to be essential aspects in understanding the traumatic and central nature of shame memories from childhood and adolescence.

Study III results further demonstrated that the heightened traumatic impact and centrality to identity of the shame memories with others and with attachment figures was associated with increased current external and internal shame, and greater symptoms of depression, anxiety and stress. This replicates findings from past research on the relationship between shame traumatic and central memories and current shame and psychopathology (Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Pinto-Gouveia & Matos, 2011). It therefore seems that shame memories by being structured as traumatic and central

memories to self-identity and life story may form highly accessible reference points for the organization of autobiographical knowledge and become interconnected to other memories. Thus, they may create a sense of current threat to the self, influence attentional, emotional and cognitive processing (e.g., threat focused) and translate into psychopathological symptoms (Berntsen, & Rubin, 2007; Harman & Lee, 2010; Matos & Pinto-Gouveia, 2010, 2011a, 2011c; Matos, Pinto-Gouveia & Costa, 2011; Matos, Pinto-Gouveia & Gilbert, 2011). Also, these results indicate that the SEI seems to be a reliable instrument to elicit and measure shame memory properties with significant linkages to psychopathological indicators.

Finally, **Study IV** explored data from the third part of the SEI. In terms of accessibility of general positive and negative emotional memories with each parent and friends (in childhood and adolescence), participants reported higher accessibility of positive memories in comparison to negative ones. In addition, the positive memories recalled with attachment figures were mainly of affiliative-safeness experiences (e.g., feeling connected and emotionally supported) and were construed as central to identity and revealed expressive autobiographical memory properties. These are expected findings given the non-clinical nature of our sample, which is likely to have more accessible positive memories. In fact, several studies suggest that the degree in which people are able to access positive affiliative memories with their caregivers, in contrast to negative threat-related ones, is related to self-other schema, and impacts on affect regulation, shame-related coping abilities (e.g., Baldwin, 2005; Gilbert, 2007a; Mikulincer & Shaver, 2005) and, consequently, on vulnerability to mental health problems. Besides, this finding fits with evidence from multiple studies showing that there is an increased accessibility of positive emotional autobiographical memories relative to negative ones in general population samples (see Walker, Skowronsky, & Thompson, 2003, for a review). Our data are also in line with a recent study (Berntsen, Rubin, & Siegler, 2011) showing that positive emotional events can be regarded as more central to life story and identity than negative ones and are unrelated to measures of emotional distress.

The take-home story from this set of studies seems to be that shame episodes recalled from childhood and adolescence emerge in early interactions with others within the family and in the wider social domain and are primarily experiences of threat to one's social attractiveness and sense of self. Such shame experiences are multifaceted experiences, which comprise a set of cognitive, emotional, physical, behavioural and motivational components, involve several defensive coping strategies, be encoded as autobiographical trauma-like memories, and have a significant negative, but also positive, impact in one's life. In addition, these phenomenology features of shame experiences seem to texture how such events come to be construed as traumatic memories central to self-identity and life narrative and may function differently in shame memories with others and with attachment figures. In turn, having an early shame memory that operates as a traumatic and central autobiographical memory seems to be related to increased levels of shame and psychological difficulties in the present. Alongside with the shame memories, people seem to have a higher accessibility to positive emotional memories in early life than negative ones.

Results from these studies should be interpreted considering several **methodological limitations**. Beyond those that were already discussed above, it is important to note that no causal conclusions are implied from these data given the cross-sectional design and the exploratory descriptive and correlational nature of these data. Future research should seek out to replicate our study using a prospective design which could allow for more robust causal conclusions to be drawn. In addition, there is the possibility that results might have been influenced by respondents' fatigue and/or aroused affect, given that the SEI is a long and

emotionally difficult interview to complete. In the future, a shorter version of the SEI could be developed and administered in an attempt to corroborate the current findings. Although this research had a primary exploratory nature which justified the use of a large non-clinical sample, its replication in a clinical sample would enable the validation of the present findings and explore possible differences between the two populations. Moreover, the retrospective nature of our data could raise concerns as to the accuracy of these accounts. However, research has shown that retrospective recall data are generally accurate, reliable and stable over time (e.g., Brewin, Andrews, & Gotlib, 2003). Furthermore, the fact that a semi-structured interview was used to prime and assess the phenomenology and memory features of early shame experiences is a major strength of this study, adding further support to the reliability of our results and overcoming limitations of previous studies which relied solely on self-report data (Matos & Pinto-Gouveia, 2010, 2011b, 2011c; Pinto-Gouveia & Matos, 2011).

Despite these limitations, this study might entail important **research and clinical implications**. Our findings indicate that the SEI is a valid and useful measure to assess shame experiences and memory features and future research should attempt to further psychometrically validate this instrument, for example exploring inter-rater reliability. The use of SEI, as a research instrument or clinical tool, may help to overcome problems associated with shame measurement (e.g., self-report questionnaires) and yield both rich research and clinical information.

In addition, this is the first research to investigate in depth the phenomenological characteristics of early shame experiences and how these relate to traumatic and autobiographical memory features using a semi-structured interview methodology. The current results appear promising as they highlight the richness of shame experiences phenomenology and their traumatic and autobiographical memory properties and note that these characteristics may operate differently depending on whether shame came from an attachment figure or was elicited by others from the extended social context. Such findings may have implications both for shame measurement and research and for clinical interventions in shame-based problems.

Taken as a whole, we hope these findings might shed light toward the further understanding of the nature of shame, its phenomenological complexity and potentially damaging effects, expanding upon current shame conceptualizations and research, particularly the evolutionary biopsychosocial approach, and bringing forth awareness to the need of carefully assessing and working with shame memories.

Acknowledgements

The authors are deeply grateful to all participants who agreed to share their painful shame experiences with us. A special word to Professor Paul Gilbert, for the insightful comments and encouragement throughout this investigation.

This research has been supported by the first author (Marcela Matos) Ph.D. grant (SFRH/BD/36617/2007), sponsored by FCT (Portuguese Foundation for Science and Technology).

9 | Study XII

Early shame experiences:
Toward the further understanding of shame memories
phenomenology

II. Studies in a mixed clinical sample

Matos, M. & Pinto-Gouveia, J. (2012). Early shame experiences: Toward the further understanding of shame memories phenomenology II. Studies in a mixed clinical sample. (*Manuscript in preparation for publication in an international scientific journal with peer review*).

Early shame experiences:

Toward the further understanding of shame memories phenomenology

II. Studies in a mixed clinical sample

M. Matos & J. Pinto-Gouveia

Abstract

Background: Growing evidence points to the pathogenic effects of shame and shame memories on psychopathological symptoms, but studies on the phenomenology of shame memories in clinical populations are scant. Drawing upon previous work (Matos & Pinto-Gouveia, 2012), this research comprises 5 studies, which investigate the phenomenology of early shame experiences, involving attachment figures and other social agents, and their traumatic, centrality and autobiographical memory properties in a mixed clinical sample, and compare it to that of a non-clinical one.

Method: The Shame Experiences Interview (SEI) was administered to a mixed clinical sample ($N = 119$) to assess the phenomenology of shame experiences with others and with attachment figures from childhood and adolescence. As part of the SEI, participants also completed measures of traumatic, centrality and autobiographical memory properties. One to two weeks before the SEI, respondents filled in self-report questionnaires measuring shame, social rank and psychopathology. The non-clinical sample ($N = 401$) was part of a previous study (Part I) and also completed the SEI and self-report measures.

Results: Study I showed that, in the clinical sample, early shame episodes, within the family and in the wider social domain, were mainly experiences of threats to one's social self and relational bonds, which entailed rich phenomenological features (i.e., cognitive, emotional, physical, behavioural components), triggered defensive coping, were stored as autobiographical trauma-like memories, interfered with life goals and had a major negative impact on one's life. Study II revealed that the degree in which shame memories function as traumatic central memories in the clinical sample was associated with the intensity of phenomenological properties of the early shame events, and such linkages were stronger in shame memories with caregivers. Study III demonstrated patients presented higher levels of phenomenological components of early shame experiences, interference and impact on one's life and associated traumatic, central and autobiographical memory properties, than individuals from the general population. Study IV indicated that patients had higher accessibility for general negative memories in comparison to positive ones, and to the non-clinical sample. Positive affiliative memories were less accessible and central to identity in patients. Study V showed that patients with heightened shame traumatic and central memories presented increased levels of current shame and psychological difficulties.

Conclusion: These results offer new insights toward the further understanding of the multifaceted and complex nature of shame memories phenomenology and their impact on self-identity and mental health in a mixed clinical sample, extending previous knowledge and underlining relevant clinical and research implications.

Keywords: Shame; Phenomenology; Traumatic memory; Autobiographical memory; Clinical sample; Shame Experiences Interview

Introduction

Taken together, the literature review presented by Matos and Pinto-Gouveia (2012, Part I of the current research, Study XI of the present thesis) outlined the concept and the evolutionary model of shame. It was noted that shame is an aversive and powerful self-conscious emotion with profound implications to human psychosocial functioning and suffering (Gilbert & Andrews, 1998; Kaufman, 1989; M. Lewis, 1992; Tangney & Dearing, 2002). In fact, shame has been systematically recognized as a pathogenic and transdiagnostic emotion associated with a number of clinical problems including depression (Alexander, Brewin, Vearnals, Wolff, & Leff, 1999; Andrews, Qian, & Valentine, 2002; Ashby, Rice, & Martin, 2006; Cheung, Gilbert & Irons, 2004; Matos & Pinto-Gouveia, 2010; Tangney & Dearing, 2002; Tangney, Stuewig, & Mashek, 2007a; Thompson & Berenbaum, 2006; for a review see Kim, Thibodeau, & Jorgensen, 2011), anxiety (Fergus, Valentiner, McGrath, & Jencious, 2010; Irons & Gilbert, 2005; Pinto-Gouveia & Matos, 2011; Tangney, Wagner, & Gramzow, 1992), social anxiety (Gilbert, 2000a; Matos, Pinto-Gouveia, & Gilbert, 2011), paranoia (Matos, Pinto-Gouveia, & Gilbert, 2011), post-traumatic stress disorder (Harman & Lee, 2010; Lee, Scragg, & Turner, 2001; Leskela, Dieperink, & Thuras, 2002), eating disorders (Goss & Allan, 2009; Skarderud, 2007; Swan & Andrews, 2003; Troop, Allan, Serpell, & Treasure, 2008), and personality disorders, particularly avoidant, dependent and obsessive-compulsive (Schoenleber & Berenbaum, 2010) and borderline (Brown, Linehan, Comtois, Murray, & Chapman, 2009; Rüşh et al., 2007).

Shame was earlier described as a multifaceted experience that involves cognitive, emotional, behavioural, physiological and cultural components and is associated with a host of defensive coping strategies. Furthermore, the traumatic nature and centrality to identity of shame autobiographical memories and their impact on several psychopathological indicators were explored (see Matos & Pinto-Gouveia, 2012, Part I of the current research, Study XI of the present thesis). However, studies examining the phenomenology of shame experiences in clinical and non-clinical samples are scarce, and results regarding particular aspects of shame phenomenology, or investigating shame memories, are predominantly derived from self-report data.

As previously explained, the *Shame Experiences Interview* (SEI; Matos & Pinto-Gouveia, 2006a) was developed to assess the phenomenology of shame experiences from childhood and adolescence and their memory characteristics, in an attempt to overcome existing limitations in shame measurement (for a detailed description of the SEI see Matos & Pinto-Gouveia, 2012, Part I of the current research, Study XI of the present thesis).

In the previous study (Matos & Pinto-Gouveia, 2012, Part I of the current research, Study XI of the present thesis), the phenomenology of shame memories in a general population sample was investigated using the SEI. In general, results showed that early shame episodes are multifaceted experiences defined by several cognitive, emotional, behavioural and physical components and that shame traumatic and central autobiographical memories are textured by certain phenomenology characteristics of shame experiences. Besides, the SEI appeared to be a valid and pertinent instrument to evaluate shame memories phenomenology and related memory features. In spite of innovative and promising, these findings warrant replication in a clinical population.

In addition, although shame processes and shame memories are thought to exist in a continuum that goes from lower and mild levels of shame and shame traumatic experiences, common in the general

population, to higher levels of shame and shame traumatic experiences in a clinical population, this notion has never been empirically supported.

So, the question remained as to the phenomenology of shame experiences from childhood and adolescence in a clinical sample and as to whether such shame experiences would vary in their phenomenology and autobiographical and traumatic memory features in a clinical and non-clinical population. Furthermore, previous studies have established that shame memories phenomenology and the way shame memories are structured as traumatic and central memories and impact on psychopathology differs depending on who elicited shame in the self in a particular memory (an attachment figure or others from the wider social domain; Matos & Pinto-Gouveia, 2011a, 2012; Matos, Pinto-Gouveia, & Costa, 2011). So, another key research question refers to the phenomenology of shame experiences involving others and of those involving attachment figures.

Aims

Therefore, the present study set out to explore the phenomenology of shame experiences retrieved from childhood and adolescence, using the SEI in a mixed clinical sample. Specifically, this study comprises five main aims, which correspond to distinct studies.

First, we investigate the phenomenological features of shame memories involving others and of shame memories involving attachment figures in a mixed clinical sample. Also, we examine the traumatic, centrality and autobiographical properties of these shame memories in the clinical sample. We further compare the shame memories involving others with the shame memories involving attachment figures regarding the phenomenology features, assessed by the SEI, and the traumatic, centrality and autobiographical properties of such memories (Study I).

Second, we explore the relationship between certain phenomenological characteristics of the shame memories involving others and of those involving caregivers and the traumatic, centrality and autobiographical qualities of these two shame memories (Study II).

Third, we study the differences between the clinical and the non-clinical samples in the phenomenology characteristics and memory properties of shame experiences involving others and of those involving an attachment figure (Study III).

Fourth, the accessibility of positive and negative memories with significant others and the centrality and autobiographical memory properties of positive memories attachment figures are investigated in the clinical sample and compared to the ones of a non-clinical population (Study IV).

Finally, we explore the association between traumatic and centrality of memory features of both shame memories and current shame, social ranking, psychopathological indicators and dissociation in the clinical sample and test whether the clinical and non-clinical samples differ regarding these variables (Study V).

Method

Participants

Clinical Sample

Participants in the clinical sample were 119 patients, recruited from three outpatient mental health services within the Portuguese National Health Service (after approval of the respective Ethical Committees), and were part of a more comprehensive investigation.

The selection criteria were for a mixed non-psychotic clinical group because shame and shame experiences are not confined to any diagnosis group (Gilbert et al., 2010; Tangney, Burggraf, & Wagner, 1995). Besides, we were interested in exploring these topics in a diverse and heterogeneous clinical population with moderate to severe mental health difficulties. Patients were included if they: (a) were receiving treatment on a mental health unit; (b) demonstrated intellectual capacity to understand and respond appropriately to the test materials; (c) gave their informed consent to participate in the study. Exclusion criteria were if patients were experiencing current psychotic illness or presented an active (untreated) substance use disorder. Patients who met these criteria were referred by their psychotherapist or psychiatrist to integrate the study.

Clinical diagnosis categories, assessed using DSM-IV criteria, were established through structured clinical interviews: the Structured Clinical Interview for Axis I (SCID-I; First, Spitzer, Gibbon, & Williams, 1996), the Structured Clinical Interview for Personality Disorders (SCID-II; First, Gibbon, Spitzer, Williams, & Benjamin, 1997) and the Borderline Personality Disorder Severity Index - 4th Version (BPDSI; Arntz & Giesen-Bloo, 1999).

Of 152 patients invited to take part in the research, 1 refused, 12 did not return the questionnaire pack, 8 dropped out of psychotherapy while participating in the study, 7 completed the questionnaire pack but did not attend the interview appointment, 3 withdrew after having commenced the interview and 2 did not respond appropriately to the interview questions and were excluded from the study, giving a response rate of 78%.

The final sample consisted of 97 (81.5%) women and 22 (18.5%) men. Their mean age was 28.94 ($SD = 9.26$) (range 17 - 55). Sixty one per cent were single ($n = 79$) and 27 % ($n = 23$) married. Forty three (39.4%) subjects were college students and 34 (31.2%) had middle class professions. Participants' years of education mean was 13.75 ($SD = 3.12$).

All participants met criteria for at least one Axis I ($n = 112$, 94.1%) and/or one Axis II ($n = 104$, 87.4%) disorder, with 79.8% ($n = 95$) presenting comorbidity with, at least, one Axis I or Axis II disorder. In regard to Axis I main diagnoses, 22 (18.5%) patients received a primary diagnosis of anxiety disorder: 10 (8.4% of the total sample) had a diagnosis of generalized social anxiety (SAD), 6 (5%) of obsessive-compulsive disorder, 4 (3.3%) of panic disorder, and 2 (1.7%) of specific social anxiety; 19 (16%) had a primary diagnosis of mood disorder (major depressive disorder); and 71 (59.7%) received a primary diagnosis of eating disorder: 33 (27.7%) of anorexia nervosa, 23 (19.4%) of bulimia nervosa, and 15 (12.6%) of eating disorder not otherwise specified (with 10 being binge eaters). As to Axis II, personality disorders (PD) primary diagnoses were as follows: 37 patients (31.1% of the total sample) were diagnosed with

obsessive-compulsive PD, 30 (25.2%) with avoidant PD, 30 (25.2%) with borderline PD, 3 (2.5%) with dependent PD, 2 (1.7%) with passive-aggressive PD, 1 with paranoid PD (0.8%) and 1 (0.8%) with a PD not otherwise specified. The most common additional diagnoses were obsessive-compulsive PD ($n = 22$), major depressive disorder ($n = 16$), generalized SAD ($n = 10$), avoidant PD ($n = 10$) and borderline PD ($n = 7$).

Non-clinical sample

The general population sample was as described in Matos and Pinto-Gouveia (2012, Part I of the current research, Study XI of the present thesis).

Procedure

In the clinical sample, two sessions were scheduled with each patient who agreed to participate in the study. In the first session, participants were informed about the purpose and procedures of the research and gave their informed consent. In this session, the structured clinical interviews and the research pack were administered by the first author (MM) and trained clinical researchers. The research pack contained the self-report measures outlined below and other questionnaires related to a larger research project. In the second session, the Shame Experiences Interview (SEI; Matos & Pinto-Gouveia, 2006a) was administered by the first author (MM) and lasted on average 90 to 120 minutes. This second session took place approximately 1 to 2 weeks after the first one, depending on the patient's availability. However, with some patients presenting more severe symptomatology, it was necessary to book an additional session to complete the SEI, in order to prevent bias due to fatigue or emotional activation. Data were collected between February of 2008 and July of 2011.

The procedure to recruit the non-clinical sample was as explained in Matos and Pinto-Gouveia (2012, Part I of the current research, Study XI of the present thesis).

Measures

Shame memories phenomenology

The same measures outlined in Part I of this research (Matos & Pinto-Gouveia, 2012, Part I of the current research, Study XI of the present thesis) were used to assess the phenomenology of shame experiences from childhood or adolescence.

In particular, the semi-structured interview *Shame Experiences Interview* (SEI; Matos & Pinto-Gouveia, 2006a) evaluated cognitive, emotional, behavioural, bodily/physical, motivational and contextual components of shame and its autobiographical and traumatic memory characteristics. A detailed description of this interview, its categories and rating scales can be found elsewhere (Matos & Pinto-Gouveia, 2012; Study XI of the present thesis).

After each part of the SEI, participants were asked to fill in the following self-report questionnaires considering the shame and positive memories elicited, measuring traumatic, centrality and

autobiographical memory properties (fully described earlier; Matos & Pinto-Gouveia, 2012, Part I of the current research, Study XI of the present thesis):

Impact of Event Scale – Revised (IES-R; Weiss & Marmar, 1997; Portuguese version by Matos, Pinto-Gouveia, & Martins, 2011). The IES-R was completed in relation to the shame memory involving peers, teachers, strangers or others (IES-R_Others) and to the shame memory with attachment figures (IES-R_AttachFig). In this study, both questionnaires showed high internal consistencies (Clinical sample: IES-R_Others = .94; IES-R_AttachFig = .96; Non-clinical sample: IES-R_Others = .95; IES-R_AttachFig = .95).

Centrality of Event Scale (CES; Berntsen & Rubin, 2006; Portuguese version by Matos, Pinto-Gouveia, & Gomes, 2010). In this study, participants completed the CES in relation to the shame memory involving peers, teachers, strangers or others (CES_Others; Clinical sample Cronbach' α = .97, Non-clinical sample Cronbach' α = .96), the shame memory with attachment figures (CES_AttachFig; Clinical and non-clinical sample Cronbach' α = .97), and the positive memory involving attachment figures (CES_Positive; Clinical and non-clinical sample Cronbach' α = .97).

Autobiographical Memory Questionnaire (AMQ; Rubin, Burt & Fifield, 2003; Rubin, Schrauf, & Greenberg, 2003; Sheen, Kemp, & Rubin, 2001; Portuguese version by Matos & Pinto-Gouveia, 2011c).

Set of self-report questionnaires

The same self-report instruments as described in Matos and Pinto-Gouveia (2012; Part I of the current research, Study XI of the present thesis) were administered to assess external shame, internal shame and psychopathology:

Other As Shamer (OAS; Goss, Gilbert, & Allan, 1994; Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011c). The Cronbach alpha for this study in the clinical sample was .94.

Internalized Shame Scale (ISS; Cook, 1994, 2001; Portuguese version by Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011b). The Cronbach alpha for the present clinical sample was .95.

Depression, Anxiety and Stress Scales (DASS-42; Lovibond & Lovibond, 1995; Portuguese version by Pais-Ribeiro, Honrado, & Leal, 2004). In the present study clinical sample, these subscales also revealed a very good reliability (Depression Cronbach's α = .93; Anxiety Cronbach's α = .90; Stress Cronbach's α = .92).

In addition, clinical sample participants also completed the following questionnaires:

Dissociative Experiences Scale - Revised (DES-II; Carlson & Putnam, 1993, Portuguese translation and adaptation by Dinis, Matos, & Pinto Gouveia, 2008) is a self-report measurement of the frequency of dissociative symptoms, such as amnesia, absorption, depersonalization and desrealization. The 28 items related to dissociative phenomena in daily life are rated on a scale from 0% (*never*) to 100% (*always*), corresponding to the frequency in which those symptoms are experienced. Examples of such phenomena include feelings of depersonalization, derealization, and psychogenic amnesia. In its original study, Cronbach's alpha was .90 (Carlson & Putnam, 1993). The alpha level for this study in the clinical sample was .93.

Social Comparison Scale (SCS; Allan & Gilbert, 1995; Portuguese translation and adaptation by Gato & Pinto-Gouveia). This self-report scale measures self-perceptions of social rank and relative social standing. The SCS uses a semantic differential methodology and consists of 11 bipolar constructs, such as

Inferior/Superior, Unattractive/Attractive. These 11-items cover judgements concerned with rank, attractiveness and how well the person thinks he/she 'fit in' with others in society. Participants are required to make a global comparison of themselves in relation to other people and to rate themselves along a ten-point scale. For example, the scale asks: "In relationship to others I feel *Incompetent* 1 2 3 4 5 6 7 8 9 10 *More competent*". Low scores point to feelings of inferiority and general low rank self-perceptions. The scale has been found to have good reliability, with Cronbach alphas of .88 and .96 with clinical populations and .91 and .90 with student populations (Allan & Gilbert, 1995, 1997). In this study's clinical sample, the SCS showed a Cronbach' alpha of .93.

Results

Data analysis

Data analyses were conducted using PASW (Predictive Analysis Software) version 18 (SPSS Inc., Chicago, IL, USA). Descriptive statistics (frequencies, means and standard deviations) were used to explore the phenomenology and memory properties of the shame experiences recalled with others (SEI part 1) and with attachment figures (SEI part 2) and of positive memories with significant others (SEI part 3). Paired Samples *t* Tests were conducted to test the significance of the mean differences between the phenomenology characteristics of parts 1 and 2 of the SEI, considering different shame experiences for the same person (Howell, 2006). Pearson product-moment correlations were further performed to explore the associations among phenomenology features of the two shame memories, their traumatic and centrality properties, current shame, social comparison and general psychopathological symptoms, which are numeric latent variables (Howell, 2006). Cohen and colleagues (Cohen, Cohen, West, & Aiken, 2003) cut points for the analysis of correlation magnitude were used (i.e., weak: *r* from .10 to .29; moderate: *r* from .30 to .49; strong: *r* < .50). Independent Samples *t* Tests were performed to investigate whether there were significant differences between the clinical and non-clinical samples: in the phenomenology features of the shame recollections and their traumatic, centrality and autobiographical memory properties; in external and internal shame, social comparison, psychopathology indicators and dissociation; and in the accessibility of negative and positive memories and autobiographical memory properties of the positive memory with an attachment figure. Two tailed effect sizes of the significant mean differences were calculated (Howel, 2006). Cohen's *d* ranged between .21 to 1.11 and effect-size correlation between .11 to .49.

Study I: Phenomenology of shame memories with others and with attachment figures in a mixed clinical sample

We begin to explore in detail the phenomenology of shame memories with others and with attachment figures in the clinical sample. Two participants could not recall a shame experience with attachment figures and 4 others did not attend the session where such experiences were going to be assessed. Frequencies, means and standard deviations for the phenomenology of shame memory variables in the clinical sample are presented in Tables 1 and 2.

Contextual, temporal and interpersonal components of the shame experiences

The frequencies for the categories of type of shame experience, context and shamer’s and audience’s characteristics are given in Table 1. Regarding the shame memory with others, the most frequent shame experiences reported by participants were of instances where an aspect(s) related to their body (e.g., weight, shape, physical appearance) was negatively commented on or criticized by others. The other most frequent types of shame memories with others were situations where participants recalled being criticized, made fun of or rejected by others. Situations where participants felt shame due to having a negative personal attribute or characteristics or devaluing behaviour exposed in front of others, were another type of shame experiences reported. Experiences related to feelings of shame due to personal habits (e.g., hygiene, clothing) were also evoked. Seven patients recollected situations where they were physically abused, and sexual abuse experiences were recalled by 4 patients as significant shame memories involving others. Less frequent shame experiences were feeling shame due to being negatively compared with significant others. Finally, 3 patients remembered situations where they felt shame of their family status in front of others.

Table 1. Descriptive statistics (frequencies and percentages) for the phenomenological categorical variables of shame memory with others (SEI Part 1) and shame memory with attachment figures (SEI Part 2)

SEI phenomenology variables	Shame memory with others (n = 119)		Shame memory with attachment figures (n = 113)	
	n	%	n	%
<i>Type of shame situation</i>				
Criticism/rejection by a attachment figure	-	-	44	38.9
Criticism/rejection by a significant other	38	31.9	-	-
Negative comments about weight, body, physical appearance	46	38.7	7	6.2
Comparisons with significant others	3	2.5	4	3.5
Exposure of devaluing behaviour/ negative personal attributes in front of others	12	10.1	8	7.1
Reflected shame (of an attachment figure or a significant other)	0	0	13	11.5
Shame of family status	3	1.7	7	6.2
Shame of personal habits (e.g., clothing, hygiene)	7	5.9	0	0
Psychological/emotional abuse (e.g., verbal abuse, neglect)	0	0	19	16.8
Physical abuse	7	5.9	7	6.2
Sexual abuse	4	3.4	4	3.5
<i>Shamer characteristics</i>				
Intimacy – Loved one	8	6.7		
Intimacy – Someone you liked	33	27.7		
Intimacy – Someone you disliked	8	6.7		
Intimacy – Self	26	21.8		
Intimacy – Acquaintance	17	14.3		
Intimacy – Stranger	9	7.6		
Intimacy – Several	14	11.8		
Intimacy – Other	4	3.4		
Age – Older	32	26.9		
Age – Younger	2	1.7		
Age – Older and younger	10	8.4		
Age – Same age	49	41.2		
Age – Self	26	21.8		
Relative power – Authority figure/ dominant	27	22.7		
Relative power – Subordinate	0	0		
Relative power – Equal	66	55.5		
Relative power – Self	26	21.8		
Gender – Male	25	21		
Gender – Female	30	25.2		
Gender – Both	38	31.9		
Gender – Self	26	21.8		
<i>Audience characteristics</i>				
Intimacy – Loved one	3	2.9	38	41.3

Intimacy – Someone you liked	35	33.7	11	12
Intimacy – Someone you disliked	3	2.9	1	1.1
Intimacy – Acquaintance	14	13.5	8	8.7
Intimacy – Stranger	4	3.8	4	4.3
Intimacy – Several	44	42.3	30	32.6
Intimacy – Other	1	1		
Age – Older	13	12.5	52	56.5
Age – Younger	1	1	3	3.3
Age – Older and younger	23	22.1	31	33.7
Age – Same age	67	64.4	6	6.5
Relative power – Authority figure/ dominant	7	6.7	44	47.8
Relative power – Subordinate	0	0	0	0
Relative power – Equal	82	78.8	16	17.4
Relative power – Several	15	14.4	32	34.8
Gender – Male	5	4.8	12	13
Gender – Female	20	19.2	24	26.1
Gender – Both	79	76	56	60.9
<i>External shame descriptors</i>				
Defective, flawed	17	14.3	6	5.3
Idiot, stupid	2	1.7	0	0
Different	34	28.6	10	8.8
Inferior	39	32.8	21	18.6
Disgusting, repulsive	4	3.4	3	2.7
Unworthy, worthless	5	4.2	40	35.4
Incompetent/Useless	11	9.2	18	15.9
Inadequate			10	8.9
Ordinary, vulgar	1	0.8	4	3.5
Ridiculous	6	5	1	0.9
<i>Internal shame descriptors</i>				
Defective, flawed	17	14.3	7	6.2
Idiot, stupid	3	2.5	2	1.8
Different	31	26.1	14	12.4
Inferior	39	32.8	26	23
Disgusting, repulsive	6	5	3	2.7
Unworthy, worthless	5	4.2	34	30.1
Incompetent/Useless	8	6.7	14	12.4
Inadequate	3	2.5	9	8
Ordinary, vulgar	1	0.8	2	1.8
Ridiculous	6	5	2	1.8
<i>General strategy to cope with shame after the event</i>				
Submission	10	8.4	12	10.6
Isolation	23	19.3	17	15
Flight	13	10.9	6	5.3
Rumination	22	18.5	16	14.2
Suppression	13	10.9	12	10.6
Cry	9	7.6	14	12.4
Self-criticism	2	1.7	4	3.6
Self-harm	2	1.7	0	0
Compensation	13	10.9	16	14.2
Fight/Retaliation	2	1.7	5	4.4
Reassurance/ Help-seeking	9	7.6	11	9.7
Acceptance	0	0	0	0
Freezing	1	0.8	0	0

In terms of the context, 88.2% ($n = 105$) of participants recalled shame experiences with others that occurred in a public context and 11.8% ($n = 14$) described situations that happened in private. These shame experiences mean age was 18.17 ($SD = 10.08$) and participants were in average 10.97 ($SD = 4.21$) years old when the event occurred.

When asked who the shamer was in the experience, 24.4% ($n = 29$) participants recalled events where they were shamed by their friends, 21.8% ($n = 26$) identified themselves as the shamers (i.e., for being

responsible of having a negative and devaluing personal attribute, characteristic or behaviour exposed in front of others), 17.7% ($n = 21$) by peers and 10.9% ($n = 13$) by other people (e.g., teacher). Nine (7.6) patients identified relatives as responsible for eliciting shame in that situation, 6 (5.0%) strangers and 15 (12.6%) named several of the abovementioned shamers (e.g., peers and teacher, peers and friends). As to the shamer(s)' characteristics, aside from those participants who identified themselves as the shamers, the shamer(s) was typically defined as being someone they liked and/or knew, the same age or older, equal or dominant in rank and both male and female. In regard to the people who were present when the shame event occurred (i.e., audience), they were described as being people who participants liked and/or knew, the same age as them, younger and older, equal in rank and both male and female.

Concerning shame memories involving attachment figures, the most frequent shame experiences recalled were situations where participants were criticized by a caregiver. The second most frequent shame memories evoked were of psychological and emotional abuse (e.g., neglect, verbal abuse). Reflected shame situations (i.e., feeling shame due to characteristics or behaviour of the attachment figure), were the next most frequent shame recollections. In addition, 8 patients described events where they had negative personal attributes or characteristics or devaluing behaviours exposed in front of the attachment figure(s), 7 recalled situations where the attachment figure criticized or made comments about their body, weight or physical appearance, 7 remembered events where they felt shame related to their family status and, 4 situations where the caregiver negatively compared them with significant others (e.g., siblings). Seven patients remembered situations where they were physically abused and 4 sexually abused by an attachment figure.

When asked about the context where the shame event took place, 71.7% ($n = 81$) referred that the shame experiences had happened in a public setting and 28.3% ($n = 32$) in a private one. The mean age of these shame experiences was 17.72 ($SD = 10.03$) years and participants were in average 11.37 ($SD = 4.19$) years old at the time. No significant mean difference was found between the shame experience with others and with attachment figures, regarding age of situation and participants' age when the event occurred [$t_{(112)} = 0.98, p = .331$].

Regarding the attachment figure who shamed them in the situation, 43.9 % ($n = 50$) named their father and 36 % ($n = 41$) their mother as the shamers, 10.5% ($n = 12$) were shamed by another caregiver and 9.6% ($n = 11$) by both parents. Because in these shame experiences the shamers were attachment figures, and hence presumed to be loved ones, older and dominant, the characteristic of intimacy, age and power were not directly assessed. As to audience's features, they were mainly loved ones or a combination of people participants liked or knew or strangers, generally older or younger and older, dominant and/or equal in rank, and both male and female.

Cognitive, emotional, bodily/physical and behavioural responses in the shame experience

Frequencies for the descriptors used by patients to depict external shame and internal shame feelings and thoughts in the shame experience are outlined in Table 1. Means, standard deviations and Paired Samples t Tests in the clinical sample for the degree of external and internal shame, intensity of emotions, responses and action tendencies in the shame experiences of Part 1 and 2 are shown in Table 2.

Table 2. Means (*M*), Standard Deviations (*SD*), Independent Samples *t* Tests with effect sizes (Cohen's *d*) between the clinical and non-clinical samples in the phenomenology characteristics of shame memories with others (SEI Part 1) and of shame memories with attachment figures (SEI Part 2) and Paired Samples *t* Tests for the phenomenology characteristics of shame memory with others and with attachment figures in the clinical sample

SEI Phenomenology variables	Shame memories with others							Shame memories with attachment figures								
	Clinical sample (<i>n</i> = 119)		Non-clinical sample (<i>n</i> = 399)		Independent Samples <i>t</i> Test			Clinical sample (<i>n</i> = 113)		Non-clinical sample (<i>n</i> = 380)		Independent Samples <i>t</i> Test			Paired Samples <i>t</i> Test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i> (₅₁₆)	<i>p</i>	<i>d</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i> (₄₉₁)	<i>p</i>	<i>d</i>	<i>t</i> (₁₁₂)	<i>p</i>
<i>Degree of shame</i>																
External shame	8.49	1.45	7.45	1.90	5.05	<.001	.62	8.54	1.71	7.56	2.01	4.12	<.001	.53	-0.34	.738
Internal shame	8.79	1.72	7.23	2.16	5.89	<.001	.80	8.67	1.63	6.25	2.69	7.43	<.001	1.09	0.99	.326
<i>Intensity of emotions</i>																
Shame	3.56	0.72	3.25	0.78	3.91	<.001	.41	3.31	0.94	3.09	0.96	2.18	.030	.23	2.56	.012
Anxiety	2.91	1.03	2.60	1.21	2.54	.011	.28	2.99	1.12	2.39	1.23	4.64	<.001	.51	-0.93	.354
Anger	2.36	1.36	1.98	1.46	2.65	.009	.27	2.61	1.44	2.04	1.42	3.70	<.001	.40	-1.95	.050
Humiliation	2.78	1.38	2.33	1.45	3.11	.002	.33	2.79	1.35	2.19	1.41	4.07	<.001	.44	0.07	.946
Disgust	1.93	1.52	1.22	1.32	5.01	<.001	.50	1.63	1.61	0.96	1.22	4.74	<.001	.47	2.11	.037
Loss of dignity	2.27	1.44	1.72	1.38	3.71	<.001	.39	2.19	1.56	1.57	1.27	4.32	<.001	.44	0.84	.405
Sadness	3.09	1.16	2.54	1.20	4.44	<.001	.47	3.33	1.05	2.49	1.28	6.33	<.001	.72	-2.12	.036
Frustration	3.03	1.11	2.41	1.28	4.75	<.001	.52	3.00	1.17	2.23	1.31	5.59	<.001	.62	0.32	.753
Guilt	2.33	1.39	1.62	1.47	4.95	<.001	.50	2.33	1.57	1.54	1.47	4.76	<.001	.52	0.00	1.00
Envy	1.50	0.79	1.03	1.30	3.37	.001	.44	1.20	1.53	0.61	1.11	4.58	<.001	.44	1.88	.062
<i>Responses in the shame situation (bodily, behaviour, cognitive focus)</i>																
Submissive bodily/physical response	2.62	1.03	1.80	1.08	7.53	<.001	.78	2.47	1.28	1.73	1.11	5.54	<.001	.62	1.56	.121
Fear/activation bodily/physical response	2.09	0.94	1.64	0.90	4.65	<.001	.49	2.03	1.07	1.53	0.91	4.55	<.001	.50	0.74	.460
Flight/submissive behavioural response	2.67	1.01	1.76	1.02	8.65	<.001	.50	2.24	1.09	1.66	1.00	5.27	<.001	.55	3.65	<.001
Defensive fight behavioural response	0.45	0.84	0.46	0.87	-0.10	.922		0.78	1.17	0.62	1.02	1.39	.168		-2.88	.005
Focus on one's thoughts and feelings about the self	3.24	1.28	2.10	1.33	8.28	<.001	.92	2.90	1.47	1.71	1.32	7.75	<.001	.85	2.15	.034
Focus on others' thoughts and feelings about the self	3.58	0.87	2.86	1.19	6.15	<.001	.69	3.31	1.12	2.63	1.30	5.03	<.001	.56	2.24	.027
Focus on the self as object of others' scrutiny	3.43	1.10	2.61	1.35	6.05	<.001	.67	3.34	1.20	2.20	1.57	7.11	<.001	.82	0.70	.485
<i>Action tendencies</i>																
Flight/submission	3.27	1.23	2.24	1.46	7.00	<.001	.76	2.79	1.43	2.16	1.43	4.15	<.001	.44	3.07	.003
Fight	1.28	1.71	0.85	1.39	2.76	.006	.28	1.28	1.74	0.81	1.36	3.05	.002	.30	-0.37	.712
Freeze	1.95	1.77	1.42	1.47	3.30	.001	.33	1.80	1.74	1.29	1.39	3.22	.001	.32	1.03	.304
Make amends/Reparation	2.12	1.78	2.02	1.70	0.56	.578		2.00	1.87	1.99	1.65	0.07	.943		0.77	.441
<i>Coping strategies after the shame situation</i>																
Flight/submissive behavioural strategy	2.53	1.13	1.57	1.01	8.38	<.001	.90	2.32	1.19	1.42	1.00	8.08	.000	.82	1.88	.063
Defensive fight behavioural strategy	0.47	0.90	0.46	0.84	0.07	.944		0.62	0.98	0.59	0.97	0.29	.775		-0.37	.712
Reassurance seeking social strategy	0.97	1.49	1.40	1.56	-2.55	.011	-.28	0.95	1.45	1.34	1.54	-2.42	.016	-.26	0.17	.863
Isolation social strategy	2.71	1.76	1.84	1.81	4.62	<.001	.49	2.80	1.76	1.91	1.81	4.62	<.001	.50	-0.43	.670
Avoidance/suppression affective strategy	0.93	0.90	1.00	0.77	-0.83	.405		0.75	0.86	0.94	0.72	-2.31	.021	-.24	1.49	.138
Compensation affective/behavioural strategy	2.03	1.44	1.84	1.30	1.26	.208		1.91	1.38	1.72	1.26	1.33	.185		0.58	.565
Dissociation affective strategy	0.92	1.49	0.29	0.78	5.76	<.001	.53	0.58	1.20	0.29	0.75	3.06	.002	.29	2.27	.025
Denial affective strategy	0.55	1.23	0.70	1.20	-1.14	.258		0.52	1.20	0.62	1.32	-.74	.463		0.51	.609
Externalization cognitive strategy	1.57	1.69	1.32	1.58	1.44	.152		2.04	1.76	1.61	1.60	2.50	.013	.26	-2.58	.011
Internalization cognitive strategy	2.55	1.23	1.47	1.26	8.30	<.001	.87	2.23	1.39	1.12	1.20	8.26	<.001	.85	2.11	.037
Control cognitive strategy	0.69	1.42	0.72	1.24	-0.23	.821		0.46	1.11	0.58	1.08	-1.00	.317		1.82	.072
Guilt cognitive strategy(moral standard violation)	0.49	1.15	0.64	1.18	-1.28	.203		0.86	1.48	0.73	1.21	0.97	.335		-2.25	.026
<i>Memory</i>																
Memory frequency in the first month	2.96	1.20	2.05	1.12	7.42	<.001	.78	2.75	1.32	1.85	1.07	7.45	<.001	.75	1.76	.082
Memory frequency after 1 month	2.16	1.35	1.32	1.06	7.71	<.001	.69	2.21	1.40	1.10	1.04	9.16	<.001	.90	-0.35	.728
Memory intrusion since the event	2.56	1.09	1.54	0.98	9.21	<.001	.98	2.47	1.31	1.47	0.94	9.04	<.001	.88	0.72	.473
Memory hyperarousal/re-experiencing	0.92	0.27	0.60	0.49	6.93	<.001	.81	0.85	0.36	0.56	0.50	5.70	<.001	.67	2.22	.028
Memory vividness	3.06	0.99	2.67	1.06	3.72	<.001	.38	3.18	1.07	2.57	1.07	5.31	<.001	.57	-1.17	.245
<i>Frequency of shame experiences throughout life</i>																
Childhood	2.61	1.19	1.96	1.02	5.88	<.001	.59	2.39	1.21	1.64	0.90	7.13	<.001	.70	2.23	.028
Adolescence	3.10	1.00	2.16	0.87	9.95	<.001	1.00	2.63	1.07	1.86	0.86	7.80	<.001	.79	4.17	<.001
Adulthood	2.58	1.18	1.48	0.87	10.88	<.001	1.06	2.03	1.16	1.05	0.79	10.08	<.001	.99	4.56	<.001
<i>Interference with coping and life goals</i>																
Avoidance	0.88	0.32	0.62	0.49	5.12	<.001	.63	0.83	0.38	0.61	0.49	3.99	<.001	.50	1.62	.109
Submission	0.56	0.50	0.24	0.45	6.18	<.001	.67	0.52	0.50	0.23	0.42	5.24	<.001	.63	0.94	.349
Compensation	0.75	0.46	0.60	0.49	2.73	.007	.32	0.72	0.45	0.50	0.50	3.66	<.001	.46	0.65	.516
Retaliation	0.21	0.41	0.14	0.35	1.52	.131		0.21	0.42	0.15	0.36	1.76	.080		0.00	1.00
Interference with important life goals	3.05	1.27	1.88	1.21	8.70	<.001	.94	2.77	1.46	1.86	1.16	6.98	<.001	.69	2.40	.018
<i>Impact of the shame experience</i>																
Negative impact throughout life	2.88	1.29	1.48	1.23	10.51	<.001	1.11	2.59	1.40	1.27	1.22	9.83	<.001	1	2.16	.033
Positive impact throughout life	0.66	1.12	1.14	1.33	-3.59	<.001	-.39	0.63	1.14	1.17	1.37	-3.82	<.001	-.43	-0.14	.888
<i>Self-report measures</i>																
IES-R	5.98	2.84	3.62	2.37	9.09	<.001	.90	5.90	3.20	3.32	2.39	9.31	<.001	.91	0.34	.737

CES	65.95	20.96	46.34	18.49	9.84	<.001	.99	62.81	23.31	44.82	18.90	8.42	<.001	.85	1.30	.197
AMQ																
Recollection	4.73	1.63	3.82	1.69	5.28	<.001	.55	4.93	1.63	3.90	1.65	5.87	<.001	.63	-1.07	.289
Reliving	4.85	1.66	3.93	1.81	5.16	<.001	.53	5.04	1.66	4.02	1.74	5.68	<.001	.60	-0.95	.343
Back in time	4.61	1.85	3.71	1.83	4.67	<.001	.49	4.82	1.87	3.79	1.83	5.19	<.001	.56	-0.94	.347
Remember/know	5.31	1.41	5.12	1.31	1.34	.181		5.49	1.45	5.14	1.38	2.27	.025	.25	-0.95	.343
Belief	5.06	1.05	4.71	0.95	3.28	.001	.35	5.04	1.09	4.69	0.98	3.13	.002	.34	0.21	.838
Real/Imagine	6.24	1.13	6.00	1.21	2.02	.045	.21	6.11	1.34	5.84	1.20	2.06	.040	.21	1.07	.289
Accurate	4.44	1.62	3.98	1.68	2.70	.008	.28	4.39	1.93	4.04	1.72	1.85	.065		0.21	.834
Testify	5.12	1.68	4.88	1.61	1.34	.182		5.58	1.49	4.86	1.61	3.78	<.001	.40	-3.04	.003
Persuade	3.55	1.93	4.02	1.82	-2.38	.018	-.25	3.81	2.10	3.99	1.76	-0.91	.362		-1.58	.118
See	5.25	1.46	4.55	1.50	4.56	<.001	.47	5.22	1.61	4.48	1.51	4.38	<.001	.47	0.40	.693
Setting	5.53	1.40	5.12	1.50	2.77	.006	.28	5.44	1.54	5.16	1.44	1.70	.091		0.80	.423
Spatial	5.63	1.31	5.36	1.33	1.97	.051	.20	5.45	1.60	5.33	1.45	0.69	.489		1.26	.210
Hear	4.43	1.73	3.84	1.73	3.27	.001	.34	4.63	1.81	4.03	1.66	3.18	.002	.35	-0.96	.338
Talk	4.07	1.84	3.54	1.77	2.76	.006	.29	4.19	1.94	3.65	1.66	2.93	.004	.30	-0.61	.542
In words	4.36	1.86	3.85	1.63	2.89	.004	.29	4.56	1.81	3.99	1.60	3.22	.001	.33	-1.10	.275
Story	4.66	1.83	4.35	1.62	1.62	.107		4.99	1.59	4.42	1.56	3.37	.001	.36	-1.67	.098
Emotions	4.61	1.75	3.57	1.78	5.66	<.001	.59	4.61	1.85	3.52	1.70	5.87	<.001	.61	0.23	.816
Importance	4.71	1.84	3.68	1.84	5.32	<.001	.56	4.39	1.85	3.69	1.77	3.55	<.001	.39	1.58	.116
Rehearsal	3.92	2.11	3.63	1.96	1.36	.175		3.89	2.06	3.56	1.93	1.52	.130		0.31	.754
Once/specific	0.30	0.46	0.45	0.50	-2.69	.007	-.31	0.31	0.46	0.60	0.49	-5.61	<.001	-.61	-0.17	.867
Merged/extended	0.59	0.50	0.29	0.46	4.88	<.001	.62	0.58	0.50	0.37	0.48	3.17	.002	.43	0.21	.837
Age of memory (years)	18.17	10.08	19.79	11.28	-1.63	.106		17.72	10.03	18.68	10.97	-1.41	.158		-0.98	.331

Note. Cohen's $d = 0.2$ small effect; $0.5 =$ moderate effect; $0.8 =$ large effect. In **bold** are the p and Cohen's d values for the significant differences in Independent and Paired Samples t Tests, and the highest mean scores in the significant Independent Samples t Tests between the clinical and the non-clinical samples. Key. AMQ = Shame autobiographical memory properties; IES-R = Shame traumatic memory; CES = Centrality of shame memory.

In terms of external shame, in shame memories with others, 32.8% believed others perceived them as being inferior, 28.6% as different, 14.3% as defective and flawed and 9.2% as incompetent or useless. In shame memories with attachment figures, 35.4% felt they existed in the minds of others as worthless or unworthy of love and approval, 18.6% as inferior, 15.9% as incompetent, 8.9% as inadequate and 8.8% as different. In regard to internal shame, in shame memories with others, internal shame was typically described as feeling and seeing oneself as inferior (32.8%), different (26.1%), defective or flawed (14.3%), and incompetent (6.7%). In shame memories involving an attachment figure, 30.1% felt and judged themselves in the shame event as worthless or unworthy of love and approval, 23% as inferior, 12.4% as different, 12.4% as incompetent or useless and 8% as inadequate (see Table 1).

In our clinical sample, the degrees of external shame and internal shame in shame memories involving others and in shame memories with attachment figures were very high (given that the rating scale ranged from 0 to 10), and no significant differences in these mean scores were found between the two shame memories (see Table 2).

Concerning the presence of humiliation feelings and thoughts, 69.7% ($n = 83$) of the patients reported feeling humiliated and angry for believing others were being unfair or mean to them and want to take revenge in the shame event involving others, and 66.4% ($n = 75$) said they felt humiliated in the shame experience involving attachment figures. The remaining subjects answered "No" to this question.

The intensity of emotions felt in the shame experience was the next phenomenology feature assessed (see Table 2). In shame memories involving others, the emotions with the highest mean scores (above 2.5 in a rating scale from 0 to 4) were shame, sadness, frustration, anxiety and humiliation. In relation to shame memories with attachment figures, shame, sadness, frustration, anxiety, humiliation and anger were the emotions with the highest mean scores (above 2.5). When comparing the two types of shame memory, although participants scored significantly higher in shame, disgust and envy in the shame memory with others, they scored significantly higher in the intensity of sadness and anger in the shame memory with attachment figures.

Bodily/physical and behavioural responses, attention focus and action tendencies in the shame experience were then explored (see Table 2). For both shame memories, involving others and attachment figures,

patients reported higher levels of a general submissive bodily/physical response (e.g., averted, downward eye gaze, head movements down, closed avoidant body posture, body collapse, folding in of the body, shrinking) than of fear/activation (e.g., high body tension, increased heart rate, sensation that chest/stomach is going to explode, feeling startled and aroused). In terms of the general behavioural response, higher mean scores were also found for the flight/submissive response in comparison to a defensive fight one. Mean comparisons between the two shame memories indicated that individuals presented significant higher levels of a flight submissive behavioural response in the shame experience involving others, whereas showing higher levels of a defensive fight behavioural response in the shame experiences with attachment figures.

As to attention and cognitive focus, in the two shame experiences, patients' attention tended to be focused on what others were feeling and thinking about the self and on one's own self-directed feelings and thoughts. Paired Sample *t* Tests further revealed that these mean scores were significantly higher for the shame memories with others than for the shame memories involving attachment figures. Also, participants tended to perceive the self as an object of others' scrutiny in the shame experiences. However, no significant differences emerged between shame memories with others and with attachment figures.

In response to what did they want or desire to do in the situation (action tendencies), patients scored higher on the desire or motivation to flight, hide and submit and to redo or repair the shame situation in both shame memories. A significant difference was found between the two shame memories, with participants showing significantly higher mean values for the flight/submission tendency in shame memories with others.

Coping strategies to deal with shame after the event

Subsequently, we examined how did participants cope with the shame experience and how did they try to deal with the shame and negative emotional states after the event occurred. Table 1 presents the categories and frequencies for the general coping strategies used. In the shame memory involving others the most frequent coping strategies were isolation, rumination, flight/avoidance, suppression, compensation and submission. Isolation, rumination, compensation, cry, submission, suppression and reassurance seeking were the most frequent coping strategies in the shame memory with attachment figures. Then, the extent to which participants endorsed a set of behavioural, social, affective and cognitive coping strategies, for each shame memory, was investigated (see Table 2). The strategies with the highest mean scores in the two shame experiences were flight submissive behavioural coping, isolation social coping, compensation affective coping, and internalization and/or externalization of shame cognitive coping. Mean comparisons between the two shame memories showed that the flight submissive coping, the dissociation affective coping and the tendency to internalize shame cognitively (e.g., self-criticism, self-blame) were significantly higher for shame memories with others, while the tendency to externalize shame (e.g., blame others) and to believe one infringed important moral standards were higher in shame memories with attachment figures.

When asked about whether they were satisfied with their coping after the shame situation, the majority of participants reported being unsatisfied (63.9%, $n = 76$, in the shame experience with others; 63.7%, $n = 72$, in the shame experience with attachment figures), and considered that their coping after the shame event increased their shame feelings (63.9%, $n = 76$, for the experience with others; 63.7%, $n = 72$, for the experience with attachment figures).

Memory features

Autobiographical and traumatic memory properties of frequency, hyperarousal, intrusion, vividness and type of memory in relation to the shame experiences recalled were assessed (see Table 2). In both shame memories, there was a higher frequency of remembering the shame event in the first month in comparison to the frequency of remembering that event one month after. In addition, high mean scores were found for the incidence of intrusions and flashbacks about both shame memories, with others and with attachment figures, throughout life. The great majority of patients stated they re-experienced the original shame event with hyperarousal sensations and feelings whenever it came to mind (92.4%, $n = 110$, for the shame memory with others; 85%, $n = 96$, for the shame memory with attachment figures). As to memory vividness while remembering the shame event, high mean scores were found for both shame memories. Regarding type of memory elicited, 52.4% ($n = 44$) of the shame memories with others corresponded to a merging of similar events, 25% ($n = 21$) to an event that occurred once, at a particular time and place, and 22.6% ($n = 19$) to several events that took place over a continuous and extended period of time. Similarly, in shame memories with attachment figures, most recollections corresponded to a merging of similar events (48.7%, $n = 38$), 28.2% ($n = 22$) to a shame event that occurred once, at a particular time and place, and 23.1% ($n = 18$) to several events that happened over a continuous period of time.

Frequency of shame experiences throughout life

In relation to recent situations that have elicited the shame memory described, and their similarity to the original shame event, most patients confirmed there were recent situations that triggered the shame memory (64.7%, $n = 77$, for the shame memory with others; 51.3%, $n = 58$, for the shame memory with attachment figures). For those who did state having had a recent situation that activated the shame memory, those triggering events were described as similar to the original shame experience (72.7%, $n = 56$, for the shame memory with others; 77.6%, $n = 45$, for the shame memory with attachment figures).

In terms of the frequency of shame experiences with others and with attachment figures throughout life (see Table 2), higher mean scores were reported for shame experiences in adolescence, followed by shame experiences in childhood and in adulthood. Moreover, the frequencies of shame experiences in childhood, adolescence and adulthood were significantly higher for shame experiences involving others. The most frequent shamers in these shame experiences involving others were: several social agents (e.g., peers, friends, relatives; 38.7%, $n = 46$), the self (20.2%, $n = 24$), friends (16%, $n = 19$), relatives (10.9%, $n = 13$), other people (e.g., teacher; 7.6%, $n = 9$), peers (4.2%, $n = 5$), and strangers (2.5%, $n = 3$). The most frequent audience in these shame experiences was several social agents (e.g., peers, friends, relatives; 48.7%, $n = 58$), friends (26.9%, $n = 32$), relatives (6.7%, $n = 10$), others (e.g., teacher; 5.9%, $n = 7$), peers (5%, $n = 6$), and strangers (5%, $n = 6$). In the shame experiences throughout life where the shamers were the father and/or the mother or other caregiver, the most frequent audience was relatives (57.1%, $n = 64$), several social agents (e.g., peers, friends, relatives; 28.6%, $n = 32$), friends (6.3%, $n = 7$), other people (4.5%, $n = 5$), and strangers (3.6%, $n = 4$).

We explored whether there were other difficult non-disclosed shame experiences, such as sexual abuse. Remarkably, 29.4% ($n = 35$) of patients acknowledged the existence of difficult shame experiences with others which would be extremely hard or impossible to disclose, and 20.4% ($n = 23$) declared that there were other important shame experiences with attachment figures which they were terribly ashamed about and wouldn't disclose to anyone.

Interference and impact of the shame experience

Finally, we investigated whether the shame experiences described interfered with how respondents coped with similar situations from then on. In relation to the shame experience involving others, 93.3% ($n = 111$) participants stated they modified how they coped with similar situations due to fear being shamed, and 84.1% ($n = 95$) also said to have altered their coping in relation to the shame experience with attachment figures. The most frequent general coping strategies to deal with shame situations, or events that could induce shame, since the original shame experience were: avoidance (88.3%, $n = 98$, for the shame memory with others; 83.2%, $n = 79$, for the shame memory with attachment figures), compensation (73.9%, $n = 82$, for the shame memory with others; 71.6%, $n = 68$, for the shame memory with attachment figures), submission (55.9%, $n = 22$, for the shame memory with others; 51.6%, $n = 49$, for the shame memory with attachment figures), and non use of retaliation (79.3%, $n = 88$, for the shame memory with others; 76.8%, $n = 73$, for the shame memory with attachment figures). Besides, participants rated the extent to which these coping strategies interfered with the achievement of important life goals. Interference with life goals was high in both shame memories, although mean scores were significantly higher for the shame memory with others (see Table 2).

In regard to the negative and positive impact of the shame experiences recalled, the negative impact of the two shame memories was higher than the positive impact. Patients scored significantly higher for the negative impact of shame memories involving others than for those involving attachment figures (Table 2).

Shame memories traumatic, centrality and autobiographical properties

Means, standard deviations and Paired Samples t Tests for self-report measures assessing traumatic, centrality and autobiographical memory properties of shame memories with others and with attachment figures in the clinical sample are given in Table 2. High mean scores were found for the traumatic impact, centrality to self-identity and autobiographical properties of the shame memory with others and with attachment figures. No significant differences were found between the two shame memories, with the exception of the autobiographical memory quality *testify*, as participants scored significantly higher in having enough confidence in the memory to testify in a court of law in the shame memory with attachment figures.

Study II: Relationship between shame memories' phenomenology and their traumatic and centrality memory properties in a mixed clinical sample

In this study, we were interested in exploring the relationship between certain phenomenology features of the shame memories with others and with attachment figures, as measured by the SEI, and their traumatic impact and centrality to personal identity features, as measured by self-report instruments in our clinical sample. Pearson product-moment correlations among these variables are shown in Table 3.

The severity of *external shame* in the shame experiences was moderately associated with the traumatic impact and the centrality of both shame memories. The degree of *internal shame* was moderately correlated with the traumatic impact and centrality to identity of shame memories with attachment figures. The associations between internal shame severity and the traumatic impact and centrality of shame memories with others were significant, though weaker in magnitude.

Regarding the *intensity of emotions* experienced in the shame situation, significant correlations were found between all emotions and the traumatic impact of shame memories with others and with attachment figures. In particular, disgust, anxiety, sadness, anger, frustration, loss of dignity and humiliation showed the strongest associations with the traumatic impact of shame memory with others, while disgust, anxiety, loss of dignity, humiliation, sadness, guilt, frustration and shame were moderately to strongly correlated with the traumatic impact of shame memory with attachment figures. Noteworthy, disgust was the emotion with the strongest correlation with the traumatic impact of shame memory with others whereas anxiety, disgust, loss of dignity, humiliation and sadness were all strongly related to the traumatic impact of shame memory with attachment figures.

All emotions were positively associated with the centrality to self-identity of shame memory with others, with sadness, envy, disgust and frustration showing the highest correlations. Disgust, sadness, loss of dignity, humiliation, anxiety, frustration, guilt and shame were the emotions most strongly associated with the centrality of shame memory with attachment figures. Interestingly, the emotions with the strongest correlations with perceiving such shame memories as central to personal identity and life story were disgust and sadness, whereas envy showed no significant correlation with the centrality of these memories. Overall, stronger correlations were found among intensity of emotions and the traumatic impact and centrality properties of shame memories with attachment figures.

The *bodily/physical and behavioural responses* in the shame experience were significantly associated with the traumatic impact and centrality of both shame memories, apart from the fight behavioural response, which showed no significant correlations. Specifically, the submissive and fear/activation physiological responses revealed stronger associations with the traumatic impact and centrality of shame memories with attachment figures whereas the flight submissive behavioural response revealed the highest associations with the traumatic impact and centrality of shame memories with others. A particularly strong correlation was found between the fear/activation physiological response and the traumatic features of shame memories with attachment figures.

In regard to *action tendencies* felt in the shame experience, the motivation to flight or submit was moderately correlated with the traumatic impact and centrality of both shame memories. Freezing in the situation, with no motivation to submit or retaliate, was also moderately associated with the traumatic impact of both shame memories and with the centrality of shame memory with attachment figures, while revealing a weak but significant association with centrality of shame memory with others. A desire to fight back and retaliate was only significantly related to the traumatic impact and centrality of shame memory with attachment figures. The motivation to repair the shame situation, driven by guilt, was not significantly correlated with shame memories' traumatic and centrality features.

In terms of *coping strategies*, the flight submissive *behavioural coping* was the coping strategy used after the shame event which was most strongly associated with the traumatic impact and centrality of the two shame memories, with the strongest correlations being with the traumatic memory characteristics of these memories. No significant correlation was found for defensive fight behavioural coping. As to *social coping* strategies, isolation was positively and moderately linked to the traumatic impact and centrality of shame memories with others, and seeking reassurance was negatively associated with the memory features of these shame memories. However, these social coping strategies were not significantly related to the memory qualities of shame memories with attachment figures. Concerning *emotional coping*, dissociation was positively associated with the traumatic impact and centrality properties of both memories, and denial of shame revealed a weak but significant correlation with the traumatic impact of

shame memories with others. Regarding *cognitive coping* strategies, internalizing shame (e.g., self-blame, self-criticism) was positively associated with the traumatic impact and centrality of both shame memories, whilst externalize shame (e.g., blame others) revealed no significant correlation. Thinking one infringed strict moral standards (guilt cognitive strategy) was significantly correlated with the traumatic impact of the two shame memories.

Table 3. Correlations between shame memories phenomenology variables and traumatic impact of shame memory (IES-R) and centrality of shame memory (CES) for shame memory with others (SEI Part1) and shame memory with attachment figures (SEI Part2)

SEI phenomenology variables	Shame memory with others (n = 119)		Shame memory with attachment figures (n = 113)	
	IES-R	CES	IES-R	CES
<i>Degree of shame</i>				
External shame	.42***	.37***	.45***	.33***
Internal shame	.26*	.30***	.45***	.44***
<i>Intensity of emotions</i>				
Shame	.25**	.21*	.42***	.35***
Anxiety	.45***	.26**	.61***	.47***
Anger	.43***	.34***	.40***	.31***
Humiliation	.41***	.33***	.53***	.48***
Disgust	.54***	.42***	.61***	.60***
Loss of dignity	.42***	.30***	.59***	.49***
Sadness	.44***	.49***	.50***	.51***
Frustration	.43***	.42***	.45***	.40***
Guilt	.29**	.22*	.46***	.40***
Envy	.32***	.44***	.21*	.14
<i>Responses in the shame situation</i>				
Submissive bodily/physical response	.40***	.27**	.43***	.37***
Fear/activation bodily/physical response	.48***	.30***	.65***	.43***
Flight/submissive behavioural response	.45***	.42***	.38***	.37***
Fight behavioural response	.05	.02	.11	.09
<i>Action tendencies</i>				
Flight/submission	.47***	.38***	.43***	.32***
Fight	.10	.01	.27**	.36***
Freeze	.40***	.26**	.41***	.35***
Make amends/Reparation	-.12	-.10	.03	.01
<i>Coping strategies after the shame situation</i>				
Flight/submissive behavioural strategy	.56***	.41***	.57***	.49***
Fight behavioural strategy	-.02	-.02	.00	-.02
Reassurance seeking social strategy	-.26**	-.18*	-.05	-.02
Isolation social strategy	.40***	.35***	.08	.07
Avoidance/suppression affective strategy	.01	-.07	-.08	-.14
Compensation affective/behavioural strategy	.03	.01	.11	.01
Dissociation affective strategy	.33***	.18*	.38***	.34***
Denial affective strategy	.21*	.05	-.03	-.07
Externalization cognitive strategy	.11	.04	.16	.10
Internalization cognitive strategy	.37***	.29**	.34***	.36***
Control cognitive strategy	-.12	-.06	-.17	-.15
Guilt cognitive strategy (moral standard violation)	.27**	.14	.22*	.12
<i>Memory</i>				
Memory frequency in the first month	.45***	.42***	.54***	.47***
Memory frequency after 1 month	.56***	.53***	.67***	.60***
Memory intrusion since the event	.56***	.58***	.67***	.61***
Memory hyperarousal/re-experiencing	.19*	.15	.51***	.46***
Memory vividness	.44***	.37***	.29**	.33***
<i>Frequency of shame experiences throughout life</i>				
Childhood	.36***	.22*	.38***	.45***
Adolescence	.34***	.35***	.41***	.49***
Adulthood	.27**	.29**	.40***	.42***
<i>Interference and impact of the shame experience</i>				
Interference with important life goals	.54***	.61***	.47***	.56***
Negative impact throughout life	.43***	.48***	.59***	.62***
Positive impact throughout life	-.15	-.17	.01	-.03

Note. * $p < .050$. ** $p < .010$. *** $p < .001$

On the whole, *memory properties* of the shame experiences, as measured by the SEI, revealed moderate to strong correlations with the traumatic and centrality features of both shame memories. The frequency of remembering the shame event in the first month and one month after were moderately to strongly associated with the traumatic impact and centrality of the two shame memories, with particularly strong correlations with the properties of shame memory with attachment figures. Memory intrusions and flashbacks throughout life were strongly associated with the traumatic impact and centrality of both shame memories. Hyperarousal sensations and re-experiencing the original event while remembering it, were strongly correlated with the traumatic impact and centrality of shame memories with attachment figures, but only weakly linked to the traumatic impact of shame memory with others. Memory vividness was positively associated with the traumatic impact and centrality of both shame memories; however the stronger correlations were with shame memory with others.

In terms of the *frequency* of shame experiences throughout life, having shame experiences with others and with the caregivers as a child, adolescent or adult, was significantly correlated with the traumatic impact and centrality of the two shame memories, even though the strongest correlations were found for shame memories with attachment figures. Of note were the moderate high correlations found between the frequency of shame experiences with one's caregivers in childhood, adolescence and adulthood and the centrality to self-identity of the shame memory with attachment figures.

The *interference* of the shame memories retrieved with the achievement of important life goals was strongly associated with the traumatic impact and centrality of such shame memories, especially with their centrality to identity and life story. Similarly, the negative impact of the shame experience with others throughout life was moderately correlated with its traumatic impact and centrality properties, and the negative impact of the shame experience with attachment figures throughout life strongly associated with its traumatic and centrality features. No significant correlation was found between the positive impact of the shame experiences and their traumatic and centrality of memory characteristics.

Study III: Comparisons between clinical and non-clinical samples in the phenomenology and memory characteristics of shame memories

Another major aim of this research was to investigate the differences in the phenomenology, traumatic, centrality and autobiographical memory properties of shame memories involving others and involving attachment figures between the clinical and non-clinical samples. A series of Independent Samples *t* Tests and respective effect sizes were calculated to explore such differences (see Table 2).

The degree of *external shame* and *internal shame* felt in the shame experiences with others and with attachment figures was significantly higher in the clinical group in comparison to the general population sample, with effect sizes ranging from medium to large.

On the whole, participants from the clinical sample reported significantly higher *intensity of emotions* in the two shame experiences than respondents from the non-clinical sample. That is, patients felt more shame, anxiety, anger, humiliation, disgust, loss of dignity, sadness, frustration, guilt and envy at the time of the shame experience involving others, and of the shame experience involving attachment figures. In particular, larger effect sizes were found for the mean differences in frustration, disgust and guilt in the shame memory with others and for the mean differences in sadness, frustration, guilt and anxiety in the shame memory with attachment figures.

Regarding *bodily, behavioural responses and cognitive focus* in the shame situation, patients revealed significantly higher levels of the submissive and fear activation physiological responses and of the flight/submissive behavioural response in both shame memories in comparison to the respondents from the general population. No significant differences between the two groups were found on the defensive fight behavioural response in the two shame memories retrieved. Patients showed a significantly higher focus on one's self-directed thoughts and feelings, on others' feelings and thoughts about the self, and on the self as an object of others' scrutiny, at the time of the two shame events recalled. Effect sizes for these mean differences ranged from medium to large.

In terms of *action tendencies* felt in the shame situation, when compared to the general population sample, participants from the clinical sample showed significantly higher desire and motivation to escape or submit, to fight back and retaliate, even if not acted upon, and to freeze in the two shame situations. The two groups did not differ on the motivation driven by guilt to repair the shame events. Effect sizes ranged from small to medium.

In regard to *coping strategies* to deal with shame and the negative emotions elicited by the event, significant differences, with large effect sizes, were found in flight/submissive coping, with patients revealing higher tendency to engage in this behavioural strategy after both shame experiences. No significant differences between the two groups were found in the defensive fight behavioural coping. In social coping strategies for both shame memories, patients showed significantly higher scores in isolation, whereas general population respondents revealed significantly higher scores in reassurance seeking after the shame experiences (effect sizes were small to medium). In terms of affective coping, significant differences between the clinical and non-clinical sample were found in dissociation (small to medium effect sizes), with patients scoring higher on the tendency to dissociate after the two shame experiences; and in avoidance/suppression (small effect size), with participants from general population revealing a higher tendency not to think about it and try to be tough in the shame experience with attachment figures. In addition, patients showed significantly higher scores in internalizing shame, by self-criticizing and self-blaming, after both shame experiences (large effect sizes). In the shame experience with attachment figures, significant differences between the two samples were also found in the externalization cognitive strategy, with patients showing a higher tendency to blame others for the event (small effect size). No significant differences were found in the compensation and denial affective strategies and in the control and guilt cognitive strategies.

In terms of the *memory features* assessed by the SEI, significant differences were found in all traumatic and autobiographical memory characteristics of both shame memories. Specifically, participants from the clinical sample revealed higher frequency of remembering the shame events with others and with attachment figures in the first month and one month afterwards (medium to large effect sizes). Also, patients reported a significantly higher incidence of intrusions and flash backs about those shame memories throughout their lives (large effect sizes) and higher levels of hyperarousal sensations and re-experiencing the original shame events whenever they came to mind (medium to large effect sizes). Memory vividness of the shame memories involving others and involving attachment figures at the time of the retrieval was higher in respondents from the clinical sample (small to medium effect sizes).

Furthermore, patients reported significantly higher frequencies of shame experiences with others and with attachment figures in childhood (medium effect sizes), adolescence and adulthood (large effect sizes) than did participants from the non-clinical group.

In relation to *interference* with coping strategies throughout life, the clinical sample showed significantly higher mean scores in avoidance, submission and compensation, as ways to deal with similar experiences or avoid shame (medium effect sizes). No significant difference was found in retaliation. Besides, patients scored significantly higher than the non-clinical sample respondents in the interference with important life goals of the shame memories with others and with attachment figures (medium to large effect sizes). The *negative impact* throughout life of both shame experiences was significantly higher in the clinical sample (large effect sizes), whilst the *positive impact* of such experiences was higher in the non-clinical group (medium effect sizes).

Regarding *traumatic, centrality and autobiographical memory properties*, as measured by self-report questionnaires in relation to the shame memories elicited by the SEI, patients revealed significantly higher levels of traumatic impact and centrality to self-identity and life story of the shame memories with others and with attachment figures (large effect sizes). In terms of autobiographical memory properties of the shame memory with others, participants from the clinical sample scored significantly higher in vividness of recollection (reliving and back in time), belief (accurate and real/imagine), visual and auditory imagery (see, setting, spatial, hear, talk, in words), emotional intensity and similarity, importance to self and life story and merged/extended. In contrast, general population respondents scored significantly higher in persuade (i.e., easiness of being persuaded by others, the memory was inaccurate) and in once/specific, meaning that their shame memories with others were usually of specific events that took place once (effect sizes from small to medium). As to the autobiographical memory properties of the shame memory with attachment figures, patients revealed significantly higher scores in vividness of recollection (reliving and back in time), remember/know, belief (real/imagine and testify), in visual and auditory imagery (see, hear, talk, in words), in emotional intensity and similarity, importance to self and life story and merged/extended. Contrarily, participants from the non-clinical group had significantly higher scores in once/specific (effect sizes from small to medium). For both shame memories, no significant differences were found in rehearsal (i.e., thinking and talking about the event since it happened) and age of memory.

Study IV: Positive and negative memories accessibility in a mixed clinical sample and comparisons with a non-clinical sample

The accessibility of positive and negative memories with parents and friends was evaluated in the third and last part of the SEI (see Table 4). In our clinical sample, higher mean scores were found for the accessibility of negative memories with the father and the mother in comparison to positive ones. Contrary, the accessibility of positive memories with friends was higher than the accessibility of negative ones.

Positive memories with attachment figure

We asked patients to recall and select a positive memory with an attachment figure from childhood or adolescence. Six individuals could not recall any positive experience. The remaining respondents described experiences with the caregivers related to leisure activities (e.g., playing, go on holiday; 56.6%, $n = 64$), situations where they felt emotionally supported by and safe (25.7%, $n = 29$), being given something they really wanted (e.g., a present; 10.6%, $n = 12$), being helped in school activities (6.2%, $n = 7$) and the birth of a sibling (0.9%, $n = 1$).

Table 4 presents means and standard deviations for the centrality to personal identity and autobiographical memory properties of these events. Results show that these positive memories are regarded as central to identity and life story and hold autobiographical memory properties. However, in the clinical sample CES' mean scores for these positive memories were significantly lower than the ones found for shame memories with others [$t_{(112)} = -5.40, p < .001$] and with attachment figures [$t_{(109)} = -3.89, p < .001$], and AMQ variables' mean scores were in general similar to AMQ' mean values for the two shame memories.

Table 4. Means (*M*), standard deviations (*SD*) and Independent Samples *t* Tests (*t*) with effect sizes (Cohen's *d*) between the clinical and non-clinical samples for the accessibility of positive and negative memories, centrality of memory features, autobiographical memory properties for the positive memory with an attachment figure (SEI Part 3).

Variables	Positive memory with attachment figures				$t_{(513)}$	<i>p</i>	<i>d</i>
	Clinical sample (<i>n</i> ¹ = 116)		Non-clinical sample (<i>n</i> = 399)				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Accessibility_positive memories with father	7.16	11.83	12.64	17.07	-2.28	.023	-.37
Accessibility_positive memories with mother	9.23	14.97	15.58	19.23	-1.89	.034	-.22
Accessibility_positive memories with friends	12.89	14.86	28.90	29.40	-1.92	.005	-.69
Accessibility_negative memories with father	19.81	69.13	6.51	10.23	3.71	<.001	.27
Accessibility_negative memories with mother	18.36	67.42	5.57	6.84	3.73	<.001	.27
Accessibility_negative memories with friends	10.87	20.13	6.65	6.65	3.58	<.001	.28
<i>Self-report measures</i>							
CES	52.72	20.97	57.60	19.73	-2.21	.028	-.24
AMQ							
Recollection	5.06	1.45	4.79	1.60	1.70	.085	
Reliving	5.12	1.65	4.90	1.68	1.25	.215	
Back in time	5.00	1.65	4.67	1.74	1.84	.068	
Remember/know	5.45	1.07	5.46	1.28	-0.07	.948	
Belief	5.20	1.10	4.86	1.07	2.92	.004	.31
Real/Imagine	6.14	1.13	6.01	1.16	1.10	.271	
Accurate	4.53	2.02	4.13	1.95	1.89	.061	
Testify	5.58	1.49	5.30	1.49	1.74	.084	
Persuade	3.44	2.00	3.99	1.93	-2.59	.010	-.28
See	5.25	1.38	5.17	1.48	0.53	.597	
Setting	5.42	1.26	5.55	1.36	-0.95	.345	
Spatial	5.54	1.38	5.52	1.23	0.13	.898	
Hear	4.57	1.94	4.53	1.69	0.22	.830	
Talk	4.19	1.99	4.15	1.70	0.23	.818	
In words	4.31	1.95	4.32	1.68	-0.04	.967	
Story	5.12	1.64	4.88	1.49	1.35	.179	
Emotions	5.00	1.65	4.62	1.73	2.15	.033	.22
Importance	4.27	1.83	4.78	1.66	-2.70	.008	-.29
Rehearsal	3.74	1.99	4.08	1.78	-1.71	.089	
Once/specific	0.39	0.49	0.51	0.50	-2.25	.025	-.24
Merged/extended	0.64	0.48	0.34	0.47	4.50	<.001	.44
Age of memory (in years)	18.50	10.70	20.33	11.16	-1.61	.109	

Note. AMQ = Shame autobiographical memory properties; CES = Centrality of shame memory. ¹*n* for the descriptive statistics and Independent Samples *t* Tests of the self-report measures CES and AMQ was 113.

Mean comparisons between the clinical and non-clinical samples

Results from Independent Samples *t* Tests (see Table 4) showed that the patients had significantly higher accessibility of negative memories with significant others whereas the participants from the general

population revealed significantly higher accessibility of positive memories with both caregivers and with friends. Moreover, in regard to the positive memory with an attachment figure, general population respondents scored higher in the centrality to identity of such memories, and in the autobiographical memory properties of persuade (e.g., extent to which one would be persuaded that the memory was inaccurate), importance to self and life story and specificity. On the contrary, the clinical sample participants had higher levels of belief in memory accuracy, intensity of emotions and their memories were more general, corresponding to a merging of similar events or events that happened along a continuum in time.

Study V: Relationship between shame memories' traumatic and centrality properties, shame and psychopathology in a mixed clinical sample and comparisons with a non-clinical sample

The associations between shame memories traumatic and centrality properties, as elicited by the SEI, and current external and internal shame, social comparison and psychopathological symptoms, as measured by self-report instruments, were investigated in the clinical sample. Means and standard deviation for these self-report variables and correlations with traumatic and centrality of memory features in the clinical sample are reported in Table 5. External shame and internal shame were positively correlated with the traumatic impact and centrality of shame memories with others and with attachment figures. Negative perceptions of social ranking were correlated with the traumatic and centrality qualities of shame memories with others but not with attachment figures. Depression, anxiety and stress symptoms showed positive correlations with the traumatic impact of the two shame memories. Although depressive symptoms were significantly associated with the centrality of both shame memories, anxiety symptoms were only related to the centrality of shame memories with others and stress revealed no significant correlation with centrality qualities. As to dissociation, positive correlations were found with the traumatic impact of both shame memories and with the centrality of shame memory with attachment figures.

Mean comparisons between the clinical and non-clinical samples

As expected, Independent Samples *t* Tests (see Table 5) showed that the clinical sample revealed significantly higher scores in external and internal shame, negative social comparison and psychopathological symptoms of depression, anxiety and stress. No significant differences were found between the two groups regarding dissociative symptoms.

Table 5. Means (*M*), standard deviations (*SD*), Independent Samples *t* Tests (*t*) with effect sizes (Cohen's *d*) between the clinical and non-clinical samples for external shame, internal shame, social comparison, psychopathology symptoms and dissociation, and correlations with shame traumatic memory (IES-R_Others; IES-R_AttachFig) and centrality of shame memory (CES_Others; CES_AttachFig) in the clinical sample.

Variables	Clinical sample (<i>N</i> = 119)		Non-clinical sample (<i>N</i> = 401)		<i>t</i>	<i>d</i>	IES-R	CES	IES-R	CES
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			Others	Others	AttachFig	AttachFig
OAS	33.90	13.97	18.42	10.41	12.01***	1.26	.44***	.36***	.36***	.24*
ISS	57.09	18.95	29.95	16.56	12.03***	1.52	.38***	.27**	.31**	.31**
SCS	49.70	17.82	70.65	13.72	-10.34***	-1.32	-.28*	-.32**	-.15	-.10
Depression	16.70	12.47	6.31	7.07	10.71***	1.03	.40***	.31**	.27*	.21*
Anxiety	11.42	9.78	5.27	5.91	7.73***	.76	.27**	.20*	.23*	.06
Stress	19.70	13.42	12.26	8.03	7.35***	.67	.28**	.19	.21*	.06
DES	20.50	13.42	18.33	12.26	1.30		.28**	.15	.41***	.29**

* $p < .050$. ** $p < .010$. *** $p < .001$

Note. IES-R = Shame traumatic memory; CES = Centrality of shame memory; OAS = External shame; ESS = Experience of shame scale; ISS = Internal shame; SCS = Social comparison. DES = Dissociation.

Discussion

Even though shame is recognized as vital to our self-identity and social interactions, and as a central element in many forms of psychopathology, including depression, anxiety disorders, eating disorders, or personality disorders (e.g., Gilbert, 1998c, 2007a; Kaufman, 1989; Keltner & Harker, 1998; Nathanson, 1994; Tangney & Dearing, 2002; Tomkins, 1987), there is a dearth of empirical investigation on the phenomenology of shame experiences and memories in clinical samples. The present study drawn upon existing conceptualizations of shame and previous research in a general population sample (Matos & Pinto-Gouveia, 2012), and explored in a mixed clinical sample the phenomenology of shame memories, with attachment figures and with others from wider social contexts, elicited from childhood or adolescence.

The priming and assessment of early shame memories in these studies was done using the SEI. This novel semi-structured interview, developed specifically to assess the phenomenological dimensions of shame memories, proved to be a useful assessment tool both in clinical and non-clinical samples. The SEI allowed for the collection of detailed information on the complexity and richness of shame experiences and memories that was explored in this research studies. Also, by being administered in a face-to-face interaction and in a 'de-shaming' style, the SEI may provide an alternative to self-report measures and enable the retrieval of more accurate retrospective data. Hence, the SEI seems to overcome some of the current limitations linked to shame measurement (Rizvi, 2010; Robins, Nofle, & Tracy, 2007) and was essential to conduct these empirical studies.

Study I examined and compared the phenomenological characteristics of shame memories with others and with attachment figures in the clinical sample. In terms of *contextual, temporal and interpersonal* features, data showed that shame memories with others were most frequently related to situations where others criticized or made negative comments about body-related aspects, or where one was criticized, put down or teased and felt rejected by others. Events where one had negative personal

attributes, behaviours or habits exposed to others, where one felt shame due to (lower) family status, or where one was negatively compared to others, were also described as significant shame experiences from childhood or adolescence. Furthermore, being physically abused, like being bullied by peers, or sexually abused by others (e.g., by a relative, friend, stranger), were recalled as important early shame experiences.

These results were in accordance with literature suggesting that peer shaming, such as criticism, teasing and rejection or bullying, (Gibb et al., 2004; Gilbert & Irons, 2009; Hawker & Boulton, 2000), and in particular teasing and bullying regarding one's body image (Keith, Gillanders, & Simpson, 2009; Thomson, Coovert, & Stormer, 1999; van den Berg, Wetheim, Thomson, & Paxton, 2002) and sexual and physical abuse (Andrews, 2002; Andrews & Hunter, 1997; Gibb, Chelminski, & Zimmerman, 2007; Feiring, Taska, & Lewis, 2002) might deeply affect one's sense of social attractiveness and be a source of shame and vulnerability to psychopathology. Besides, the high frequency of shame experiences of teasing or bullying related to one's body-image found in our sample might be related to the high number of patients with an eating disorders diagnosis ($n = 71$). In fact, further analysis revealed that out of these 46 shame experiences of body-related comments or teasing, 31 were reported by eating disorders patients. Even though the present study is not aimed at exploring early shame experiences in relation to particular clinical diagnoses, which could be an interesting path for future research, such finding corroborates existing research on the role of teasing and bullying related to one's body image in proneness to shame and eating disorders symptoms (Keith et al., 2009; van der Berg et al., 2002).

Pertaining to early shame experiences with attachment figures, our data mirror current theory and research (e.g., Andrews, 2002; Gibb et al., 2004; Gibb et al., 2007; Gilbert, 2007a, 2007c; Gilbert et al., 1996; Gilbert et al., 2003; Perris & Gilbert, 2000; Perry, Pollard, Blakley, Baker, & Vigilante, 1995; Schore, 1998; Teicher, Samson, Polcari, & McGreenery, 2006; Webb, Heisler, Call, Chickering, & Colburn, 2007; see Mills, 2005 for a review), establishing that experiences of parental criticism, put down and rejection, emotional maltreatment and abuse, reflected shame, having negative aspects of the self exposed, body-image related criticism, unfavourable comparisons with others/favouritism, and physical and sexual abuse, are significant shame memories from childhood and adolescent involving caregivers in people suffering from mental health difficulties.

Most of shame episodes with others and caregivers occurred in a public setting. Yet, a significant amount of shame memories with attachment figures took place in a private context (where only the shamer and the self were present). These findings are in line with theoretical and empirical accounts on the public nature of shame, closely linked to the public exposure of negative aspects of self and intense feelings of public scrutiny (Gilbert, 1998c; M. Lewis, 1992, 2003; Smith, Webster, Parrot, & Eyre, 2002; Tangney, Marschall, Rosenberg, Barlow, & Wagner, 1994; Tangney, Miller, Flicker, & Barlow, 1996). Additionally, they suggest that shame episodes with attachment figures may also happen within more private parent-child interactions, where one might not be exposed to others but still feel his/her social attractiveness deeply damaged (Buss, 2001; Gilbert, 2007a).

In shame memories with others, the most frequent shamers were friends, the self, peers or teachers, and the audience were people that participants' liked or knew, older or equal in age and rank status. As discussed elsewhere (Matos & Pinto-Gouveia, 2012), the finding regarding the self being identified as the *shamer* by some respondents was surprising, but is not opposite to the social nature of shame. In such cases the self was to blame for one's shame, for letting one's flaws and inadequacies be *exposed* to others. At the core of the shame experience was still generating negative images of the self in the mind of

the others and how one was seen and felt by them (Gilbert, 2003, 2007a). In shame memories with caregivers, the father was the most frequent elicitor of shame, followed by the mother. This is in accordance with empirical evidence emphasizing the pathogenic nature of adverse father-child, and not only mother-child, interactions and bonding styles to shame proneness and vulnerability to psychopathology (e.g., Enns, Cox, & CLara, 2002; Gilbert, Allan, & Goss, 1996; Gilbert & Gerlsma, 1999; Jones, Leung, & Harris, 2006; Lutwak & Ferrari, 1997). In these experiences the audience was a heterogeneous group of loved ones, people respondents liked and knew or strangers, older or younger, dominant or equal in rank status. Such data might be related to the context where shame experiences took place, either in the wider social domain, for example in school, where the majority of people were peers and teachers, or in intimate contexts, within the nuclear or extended family, in the presence of grandparents, uncles, aunts, siblings, cousins or other adults.

Moreover, the findings are in line with the notion that two types of 'trauma' might underlie shame threats: exclusion, related to feelings of being rejected, unwanted, or unattractive to others (e.g., criticism, negative comparisons, rejection); and intrusion, where others can intrude into one's private world, get too close and hurt the self, unable or powerless to defend against them (e.g., bullying, physical or sexual abuse; Dugnan et al., 2002; Gilbert, 2007a). Similarly to what was found in the general population sample (Matos & Pinto-Gouveia, 2012), shame memories with others and with attachment figures seem to grasp both exclusion and intrusion threats. However, shame memories with attachment figures reveal more intrusion-related shame traumas, which are known to drastically impact on affect regulation and self-other schema (Cozolino, 2006; Gilbert, 2007a, 2007c; Gerhardt, 2004; Perry et al., 1995; Schore, 1994, 2001; Teicher, 2002).

These findings regarding contextual, interpersonal and temporal dimensions of shame experiences with others and with attachment figures, described by the patients as the most significant shame memory they recalled from their childhood or adolescence, are similar to the ones reported in the general population sample (Matos & Pinto-Gouveia, 2012). Noteworthy, shame memories of emotional and psychological abuse only surfaced in the clinical sample and were not reported by non-clinical participants.

Overall, it seems that in people with mental health disorders, early interactions within the family or in the wider social domain where one was criticized, rejected, abused, bullied, negatively compared to others, felt shame due to feeling exposed or because of a significant other's behaviour or low family status, as well as being neglected, deprived of love, care and support, or emotionally abused by an attachment figure, may represent major threats to one's sense of self and social bonds and engender severe shame. In concurrence with views of social neuroscience and attachment research (Belsky & Pluess, 2009; Caspi & Moffitt, 2006; Cacioppo et al., 2000; Cozolino, 2006; Gilbert, 2007b; Gilbert & Miles, 2000; Schore, 2001; Siegel, 2001; Taylor, Way et al., 2006), vulnerability to psychopathology might arise from such adverse early experiences with parents, peers and others, which affect gene expression and the psychobiological infrastructures of one's brain. These may lay down heightened emotional memories of threat and influence disposition for types of social engagement, affect regulation and self-other schema, overstimulating threat-related psychobiological response patterns during life, and translate into psychopathological symptoms.

Results concerning the *externally and internally focused cognitive components* revealed that, in shame memories with others, patients commonly believed they existed in the minds of the others as someone inferior, different, defective, flawed and incompetent. Such external shame thoughts and feelings were mirrored by negative self-evaluations of inferiority, difference, defect and incompetence (i.e., internal

shame). In shame memories with attachment figures, externally focused thoughts of being regarded by others as worthless or unworthy of love and approval, inferior, incompetent, inadequate or different were echoed by the same disparaging self-focused thoughts about the self (i.e., as worthless or unworthy of love and care, inferior, different, incompetent, and inadequate). Additionally, severe and similar levels of external and internal shame were found for both shame memories with others and with attachment figures.

Hence, despite involving different processing systems, external and internal shame seem to merge together in shame experiences (Baldwin, 2005; Gilbert, 2003). These external and internal shame accounts are in agreement with contemporary shame approaches (Gilbert, 2002a, 2003, 2007a; M. Lewis, 2003) suggesting that the experience of an actual or imagined self with unattractive attributes in the mind of the others, who may condemn, reject, withdraw their love and support or harm the self, is at the heart of shame experiences. Furthermore, it seems the experience of self as it exists for others can be internalized into derogatory evaluations and feelings about the self (i.e., internal shame) and shape the self-to-self relationship. This idea has been central to a number of shame and attachment theorists (Baldwin, 2005; Gilbert, 2003; Gilbert & Irons, 2005; Kaufman, 1989; H.B. Lewis, 1971; Whelton & Greenberg, 2005) and can relate to the concepts of mirroring (Kohut, 1977), or the looking-glass self (Cooley, 1902), which postulate that self-experience and sense of self are co-constructed in one's social interactions and reflect the emotions generated in others about the self and how we see ourselves in their minds.

According to the biopsychosocial model of shame (Gilbert, 1998c, 2002a, 2003) two types of defensive responses can emerge to threats to the social self attractiveness (i.e., external shame): an internalizing (e.g., internal shame, submissive behaviour) and/or externalizing response (e.g., humiliation, desires for revenge). Even though the internalization of shame was a prevalent reaction in the shame experiences elicited (as discussed above), our results further indicated that more than half of the patients also expressed having had an externalizing *humiliation* response in both shame experiences. So it seems that when facing slur, put down or rejection, many people seem focus on the other as 'bad' and unfair and feel flooded with desires to retaliate and vengeance.

In terms of the *emotional component* of the shame experiences, patients reported high levels of shame, sadness, frustration, anxiety and humiliation in both shame memories, and additionally in shame experiences with one's caregivers, anger. These results give support to the notion that shame experiences (and associated memories) are emotionally rich events, with shame affects fusing with and being textured by a blend of primary defensive emotions, especially sadness, anxiety and anger (Gilbert, 1998c, 2002a; Kaufman, 1989; Nathanson, 1994).

Notably, whereas shame, disgust and envy were more powerful in shame memories with others, sadness and anger were stronger in shame with attachment figures. This suggests that in shame experiences in the wider social domain, where peers are often the shamers, shame affects may involve more powerful feelings of inferiority, difference or inadequacy, of being under public scrutiny, and of intense contempt and disgust related to one's body or the self, which is linked to desires to cleanse, expel or destroy parts of the self (Gilbert, 1998c; Gilbert & Irons, 2004; Power & Dagleish, 1997). In such experiences, people also seem to feel stronger envy, which is typically related to negative self-comparisons and feeling inferior to the envied, to resentment and longing and can be linked to aggressiveness (Gilbert, 1992, 2003; Parrot & Smith, 1993; Smith & Kim, 2007).

In turn, it seems that sadness and anger (both directed at the self and at others) play a key role in the emotional texture of shame episodes with attachment figures. It might be that threats to one sense of self

and self-identity and disruptions in the relational bond that arise in interactions with loved ones, represent ‘threats without resolution’ (Liotty & Gumley, 2008), as the attachment figure is both the source of, and the solution for, the threat. These situations can leave the self to feel alienated and trapped between defensive flight and fight motivations (related to the threat system activation), while at the same time desiring to approach the attachment figure for fear of separation (related to the activation of the attachment system; Liotti, 2004). Such experiences have been posited to constitute early relational traumas (Schore, 2003), and may constitute the basis for disorganized attachment (Liotty & Gumley, 2008). Besides, these powerful and potentially more damaging threats may trigger anger as a basic defensive response aimed at re-empowering or defending the self against loss of status in the eyes of the significant other, or as a protest against the threat. Nonetheless, most times such aggressive tendencies are inhibited or arrested, especially if fighting back against a more dominant and powerful other is likely to escalate conflict and attacks or increase rejection (Gilbert, 1998, 2007b; Kaufman, 1989; H.B. Lewis, 1987; Retzinger, 1998). At the same time, threats from within the attachment bond may fuel intense sadness, with decreases in positive affect and heightened feelings of defeat and entrapment and loss of drive (Gilbert, 2007c; Kaufman, 1989; Nathanson, 1994). These results extend theoretical considerations (Gilbert, 1998c, 2002a, 2007a; Nathanson, 1994) and prior research in non-clinical populations (Matos & Pinto-Gouveia, 2012) and may have important clinical implications. When working with shame-related disorders or high shame patients, therapists should carefully assess the emotional texture of their shame memories, which may be implicated in one’s sense of self and self-to-self relationship, and reflect on social engagement strategies, defensive/safety behaviours and psychopathological symptoms (Gilbert & Irons, 2005).

Regarding *physical and behavioural responses* in the shame experience, our results are in line with previous research and shame theories (Keltner, 1995; Keltner & Harker, 1998; Gilbert, 1998c, 2007a; Gilbert & McGuire, 1998) and establish that high levels of a general submissive/flight response (e.g., averted eye gaze, head movements down, avoidant body posture, feeling shrinking in size, withdrawal, escape, inhibition) are characteristics of early shame experiences with others and with attachment figures. A fear bodily/physical response (e.g., body tension, heart racing, startled and arousal sensations) was also present in both experiences, but in less intense levels. This suggests that shame encounters, encompassing serious threats to the social self, may trigger basic submissive flight defensive displays, similar to those that signal submission in primates, as means of positively influence one’s image in the eyes of the others, evoke appeasement, de-escalate social conflict and restore social relationships (Darwin, 1872; Ekman, 1992; Gilbert, 1997; Gilbert & McGuire, 1998; Keltner & Harker, 1998). Furthermore, both shame experiences were linked to desires to hide, escape and submit and to redo the situation or make amends. This supports shame conceptualizations on the urge to not being seen, avoid exposure or run away that accompanies these experiences (Gilbert, 1998c, 2002a; Lewis, 1992, 2003), and parallels Keltner and Karker (1998) findings in regard to common action tendencies in shame-related experiences.

Noteworthy, levels of defensive fight behavioural responses were very low for both shame experiences, confirming the idea that anger, aggressive and defensive fight tendencies are generally inhibited or arrested in shame experiences (Gilbert, 1998c, 2007c). Even so, patients expressed increased tendencies to protect the self against the attacks of the more powerful other in shame experiences with attachment figures than in shame experiences with others. This replicates results in the non-clinical sample (Matos & Pinto-Gouveia, 2012), and implies anger and defensive fight responses, if not inhibited, may represent efforts to re-empower or defend the self against loss of status in shame-related attachment interactions. However, the tendency or motivation to behave submissively, hide, escape or withdraw from others was

higher in shame experiences with others. It might be that, when shame involves people from the wider social contexts, removing oneself from the situation, keep distance from others and exhibit submissive displays may be valuable ways of de-escalate conflict, avoid social exclusion and elicit appeasement. It is important to note that this applies too for shame experiences with attachment figures, where submissive flight responses were also high.

In addition, such results seem to be concurrent with recent social neuroscience research on psychobiological changes in response to social threats (e.g., Dickerson & Kemeny, 2004; Dickerson, Gruenewald & Kemeny, 2004, 2009; Einberger, 2011). Our data regarding participants' bodily and behavioural responses suggests that threat-related psychobiological changes (e.g., increased cortisol, parasympathetic responses) might be elicited in shame experience. Nonetheless, this *physiological component* of shame was not directly assessed in our study and only future investigation could confirm this hypothesis.

In the two shame experiences individuals' *attention and cognitive focus* tended to be both externally orientated to others' thoughts and feelings about the self, and internally focused on one's own thoughts and feelings about the self. Simultaneously, shame came along with heightened perceptions of the self as an object of others scrutiny. This matches the aforementioned considerations about external and internal shame and supports shame biopsychosocial approach (Gilbert, 1998c, 2002a, 2007a). Besides, such externally and internally focused attention on the self seems to be augmented in shame experiences with others, replicating findings in the general population sample (Matos & Pinto-Gouveia, 2012). We propose dissociative mechanisms or threat-related attention processes at encoding or retrieval of the shame memories with attachment figures might account for such findings. It has been argued that social threats entail complex attention mechanisms and arousal systems (Heinrichs & Hoffman, 2001). In fact, shame can be activated at implicit levels, before conscious awareness (Baldwin & Fergusson, 2001), with threat-processing systems organizing emotional and behavioural dispositions before, during and after the event (Gilbert, 2010; Lerner & Keltner, 2001; McNally, 2001). Future investigation is required to better elucidate information processing at the time of shame experiences and whether these vary with attachment figures and with others.

In the main, the aforementioned findings are in line with the view that threats of rejection, social put-down, criticism, withdrawal or absence of love and care or abuse, can be prevailing shame experiences that automatically trigger different basic defensive response patterns (e.g., flight and internalizing submissive self-focused or externalizing counter-attacking; Gilbert, 2002a, 2006a; Gilbert & McGuire, 1998; Keltner & Harker, 1998). Because these experiences may be embedded in traumatic implicit memory and create psychobiological response patterns that govern one's general approach to the world, the same innate defensive responses present in the shame experience can be automatically triggered whenever that memory comes to mind or one's social attractiveness is threatened (Gilbert, 2007c; Matos & Pinto-Gouveia, 2010). Insofar as this may deeply affect how one experiences the self, interacts with others and consequently copes with shame, therapists should carefully assess these defensive response patterns, especially in patients with shame-based difficulties.

Moreover, our findings regarding the emotional and behavioural facets of shame in this mixed clinical sample imply another critical point that may have considerable clinical implications. In line with what was suggested in previous studies in non-clinical samples (Matos & Pinto-Gouveia, 2012) and argued by Gilbert (2007c, 2010), it seems shame experiences, involving high levels of stress and traumatic features, can set up conflicting defenses. It seems that multiple emotions, defensive behaviours and action tendencies can

be aroused and sometimes conflict in a shame experience, particularly if attachment figures were involved. In other words, in an early shame experience (and memory) involving a caregiver one might feel angry (at the self or at others) or humiliated and want to retaliate against others or harm the self, and simultaneously, feel anxious and ashamed, and want to hide from others, flight from the situation or exhibit submissive displays. At the same time, one might feel intense sadness, become tearful and crouch and feel loss of drive. Therefore, our threat system (e.g., amygdala) may generate several contradictory defenses to the same shame episode, which may drastically impact on one's emotional regulation that can become highly disorganized (Dixon, 1998; Gilbert, 2010; Siegel, 2001).

At a clinical level, when these shame events become encoded as traumatic and central memories, their reactivation (at a conscious or non-conscious level) may engender that same complex multi-textured experience in the self and have major repercussions on social engagement, affect regulation and coping strategies, increasing vulnerability to, or maintaining, psychopathological symptoms. It therefore seems crucial that therapists evaluate these experiences coded in the threat system and tackle such memories, for example, by breaking them into their core components and working each one from a compassionate stance (Gilbert, 2010), and update and recode the threat as safe (Brewin, 2006; Clark & Ehlers, 2004; Lee, 2005; Ogden, Minton, & Pain, 2006).

Findings regarding *coping* revealed that in the response to shame episodes (both in the wider social contexts or within attachment interactions) it seems people tend to distance themselves, withdraw from others and be alone, ruminate, behave submissively, avoid or suppress aversive inner states (e.g., feelings, thoughts, memories), strive and compensate for possible sources of inferiority, and/or internalize (e.g., self-blame, self-criticism) or externalize (e.g., blame others) shame. Furthermore, in shame memories with attachment figures, it seems that care-eliciting defensive strategies, such as cry or seeking reassurance are more frequently used, and that tendencies to externalize shame and believe one infringed moral standard (although with low scores), a strategy that seems to be linked to guilt, are more common. In turn, in shame experiences with others, individuals scored higher in flight/submissive, dissociative and internalizing (self-blame and criticism) coping. Interestingly, but perhaps not surprisingly, no patient reported having had an acceptance attitude to deal with the shame experience and related affects.

This adds to existing literature on shame-related and general human coping (Gilbert, 1998c, 2002a, 2007c; Nathanson, 1994), and parallels our data in relation to shame behavioural displays in the present sample and regarding coping in the general population sample (Matos & Pinto-Gouveia, 2012). Thus, a multitude of defensive, and at times conflicting, strategies seem to be activated to cope with shame feelings and other aversive emotional states in the aftermath of a shame experience, the most common being flight or submissive defensive strategies, social isolation, striving to avoid inferiority and internalization (e.g., self-criticism) or externalization of blame (e.g., blame others). Such defensive strategies may function as social damage limitation strategies, with purposes of restoring one's image in the eyes of the others, de-escalate social conflict and repair damage to social bonds (Gilbert, 2000a, 2002a, 2007b). However, an enduring use of these defensive coping mechanisms may perpetuate shame feelings, bias our basic orientation to the world towards threat, and have detrimental effects on mental well-being (e.g., Allan & Gilbert, 1997; Gilbert, 2000a, 2000c, 2005a, 2007c; Gilbert, McEwan, Bellew, Mills, & Gale, 2009; Gilbert et al., 2010; Gilbert & Miles, 2000b; Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006). In fact, contrary to the results in the non-clinical sample (Matos & Pinto-Gouveia, 2012), a remarkable proportion of our clinical sample considered that their coping was ineffective and that it amplified their shame feelings. In this sense, our results further suggest that when working with shame-prone individuals, therapists should carefully assess

how they cope with shame and whether these protection strategies underlie or are maintaining their current difficulties.

In terms of *autobiographical and traumatic memory* properties of the shame experiences measured by the SEI, our results are indicative of a higher frequency of remembering the event in the first month rather than afterwards, elevated levels of intrusions and flashbacks throughout life, heightened memory vividness, and prominent presence of re-experiencing the original event with hyperarousal sensations and feelings for both shame memories. This corroborates and extends past research using self-report in non-clinical populations, establishing that shame memories from childhood and adolescence show traumatic characteristics (i.e., intrusions and flashbacks, hyperarousal and avoidance symptoms; Matos & Pinto-Gouveia, 2010, 2011a; Matos, Pinto-Gouveia, & Costa, 2011) and are associated with increased strength of recollection and imagery vividness in autobiographical memory (Matos & Pinto-Gouveia, 2011c).

In addition, most of the two shame memories corresponded to a merging of similar events, followed by memories of events that occurred once and by memories of events that happened over a continuous period of time. These data slightly differ from the results found in the general population (Matos & Pinto-Gouveia, 2012) and might be understood in light of autobiographical memory overgenerality processes given the clinical nature of our sample (see Moore & Zoellner, 2007; Williams et al., 2007 for reviews). In fact, considerable research has shown that, when recalling autobiographical events, patients with psychological disorders, especially emotional ones, tend to summarize categories of events (i.e., merging) rather than retrieving a single episode.

Furthermore, results concerning traumatic, centrality and autobiographical properties of the two shame memories, as measured by self-report instruments, are in line with these findings and expand upon previous research in non-clinical samples (Matos & Pinto-Gouveia, 2010, 2011a, 2011b, 2011c, 2012; Pinto-Gouveia & Matos, 2011). Noteworthy, we found that both shame memories involving others or involving attachment figures revealed high traumatic memory characteristics, triggering intrusions, hyperarousal symptoms and strong emotional avoidance, and were perceived as extremely central to self-identity and life narrative, forming well available reference points to attribute meaning to past, present and future. Both shame memories also revealed robust autobiographical memory properties (e.g., strength of recollection, belief in memory accuracy, visual and auditory imagery vividness, similarity and reliving of emotions, story coherence or importance to self), with shame memories with attachment figures being recalled with more confidence in comparison to shame memories with others.

Overall, these results emphasize that shame experiences that unfold in early interactions with others may lay down emotional memories (of the self-in-relationship-with-others), which comprise a primary threat to one's social self, and seem to function as traumatic self-defining autobiographical memories. Such memory features seem to be elevated in people with mental health problems. In light of attachment and shame models, these 'emotional hot-spots'/scripts in the mind may influence the development of negative working models or self-other schema (e.g., of self as unworthy, flawed, inadequate, inferior, and of others as threatening, critical, rejecting, neglectful), that determine emotional and social responses to self-defining negative events. Furthermore, these shame memories seem to be embedded in the threat system and work at implicit levels. Thus, they may create psychobiological response patterns that guide emotional and cognitive processing, basic social engagement orientation and protection strategies and strongly impact on basic affect-regulating systems, all of which may engender an increased vulnerability to psychopathology (Baldwin, 2005; Gilbert, 2003, 2007a, 2007c; Kaufman, 1989; Matos & Pinto-Gouveia, 2010, 2011a, 2011b, 2011c; Matos, Pinto-Gouveia, & Gilbert, 2011; Tomkins, 1987). Nevertheless, it is also

conceivable that current emotional distress (e.g., depressive symptoms) might be influencing recalling shame memories as more traumatic, central to identity and vivid autobiographical memories (for reviews on the impact of current emotion on memory retrieval, see Holland & Kesinger, 2010 and Levine & Pizarro, 2004). Future research should seek to further clarify the influence of current emotional states on shame recollections in clinical samples.

In regard to *frequency of shame experiences throughout life*, results demonstrated that for most patients there were recent situations that triggered the shame memory, most of which were described as similar to the original shame experiences elicited in the SEI. This slightly differs from findings in the general population sample (Matos & Pinto-Gouveia, 2012), and suggests there might be an increased accessibility of shame memories with others and attachment figures in individuals suffering from psychological disorders. It is possible that in these individuals these memories may function as heightened conditioned emotional memories, of having created negative emotions in others and negative experienced the self. Being highly traumatic, vivid and central for autobiographical knowledge and processing, such memories might thus be more accessible and easily triggered by events that threaten one's social attractiveness and relational bonds – where one feels he/she generated negative affect in the mind of the other. When reactivated and rehearsed in one's mind, the original shame multi-textured experience might be recreated and generate psychological distress (Brewin, 2006; Berntsen & Rubin, 2006, 2007; Harman & Lee, 2010). Alternatively, it might be that current emotional states in the clinical sample might have influenced the easiness of shame memories being elicited by other events (Levine & Pizarro, 2004). Even though the consistency of results across studies and samples seem to support the first claim (Matos & Pinto-Gouveia, 2010, 2011a, 2011b, 2011c, 2012; Matos, Pinto-Gouveia, & Duarte, 2012; Pinto-Gouveia & Matos, 2011), further investigation would help to clarify this issue.

Results further demonstrate that in the clinical sample shame episodes during life are recalled as being more frequent in adolescence, than in childhood or adulthood. Also, regardless of life developmental stage, shame experiences seem to be more frequent in the wider social domain. Such findings might be related to developmental characteristics of adolescence, where a variety of psychological, physiological, relational and environmental changes, developmental tasks (e.g., self-identity formation) and concerns (e.g., peer-group relationships, body image), may sensitize individuals to self-others evaluations and social acceptance and status concerns, and render one more vulnerable to experience shame in interactions with others (Gilbert & Irons, 2009; Wolfe & Mash, 2006) and remember such episodes later in life. In fact, recent research found that adolescents' shame experiences can become traumatic and central memories and impact on levels of shame and psychopathology (Cunha, Matos, Faria, & Zagalo, 2012).

Another interesting finding was that shame experiences with others were more frequent throughout life in comparison to shame experiences with caregivers. This points to the significance of shame episodes that occur outside the close family circle, where others from the wider social domain, namely peers, friends, other relatives, lovers, bosses, may criticize, tease, reject, abuse or bully the self. Given this prevalence, in a clinical setting it might be important to assess not only shame experiences with attachment figures throughout life, but also the frequency and features of shame experiences involving others, and how such experiences might have reinforced negative internal working models of self and others and threat-related psychobiological patterns, compromising affect regulation.

Of note, an expressive number of patients declared there were other significant shame experiences with others or with attachment figures (e.g., sexual abuse), which they would not be willing to disclose. This implies that for some individuals some of their most important, and perhaps traumatic, shame memories

are too painful or 'shameful' to disclose. This is consistent with the idea that concealment, secrecy and non disclosure are closely linked to shame, as revealing one's most shameful memories may lift up the same agonizing affects. In therapy, this may be an obstacle to the therapeutic relationship and progress, as not disclosing or acknowledging one's shame (also labelled as bypassed shame) can prevent its emotional work and repair (Gilbert, 1998c; MacDonald, 1998; MacDonald & Morley, 2001; Pennebaker, 1997; Retzinger, 1998).

Our results provide further evidence on the *interference and impact* of early shame experiences (Gilbert, 2002a, 2007a, 2007c; Matos & Pinto-Gouveia, 2010, 2011a, 2011b, 2011c; Pinto-Gouveia & Matos, 2011), indicating that most of respondents altered how they coped with shame-related situations during life due to the shame experiences with others and with attachment figures recalled in the SEI. Thus, these early shame experiences seem to impact on how individuals learn to cope with threats to their social attractiveness throughout life. Specifically, and similarly to the findings in the non-clinical sample (Matos & Pinto-Gouveia, 2012), there is a tendency for people to avoid shame-eliciting situations, develop submissive, appeasing and non retaliating styles of social relating and compensate and prove the self as worthy and competent by striving and competing to avoid inferiority.

Moreover, such coping styles to deal with shame throughout life seem to have strongly interfered with the achievement of important life goals in these individuals' lives, and in particular when these coping styles were linked to the shame memory with others. In addition, results show that patients consider that their early shame experiences had a significant negative impact on their lives, which was higher in regard to the shame memory with others. Although the interference and impact of both shame memories was high, a possible reason for this difference might be that coping styles and impact related to threats to one's attractiveness in the wider social context may have more extensive implications in several domains of one's life, such as social relationships, social status and mating competition or conformity to group and cultural norms. These have been linked to broader shame-related behavioural domains of human functioning, critically related to fitness (Greenwald & Harder, 1998).

Not surprisingly, patients regarded their shame memories as having had low positive impact in their lives, suggesting that early shame memories in individuals with clinical disorders have more prominent negative effects than positive ones. Multiple factors can explain this increased vulnerability to the effects of early shame experiences in individuals with mental health problems. For example, it is conceivable that because of their powerful and intense phenomenological features, traumatic and centrality to identity memory characteristics and recurrence throughout life, these early shame experiences allow for less post-traumatic growth and have more debilitating effects instead (Boals & Schuettler, 2010). It is also possible that these individuals had fewer affiliative positive experiences/memories with significant others, which could have protected them against the negative effects of shame interactions (Masten, 2001; Matos, Pinto-Gouveia, & Duarte, 2011a; Richther, Gilbert, & McEwan, 2009). Gene-environment interactions and genetic variation could also explain the differential psychological sensitivity to shame stressful life events (Caspi & Moffitt, 2006; Kendler & Prescott, 2006). In fact, across multiple studies a polymorphism (5-HTTLPR) within the promoter of the serotonin transporter gene was found to moderate the effects of adverse life experiences on the probability and severity of a diverse array of mental health related conditions and constructs (e.g., depression, suicide, anxiety; Caspi et al., 2003; Lesch et al., 1996; Roy, Hu, Janal, & Goldman, 2007; Stein, Schork, & Gelernter, 2007; Taylor, Way et al., 2006). This is an exciting avenue for future research, which could look at how early shame experiences, as well as positive affiliative ones, could affect the expression of genes and how certain genotypes might moderate the association between these early experiences and psychopathology.

Overall, results from Study I establish that in individuals with mental health disorders, early shame experiences may have important phenomenological characteristics and form rich and prevailing multifaceted experiences, with potentially damaging effects on one's sense of self, understanding and approach to the world, and well-being. These findings support and extend existing literature on shame (Gilbert, 1998c, 2003, 2007a; Kaufman, 1989; Keltner & Harker, 1998; Nathanson, 1994; Tangney & Dearing, 2002; Schore, 1998; Tomkins, 1987; Tracy & Robins, 2004) and highlight that research and therapy with high-shame individuals should include the assessment and intervention on cognitive, emotional, behavioural, physiological and cultural components of shame experiences and associated traumatic and autobiographical memory properties. Expanding upon findings in the non-clinical sample (Matos & Pinto-Gouveia, 2012), these data provides further evidence for the validity and utility of the SEI in a clinical setting.

In **Study II** the relationship between certain phenomenological features of shame memories involving others and of those involving caregivers and their traumatic, centrality and autobiographical memory qualities were explored in the mixed clinical sample. Correlation analyses results revealed that greater *severity of external and internal shame* felt in both shame experiences were significantly associated with their increased traumatic impact (i.e., intrusiveness, avoidance, hyperarousal) and centrality to personal identity and life story. In particular, greater internal shame severity in shame experiences with attachment figures was more strongly related to their traumatic impact and centrality to identity. This suggests that, when in early shame experiences, with others from the wider social domain or with attachment figures, individuals experience the self as unattractive, unworthy, inferior, defective, repulsive or incompetent in the eyes of the others and in their own eyes, the memories of such events tend to be construed as more traumatic and central to personal identity and life narrative. It also seems that, when a shame experience involves an attachment figure, the severity of one's negative self-evaluations and feelings (e.g., viewing the self as unworthy of love and support, inferior, different, defective, incompetent or inadequate) in the moment has a particularly powerful effect on how such event becomes structured as a traumatic memory, central to one's identity and life story.

These findings give further support and can be understood in light of shame and attachment models (Baldwin & Dandeneau, 2005; Bowlby, 1969, 1973; Gilbert, 2007a; Kaufman, 1989; M. Lewis, 2003; Mikulincer & Shaver, 2005; Tomkins, 1987) and contemporary theories of traumatic and autobiographical memory (Bernsten & Rubin, 2006, 2007; Brewin, 2006; Ehlers & Clark, 2000; Harman & Lee, 2010; McAdams, 2001). Hence, early shame experiences where individuals felt they created negative emotions in others (e.g., withdrawal, anger, disgust - external shame), and where intense threat (e.g., from a parent or peers) was connected with experiencing self as undesirable, unworthy or bad (i.e., internal shame), may lay down emotional memories that shape their self-identity and self-other schema (i.e., shame-based internal working models), and structure their life narratives. Furthermore, these shame-filled memories seem to engender an enduring threat to one's psychological integrity and social attractiveness and thus may trigger one's threat systems and processing and operate as traumatic memories, capable of eliciting intrusions, strong emotional avoidance and re-experiencing symptoms. These findings also add to previous studies in non-clinical populations on the association between the traumatic and centrality characteristics of shame memories and current external and internal shame (Matos & Pinto-Gouveia, 2010, 2011a, 2011b, 2012; Pinto-Gouveia & Matos, 2011; Matos, Pinto-Gouveia, & Duarte, 2011b, 2012).

Another central finding was that the *intensity of all emotions* (except for envy) experienced in the shame experience with others and with attachment figures was positively associated with the degree in which such episodes were structured as traumatic and central memories. Noteworthy, there were some differences in the pattern of emotions more strongly associated with each shame memory's traumatic and centrality characteristics. Heightened disgust, anxiety, sadness, anger, frustration, loss of dignity, humiliation, guilt and shame were particularly associated with increased traumatic impact and centrality to personal identity and life story of shame memories with attachment figures. In turn, elevated disgust, anxiety, sadness, anger, frustration, loss of dignity, humiliation and envy were mainly related to greater traumatic and centrality to identity properties of shame memories with others. Of note, while disgust, anxiety and sadness were the emotions more strongly linked to the traumatic and centrality features of shame experiences with caregivers, in shame memories with others disgust was the emotion with the strongest association with such memory features. Overall, stronger relationships were found between emotional intensity and memory properties of shame memories with attachment figures.

These results reinforce the idea that multiple emotional textures may infuse a shame experience and the particular emotional complexion of a shame experience seems to be linked to the degree in which it is stored and operates as a traumatic emotional memory and becomes central to self-identity and life narrative. Importantly, it seems that the emotional foundation of shame traumatic and central memories is not all the same and may vary depending on who elicited shame in the situation. Self-disgust, which typically is focused on some aspect of the self or the body and related to desires to cleanse, expel or destroy parts of the self (Gilbert, 1998c; Gilbert & Irons, 2004; Power & Dalgleish, 1997), seems to underpin both the traumatic and centrality properties of shame memories with attachment figures and with others. Furthermore, when early shame experiences involve an attachment figure, feelings of acute anxiety and fear, which commonly involve intense arousal and panic-like qualities along with involuntary basic defensive reactions (Gilbert, 1998c; H.B. Lewis, 1987), seem to be crucial for such memories to be encoded with trauma-like and centrality properties. At the same time, in shame episodes with loved ones, experiencing intense sadness, with one feeling defeated or trapped, tearful and demobilized (Gilbert, 2007c, 2010), also seems to fortify the traumatic and centrality properties of such emotional memory.

These findings are in line with the assumption that shame experiences are powerful emotional events, which may involve the arousal of various and sometimes conflicting emotions (e.g., anxiety vs. anger vs. sadness; Gilbert, 1998c, 2002a, 2007c). Additionally, our data are concurrent with the idea that these memories may function as 'emotional hot-spots' or affect-scripts in the mind and can act as conditioned emotional memories, embedded in our threat system, underlying negative self-experience and directing emotional and cognitive processing (Gilbert, 2003, 2007a, 2007c; Kaufman, 1989; Nathanson, 1994).

Regarding the association between *shame displays and action tendencies* and the traumatic and centrality qualities of both shame memories, results indicate that the more individuals have defensive submissive/flight and fear/activation physical and behavioural responses in the situation, the more traumatic and central to self-identity the shame memories seem to be. Particularly important to the traumatic nature of shame memories with attachment figures seems to be having a fear/activation physical response in the original shame experience. Besides, defensive fight behavioural responses in the shame experience, linked to the expression of anger and humiliation, seem to be unrelated to the traumatic impact and centrality to identity of shame memories. Furthermore, the more individuals feel desires to hide or escape, or freeze in the situation and feel paralyzed, the more traumatic and central the shame memory might be. Of note, elevated desires to fight and defend the self, although inhibited and arrested, seem to be associated with increased traumatic and centrality features of shame memories with

attachment figures, whereas motivation to repair the situation and make amends (possibly linked to guilt) seems unrelated to all memory properties.

These results extend previous research (Keltner & Harker, 1998; Gilbert et al., 2003; Gilbert & McGuire, 1998), suggesting that the extent to which shame experiences are encoded as traumatic and self-defining memories is associated with the pattern of defensive behaviours (at times conflicting) that are automatically triggered in face of threats or losses of one's social attractiveness and rank, especially if such defensive reactions entail submissive, flight and fear responses. The clinical implications of such findings are that individuals' early shame memories seem to be embedded in their threat systems and, when triggered, they might recreate encoded psychobiological patterns and influence the ease of activation of innate protection strategies (Gerhardt, 2004; Gilbert, 2007c; Schore, 1994, 2003). This might increase proneness to, or maintain, psychopathological symptoms in individuals with high shame and/or with traumatic shame memories. In such cases, therapists should evaluate the pattern of defensive responses associated with the shame memories and whether they are reactivated and impact on patients' current difficulties.

Concerning *coping*, our findings append to existing literature on shame-related coping (Gilbert, 1998b, 2002a, 2007c; Nathanson, 1994), suggesting that the defensive coping behaviours activated in the aftermath of a shame episode might influence how such episode is stored and operates in autobiographical memory. In particular, individuals who engaged in flight/submissive, dissociative and internalizing (i.e., self-criticism and self-blame) coping strategies after shame events with attachment figures or with others, tend to have more traumatic and central to identity shame memories. Besides, only in shame experiences with others, individuals who distanced themselves, withdrew from others and wanted to be alone (isolation) after the event tend to present heightened traumatic and central shame memories, whereas those who used care-eliciting defensive strategies (reassurance seeking) tend to reveal shame memories with diminished traumatic and central qualities. It might be that when individuals are shamed by others from the wider social domain they might seek (and find) reassurance in other significant people in their lives or isolate themselves. However, when the shamer is an attachment figure, individuals might neither be able to distance themselves from them nor seek support and care – there is nowhere safe to go. This links to the aforementioned notion that these individuals might be left in a state of 'threat without resolution' and get caught up in approach-avoidance conflicts (Liotti, 2000; Liotti & Gumley, 2008). Also, it seems individuals who engaged in denial processes after the shame episode with others show increased traumatic impact of such memories, and those who blamed the self for having infringed strict moral standards (an attributional style linked to guilt) tend to reveal increased traumatic impact of shame memories with others and with attachment figures. Therapeutically, these data points to the relevance of investigating how individuals coped with their shame experiences in early life and how these might have impacted on their shame memories traumatic and centrality to identity properties. It might also be pertinent to intervene on the defensive coping strategies they might still use to cope with shame, that have an impact on current distress, paying special attention to submissive flight, dissociation and internalizing coping styles.

The extent to which shame memories with attachment figures and with others were structured as traumatic and central to self-identity was, as expected, significantly associated with all *traumatic and autobiographical memory properties* assessed by the SEI. In other words, it seems that shame memories which are more frequently recalled (either immediately after the event or one month after), trigger intrusions and flashbacks throughout life, elicit re-experiencing and hyperarousal sensations and are remembered as vivid emotional memories tend to operate as traumatic memories and become central to

personal identity, structure one's life narrative and form highly available reference points to give meaning to other events. Noteworthy, these linkages were usually stronger in relation to shame memories with attachment figures. These findings are in line with previous results in the general population sample (Matos & Pinto-Gouveia, 2012), even though associations were stronger in magnitude in the mixed clinical sample. Also, they extend past research on the traumatic and central nature of shame memories from childhood and adolescence (Matos & Pinto-Gouveia, 2010, 2011a, 2011b; Pinto-Gouveia & Matos, 2011) and provide further evidence for the validity of the SEI to prime and measure shame memory' characteristics in clinical populations.

The *frequency of shame experiences* in childhood, adolescence or adult life was positively associated with the traumatic and centrality features of both shame memories. Particularly expressive were these associations in regard to shame memories with caregivers, pointing to the importance of having shame experiences with attachment figures as a child, adolescent or adult, in strengthening the traumatic impact and centrality to self-identity of a significant shame memory with them. In general, these results mirror those in a non-clinical sample (Matos & Pinto-Gouveia, 2012) and suggest that the recurrence of shame experiences in childhood, adolescence or adulthood, within family interactions or in the wider social domain, may denote the existence of constant threats to one's social self and psychological integrity, and hence reactivate and underline the traumatic character of one's shame memories. Furthermore, it is possible that when a shame memory is repeatedly triggered by other events, it might become 'reinfected' by shame-related self/other-referent meanings and highly interconnected with other concomitant memories, thus forming a central reference point for self-identity, life narrative and everyday inferences.

As expected, the *interference* in the achievement of important life goals of the shame memories involving others and involving attachment figures and their negative *impact* throughout life was strongly associated with the traumatic and centrality features of those memories, especially with their centrality to personal identity. Of note, and contrary to the results in the non-clinical sample (Matos & Pinto-Gouveia, 2012), there was no inverse relationship between positive impact of such memories and their memory properties. This sustains the idea that shame memories in individuals with mental health difficulties have more detrimental effects rather than positive ones. According to what was discussed earlier, the reasons why some people are able to bounce back from early shame experiences and grow beyond them, while others are highly vulnerable to them, become traumatized and severely affected by them, warrant further investigation as they may have pertinent implications for prevention and therapy.

The key idea that might be derived from this set of Study II results is that, the way shame experiences with attachment figures and with others, of people with psychological disorders, are construed as traumatic emotional memories, central to identity and life story, seems to be intensely affected by the phenomenological features (i.e., cognitive, emotional, bodily/physical, behavioural and motivational components) of such shame experiences. Adding to the severity of the traumatic and central nature of early shame memories, are also how one copes with shame, those memories' characteristics, the incidence of shame events throughout life and their interference and impact.

Our results further suggest that, in general, the associations between the phenomenology features of shame experiences and their traumatic and centrality qualities are stronger in shame memories with attachment figures. It would seem that shame memories with others and those with attachment figures differ, not so much as to the 'quality' and 'type' of their phenomenological characteristics, but instead as to the *intensity* and *strength* of how these relate to the traumatic impact and centrality to identity of such memories. This expands upon previous evidence suggesting the crucial role of attachment in the

formation of shame traumatic self-defining memories and the way they impact on psychopathological symptoms (Matos & Pinto-Gouveia, 2011a; Matos, Pinto-Gouveia, & Costa, 2011), and may entail clinical implications when working with high-shame patients with severe shame memories.

On the whole, these relationships between the phenomenology features of early shame experiences and their traumatic and centrality characteristics seem to be stronger in the clinical population in comparison to the non-clinical one (Matos & Pinto-Gouveia, 2012). It would seem that the degree in which such memories function as traumatic autobiographical memories in a clinical population is more robustly linked to the phenomenological properties of early shame events. In therapy, therefore, assessing and working through the different components of significant shame memories might be important to reduce their traumatic impact and centrality to identity, and subsequent effect on current symptomatology.

In line with this, **Study III** examined the significance of differences between the clinical and non-clinical samples regarding the phenomenology, traumatic, centrality and autobiographical memory properties of shame memories with others and with attachment figures. Overall, across analyses, the phenomenology characteristics of the early shame experiences with others and with attachment figures were significantly higher in the clinical sample in comparison to the non-clinical one.

That is to say, individuals in the clinical sample revealed higher levels of external and internal shame severity, heightened intensity of all emotions, greater submissive/flight and fear/activation physical and behavioural responses, elevated external and internally focused attention (on thoughts and feelings about the self), and increased desires to escape or submit, fight or freeze in the shame events recalled. No significant differences were found in defensive fight behavioural response and desire to repair or redo the situation. In addition, patients also tended to cope with shame after both shame experiences using increased flight/submission, isolation, dissociation and internalization strategies and, in shame experiences with attachment figures, also with greater avoidance and efforts to suppress aversive inner states, and by externalizing shame (i.e., blame others). Non-clinical participants, however, revealed higher tendencies to seek reassurance to cope with both shame experiences and to try to compensate for their inferiority, striving to achieve high standards.

Furthermore, patients' shame memories with attachment figures and with others showed increased frequency of remembering, intrusions and flashbacks, hyperarousal sensations and vividness, as measured by the SEI. Patients further revealed greater frequency of shame experiences with others and with caregivers in childhood, adolescence and adulthood. Besides, individuals in the clinical sample showed elevated use of avoidance, submission and compensation as ways to cope with shame-related situations throughout life, and such coping also interfered more with the achievement of important life goals. As expected, while negative impact of both shame memories was significantly higher in patients, individuals in the non-clinical sample considered their shame memories to have greater positive impact.

In terms of self-report measures of shame memories features, results demonstrated that patients regarded their shame memories with others with attachment figures as more traumatic, central to personal identity and life story and with heightened autobiographical memory properties (particularly in strength of recollection, belief, visual and auditory imagery, emotional intensity and similarity, importance to self and merged/extended). Non-clinical participants seemed to have less confidence in their memory with others and both their shame memories were more specific (occurred once) than the clinical patients' memories.

The take-home story from these results seems to be that the difference between the clinical and non-clinical sample regarding the phenomenology of early shame memories with others and with attachment figures, is not so much in the 'quality' or 'type' of such features, but rather in the *intensity* of the phenomenological components of early shame experiences, their interference on defensive coping strategies and impact in one's life and associated traumatic, central and autobiographical memory properties, regardless of who elicited shame in the experience. This thus gives support to the assumption that shame processes and shame-linked traumas seem to exist in a continuum from lower and mild levels of shame and shame traumatic events, common in the general population, to more severe levels of shame and shame traumatic experiences in a clinical population. Therefore, shame episodes seem to be pervasive experiences in all individuals' lives and, for some at least, they might become extremely powerful and pathogenic memories. Moreover, shame and shame experiences seem to be transdiagnostic processes, ubiquitous in a wide range of clinical disorders. This expands upon existing literature and research on shame and shame memories (e.g., Gilbert, 1998c, 2006a, 2007a; Kaufman, 1989; Keltner & Harker, 1998; Matos & Pinto-Gouveia, 2010, 2011a, 2011b, 2011c; Nathanson, 1994; Pinto-Gouveia & Matos, 2011; Tangney & Dearing, 2002; Schore, 1998; Tomkins, 1987) and underlines the importance of targeting the phenomenology of early shame memories in therapy, as they might have serious implications on patients current emotional difficulties.

Study IV explored the accessibility of positive and negative emotional memories with each parent and friends (from childhood and adolescence), and revealed that patients had higher accessibility for general negative memories with caregivers in comparison to positive ones. On the contrary, they tended to more easily recall positive memories with friends than negative ones. As expected, accessibility of negative memories was higher in the clinical sample in comparison to the non-clinical one, whilst accessibility of positive memories was higher in the general population sample. Such findings might be viewed in light of shame and attachment literature (e.g., Baldwin, 2005; Baldwin & Dandeneau, 2005; Gilbert, 2007a, 2007c; Matos, Pinto-Gouveia & Duarte, 2011a; Mikulincer & Shaver, 2007; Richter et al., 2009), suggesting that the degree in which people are able to rapidly access warm and supporting *versus* shaming, critical and condemning other-to-self and self-to-self emotional memories crucially influences emotional and social responses to negative, self-defining events and abilities to cope with shame linked-failures and set-backs.

When asked to recall an early positive memory with attachment figures, patients mostly remembered affiliative-safeness experiences (e.g., doing leisure activities together and feeling emotionally supported). However, such emotional memories were regarded as less central to identity and life story than both shame memories and than the positive memories of participants from the non-clinical sample. It seems that being construed as less central to self-identity, these affiliative memories were less easily accessible in the memory of individuals with increased vulnerability to psychopathology.

In this sense, and drawing on contemporary attachment and affect regulation views (Baldwin & Dandeneau, 2005; Cacioppo et al., 2000; Gilbert, 2005b, 2010; Leahy, 2005; Schore, 2001), it is possible that these individuals might have limited articulation of interpersonal schema of the self as lovable and worthy, and of others as caring and soothing. This would influence the underdevelopment of their safeness affect-regulating systems, which would compromise physiological and emotional regulation in face of aversive life experiences (e.g., inability to tone down distress via safeness and self-soothing), such as traumatic shame episodes. So, when stressed, these individuals would have elevated access to threat shame-related memories and impaired access to soothing memories (and systems), with the consequence

of feeling more threatened and with less access to reparative positive affect systems. This hypothesis could possibly explain why some people struggle or are unable to bounce back from their early shame experiences, whose traumatic impact seems to have more enduring and damaging effects. Conversely, under normal circumstances, as in the case of individuals from the general population, one's early interactions with significant others would also lay down positive affiliative/safeness memories, which seem to be more accessible and central to personal identity, and thus might protect one against the negative effects of aversive life experiences, such as shame ones. Although, as argued above, more research is needed on vulnerability and resilience factors of the impact of early shame experiences on people's mental well-being, this also suggests that developing self-compassion might be an important platform for dealing with and changing one's aversive emotional memories (Gilbert, 2005a, 2006a, 2009a, 2010).

Another interesting observation was that some patients who struggled with having any positive recollection from their early interactions with loved ones and others became highly emotional and tearful when talking about the event, even more so than when disclosing their shame memories. This could be understood in view of recent research on fears of compassion and attachment-related shame (Gilbert, 2009a; Gilbert, McEwan, Matos, & Ravis, 2011; Matos & Pinto-Gouveia, 2011a; Rockliff, Karl, McEwan, Gilbert, Matos, & Gilbert, 2011). It would seem that for some individuals, the activation of attachment emotional memories might be associated with intense feelings of sadness and grief, as these might be encoded in their safeness systems as emotional memories of yearning for love and aloneness, and could become associated with threat emotional memories, if one's care seeking in the attachment figure resulted in shame, withdraw or even punishment. When reactivated, these affiliative emotional memories might bring back the same sadness and grief, or shame and threat, affective responses and patients might be overwhelmed or even dissociate to escape these painful feelings. The implications of this for therapy are comprehensible, as experiences of kindness and warmth from the therapist or work to develop one's self-compassion attributes might result, in these patients, in the reactivation of such emotional memories and trigger powerful emotions and conditioned emotional reactions (e.g., fight, avoidance, escape), which might represent a major block to recovery.

At last, **Study V** revealed that individuals in the clinical sample with increased traumatic and centrality of memory features of both shame memories tend to present increased current external and internal shame and elevated depressive symptoms. Those individuals with increased shame traumatic and central memories with others further compared themselves negatively with others, having negative perceptions of their social ranking. In addition, patients with heightened traumatic features of shame memories with others and with attachment figures also revealed elevated anxiety, stress and dissociative symptoms. Individuals with greater centrality of shame memories with others presented elevated anxiety symptoms while those with higher centrality of shame memories with attachment figures showed increased dissociative symptoms. As expected participants in the clinical sample revealed higher levels of external and internal shame, negative social comparisons, and symptoms of depression, anxiety and stress, in comparison to the non-clinical sample individuals, with no difference on dissociation.

These findings parallel and add to previous empirical evidences on the relationship between shame traumatic and central memories and current shame and psychopathology in non-clinical samples (Matos & Pinto-Gouveia, 2010, 2011a, 2011b, 2011c; Pinto-Gouveia & Matos, 2011), and suggest that the same processes may apply in individuals with mental health disorders and heightened shame traumatic memories. Hence, shame memories being construed as traumatic and central memories to self-identity and life narrative may become highly interconnected to other memories and constitute highly accessible

reference points for the organization of autobiographical knowledge. These emotional memories, comprising primary threats to one's sense, might therefore engender a sense of ongoing threat to the self, and influence attentional, emotional and cognitive processing (e.g., threat-focused). This thus seems to elevate these individuals vulnerability to emotional difficulties and psychopathological symptoms (Berntsen, & Rubin, 2007; Harman & Lee, 2010; Matos & Pinto-Gouveia, 2010, 2011a, 2011b, 2011c; Matos, Pinto-Gouveia & Costa, 2011; Matos, Pinto-Gouveia & Gilbert, 2011). Nonetheless, because of the correlational nature of these data, it is also conceivable that current affective states might influence the extent to which shame memories are recalled as traumatic and central memories and future research should seek to elucidate this issue. However, we argue that the consistency of our findings across different samples (i.e., general population, student, clinical) and diverse methodologies (i.e., self-report and semi-structured interviews), seem to support our interpretation.

Taken together the results from these **five studies** and literature reviewed earlier on shame, attachment, memory and social neuroscience research, we tentatively argue that for individuals suffering from mental health disorders, shame experiences unfolding in early interactions (with loved ones within the family and in the wider social domain) might entail severe threats to one's social attractiveness, sense of self and social bonds, and recruit heightened defensive cognitive, emotional, behavioural, physiological components and coping strategies. These intense and painful multi-faceted emotional experiences of the self-in-relationship-with-others might be embedded in the threat system and work at implicit levels, linked to automatic 'if-then' rules and psychobiological states. Hence, they might be stored in the brain as highly vivid and traumatic memories, which can be extremely intrusive, elicit powerful hyperarousal sensations and emotional avoidance and operate as conditioned memories. Such memories might shape the whole sense of self, functioning as self-defining central memories and forming highly available reference points for the organization of autobiographical knowledge. These threat 'emotional hot-spots' might affect the construction of negative self-other schema and create psychobiological response patterns that guide emotional and cognitive processing, basic social engagement orientation and protection strategies, and might be recreated throughout life. Such powerful and vivid autobiographical memories might be strengthened during life by their persistent reactivation and incidence of other shame experiences and become highly accessible aversive emotional memories. These shame memories might also become key coordinators of basic affect-regulating systems. If one is not able to access other positive affiliative memories of warmth and safeness, then early shame memories might over-stimulate one's threat system and seriously undermine the development of safeness, compromising effective affect regulation in face of threats and aversive life events. Shame memories from childhood and adolescence might thus significantly interfere with one's life goals and negatively impact on mental well-being, elevating vulnerability to current external and internal shame, negative perceptions of social rank and psychopathology in general.

Limitations and future research

Several limitations of this study are identified and should be acknowledged in the interpretation of the current results. First, the cross-sectional design of our study and the descriptive and correlational nature of our data limit any robust causal conclusions to be derived from these findings. It would be valuable for future research to replicate our study using a longitudinal or experimental designs, in which, for example, the phenomenology of early shame memories would be assessed early in life (e.g., adolescence), and then later in life (e.g., adulthood). The time lag between the SEI and the filling of self-report-measures might also have introduced some confounding variables, which were not controlled for. Although care was taken to prevent respondents' fatigue while answering the SEI from interfering with the responses (for example, by administering the first and the second part of the SEI at distinct moments in time in some

patients), it is possible that SEI's length and emotional arousal elicited while completing the SEI might have influenced participants' responses. Future research would benefit from the development of a shorter version of the SEI and from its administration at the same time as self-report measures of clinical relevant constructs.

Moreover, the fact that our data is based on patients' recollections of early experiences may raise concerns as to the accuracy of these accounts and on whether they were influenced by current emotional states. Even so, it is worth mentioning that research demonstrated retrospective recall data are generally reliable, accurate and stable over time (e.g., Brewin, Andrews, & Gotlib, 2003). Furthermore, the fact that we used a semi-structured interview to prime and assess the phenomenology and memory features of early shame experiences strengthens the confidence in our results, which are consistent with past research using self-report or interviewing methodologies to elicit shame memories (Matos & Pinto-Gouveia, 2010, 2011a, 2011b, 2011c; Pinto-Gouveia & Matos, 2011; Matos, Pinto-Gouveia, & Costa, 2011). Also, even though there was a great emphasis in establishing an empathic interviewer-respondent relationship and de-shame individuals, defining and normalizing shame and shame experiences, in the beginning of the SEI, because shame is related to secrecy and concealment and can be bypassed (Gilbert, 1998c; MacDonald, 1998), it is possible that some patients did not disclose their most shameful experiences.

In addition, this study used a mixed clinical group rather than focusing on specific diagnoses because shame is not associated with a specific clinical group and shame experiences are thought to occur in everyone's life. Nevertheless, there might be subtle differences in the way the phenomenology features and psychological processes underpinning shame and shame traumatic and central memories might operate in distinct clinical groups (e.g., eating disorders, social anxiety, obsessive-compulsive PD or borderline PD). This empirical question remains to be addressed in the future. Besides, although our sample had high comorbidity rates, we did not intend to control for that since we were interested in a mixed clinical sample and there are increasing concerns with current diagnostic syndromes, given that overreliance on them might distort underlying psychological problems (Parker, 2005). Future research should, however, address the limitation regarding the over-lap between psychopathological symptoms (e.g., depression and anxiety) and their possible influence on shame memories properties, for example by controlling for effect of depressive symptoms.

Clinical implications

With these caveats in mind, the present study may still have relevant clinical and research implications. This is the first study to explore in detail, in a mixed clinical sample and using a semi-structured interview methodology, the phenomenological features of early shame experiences and how these relate to traumatic and autobiographical memory.

The current results hold the promise of sparking a conceptualization of the phenomenology of shame experiences and memories, pointing to the richness, multi-texture and complexity of these emotional memories, which may have profound implications for the self we become and seek to be, and for mental and physical well-being. Such findings extend upon and may be integrated in current shame and autobiographical and traumatic memory perspectives.

Furthermore, this framework and improved understanding of the phenomenology of shame memories may entail a number of clinical implications, most of which could be derived from existing interventions, such as Compassion Focused Therapy (CFT, Gilbert, 2005a, 2009a, 2010; Gilbert & Irons, 2005), designed

to help high shame individuals, and therapeutic interventions in traumatic memory, such as exposure work or imagery re-scripting (Brewin, 2003, 2006; Clark & Ehlers, 2004; Lee, 2005; Wheatley, Brewin, Patel, Hackmann, Wells, Fisher, & Meyers, 2007). In particular, it might be important to carefully assess the phenomenological characteristics of shame memories (e.g., using the SEI) and whether they function as traumatic central memories. Also, therapists should understand how these complex emotional memories are stored and re-created in the patients' brain and whether they are implicated in the expression of their psychopathological symptoms. Working with these memories might involve 'unpacking' them into their core phenomenological components and use psycho-education (e.g., of human's innate needs, affect regulation systems, conditioned emotional memories, nature of shame, function of defensive responses and protective strategies) so people can stand back and understand how their minds, emotions and emotional memories may be working. Then it might be relevant to collaboratively work and engage with these shame memories and target the powerful emotions and defensive reactions they might reactivate. At the same time, therapists could help patients developing self-compassion, towards the self in the present and in the past (the self in the traumatic memory), and work out a compassionate intervention for each shame memory component. The patients should collaboratively agree to gradual exposure and desensitization work, and the therapists should express a compassionate, gentle and encouraging posture (e.g., through grounding and gentle voice tones), so that patients could begin to re-evaluate current meaning of the traumatic shame experience (e.g., for self-identity) and start to re-narrate and re-process the shame memories in the presence of a caring other. Given that recent evidence suggests the activation of competing emotional memories in different situations might facilitate change in traumatic emotional memories (Brewin, 2006; Lee, 2005), CFT tries to create an alternative emotional experience, using the brains' own natural affect regulation systems (i.e., affiliative/safeness system) via compassion focusing. Therefore, generating compassionate affects, imagery and refocusing, exposure, and re-scripting might all be pertinent to work with shame traumatic memories (Clark & Ehlers, 2004; Lee, 2005; Gilbert, 2009a; Wheatley et al., 2007).

Furthermore, our results demonstrate that the SEI is a reliable and useful measure to prime and evaluate shame experiences and memory properties in a clinical setting. Thus, we hope that its use as a clinical tool or research instrument may encourage both rich clinical information and research, and contribute to solve some problems related to shame measurement through self-report questionnaires. More research however is recommended to further validate the psychometric qualities of this interview (e.g., exploring inter-rater reliability).

Altogether, we hope the data presented here may help to illuminate an enriched understanding of the complex nature of shame and the phenomenology of these powerful and potentially harmful emotional experiences, offering tantalizing suggestions that early shame memories can be highly pathogenic and need to be carefully addressed in therapy with individuals suffering from a wide range of mental health disorders.

Acknowledgements

We are deeply grateful to the patients who have been brave to share their painful shame experiences with us. Also we are thankful to Professor Paul Gilbert, whose perceptive comments greatly contributed to this research.

This research has been supported by the first author (Marcela Matos) Ph.D. grant number SFRH/BD/36617/2007, sponsored by FCT (Portuguese Foundation for Science and Technology).

Chapter 9

A new tool to assess shame phenomenology: Understanding the phenomenology of shame memories in non-clinical and clinical populations using the Shame Experiences Interview

Chapter summary

This chapter extended previous research and outlined the richness and complexity of the phenomenology of shame experiences and their traumatic and autobiographical memory properties, in clinical and non-clinical samples using a new semi-structured interview, the Shame Experiences Interview.

The series of studies presented in the two empirical studies of this chapter demonstrated that shame episodes from childhood and adolescence tend to occur in early interactions within the family and in the wider social domain and are mainly experiences of threat to one's social attractiveness and sense of social self and relational bonds. These shame experiences seem to entail rich phenomenological features (i.e., cognitive, emotional, physical, behavioural components), activate defensive coping strategies, be construed as autobiographical trauma-like memories central to self-identity, and tend to interfere with the achievement of one's life goals and have a significant negative, and at times positive, impact on one's life. In addition, this chapter's studies indicated that the degree in which shame memories function as traumatic central memories in the clinical sample seems to be associated with the intensity of phenomenological properties of the early shame events, and such linkages are generally stronger in shame memories with caregivers. Besides, these studies established that having an early shame memory that operates as a traumatic and central autobiographical memory seems to be related to current increased levels of shame and elevated psychological difficulties.

Moreover, these studies revealed that individuals with mental health disorders tend to present significantly higher levels of phenomenological components of early shame experiences, interference and impact on one's life and associated traumatic, central and autobiographical memory properties, in comparison to individuals from the general population. Also, whilst patients seem to have higher accessibility for general negative emotional memories in comparison to positive ones, individuals from the general population however, seem to have a higher accessibility to positive emotional memories in early life than negative ones. Results further showed that in patients positive affiliative memories with one's caregivers seem to be less accessible and central to identity than in the general population participants, for whom these emotional memories tend to be more central to personal identity and life story than shame memories.

Besides, these studies established that the Shame Experiences Interview seems to be a reliable and useful assessment tool to evaluate the phenomenology of shame experiences and memories, both in clinical and non-clinical settings.

On the whole, this chapter offers new insights toward the further understanding of the multifaceted and complex nature of shame experiences and shame memories phenomenology, underlining their potentially damaging impact on self-identity and mental health. Findings from this chapter might therefore entail relevant theoretical, research and clinical implications.

Chapter 10

Synthesis and concluding remarks

Chapter 10

Synthesis and concluding remarks

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Chapter 10

Synthesis and concluding remarks

Chapter overview

This chapter outlines the general conclusions drawn from the preceding empirical studies and incorporates them in an integrative and comprehensive model of shame memories functioning. Given the structure of this thesis, composed of five chapters comprising a set of papers, the results of each empirical study were discussed individually and in depth in the discussion of each paper. For this reason, this chapter presents a synthesis of the main results obtained in the empirical studies. We elaborate an integrative and inclusive discussion of those results, emphasizing what they add to the current empirical and theoretical knowledge on the nature of shame, the phenomenology of early shame experiences and how these operate as emotional memories. We therefore propose a comprehensive model of how shame memories operate and impact on our self-identity, emotional and psychological distress, extending the theoretical model of shame at the basis of this research. Furthermore, we discuss the main clinical and research implications derived from our results and reflect upon the preventive applications they might have. Finally, the methodological limitations of the empirical studies are considered and directions for future research are proposed.

10.1. Synthesis of the main results

Shame is considered by many theorists to be a powerful self-conscious and socially-focused emotion with a central impact on one's sense of self, social relationships and behaviour (e.g., Gilbert, 1998c; Kaufman, 1989; H.B. Lewis, 1987; M. Lewis, 1992, 2003; Nathanson, 1994; Tangney & Dearing, 2002; Tomkins, 1963; Tracy & Robins, 2004, 2007). Specifically, this thesis has contextualized shame in light of an evolutionary biopsychosocial approach (Gilbert, 1997, 1998c, 2002a, 2003, 2007a). This model conceptualizes shame as a genetically prewired affect that emerges from humans' innate motives for attachment, group belonging and social status, and from our basic needs to appear attractive in the eyes of the others, as one's social attractiveness helps to ensure the attainment of important biosocial goals and warrant access to fitness-enhancing resources. Shame is seen as an affective-defensive response to perceived losses of one's social attractiveness and serves the adaptive function of alerting individuals to threats to their self-identity, social status and relational bonds, and instigating behavioural displays (e.g., submissive signals) to protect the self against, or mitigate the damage caused by, such threats. Notwithstanding its evolutionary adaptive value, an increasing body of research over the past years has consistently indicated that shame may have significant detrimental effects on a host of mental and physical health outcomes (e.g., Dickerson et al., 2004, 2009; Kim et al., 2011; Tangney & Dearing, 2002; Tracy et al., 2007). However, the exact phenomenological characteristics of shame experiences, especially those that took place early in life within the family or in the wider social domain, were not yet clarified and further investigation on this

matter was needed. Also, there was an absence of empirical research on how these shame experiences are structured as emotional memories and impact on self-identity and psychological distress.

Therefore, this doctoral thesis aimed at contributing to a better understanding of the nature of shame and shame memories and their impact on a range of psychological difficulties. In particular, twelve empirical studies sought out to address the following main research questions: (1) Can shame memories function as autobiographical and traumatic memories, become central to self-identity and life story, and have an impact on current shame and psychopathological indicators? (2) Is there any specificity in the way shame traumatic and central memories impact on psychological difficulties that goes above and beyond their negative emotional valence? (3) What is the role of attachment and affiliation on how shame memories are structured and impact on psychopathology? (4) Are positive affiliative memories capable of buffering the negative impact of shame and shame memories on psychological distress? (5) What are the defining phenomenological features of shame experiences? How are these phenomenological dimensions related to shame memories traumatic and centrality properties? Does the phenomenology of shame memories with attachment figures differ from those of shame memories with other social agents? Are shame memories in a clinical population different from those of a general community population? Below we present the main results and conclusions derived from the empirical studies of this thesis designed to target these research questions.

Shame as a traumatic and central autobiographical memory with implications to psychopathology

Chapter five' empirical studies explored the traumatic, centrality and autobiographical memory properties of early shame recollections and investigated their relationship to shame proneness and psychopathology vulnerability later in life.

Results from **Study I** revealed that shame experiences recalled from childhood and adolescence seem to be encoded in autobiographical memory and operate as *traumatic memories*, eliciting *intrusions, hyperarousal and avoidance* symptoms. These shame traumatic memories are related to heightened proneness to external shame and internal shame, and to increased symptoms of depression, anxiety and stress in adulthood. So shame memories may reveal trauma-like qualities and engender a sense of ongoing threat to one's sense of self and psychological integrity. Individuals with shame traumatic memories are thus rendered to feel and believe they exist in the mind of the others as unattractive, inferior, defective, unlovable, or inadequate, and to see and judge themselves in the same negative and devaluing way. They are also more prone to experience defeat and threat emotional states later in life. Moreover, *shame traumatic memories seem to moderate the association between current shame and depressive symptoms*, in that in individuals with higher levels of shame traumatic memory features the impact of external and internal shame on depressive symptoms is greater. Hence, having a shame memory that acts as a traumatic memory can intensify the effect of shame on depressive symptoms.

Study II and **Study III** further indicated that early shame experiences tend to function as *anchoring events for one's self-identity*, as *turning points in one's life narrative*, and as *cognitive reference points* for attributing meaning to other experiences, organise other memories and generate future expectations. Such shame central memories seem to shape one's negative perceptions of the way one exists in the mind of the others (external shame) and also one's own personal judgments of one's attributes, feelings or fantasies (internal shame). Shame memories that are regarded as central to personal identity and life story seem to be linked to *heightened depressive, anxiety and stress symptoms* in adulthood, and such impact is highly significant and independent, going beyond the effect of current external and internal shame on such psychopathological indicators.

In addition, *centrality of shame memory seems to moderate the impact of external and internal shame on depressive symptoms*. This implies that the extent to which a shame memory operates as a self-defining memory, shaping one's self-identity, structuring the way one construes his/her life story, and giving meaning to past, present or future experiences, strengthens and magnifies the association between shame and depression.

Furthermore, the *centrality of shame memories is related to the traumatic impact of such memories*. This suggests that shame memories tend to become well integrated in one's cognitive networks and form highly available reference points for the organization of autobiographical knowledge and for perceptions of the self and the world, and this may influence their structuring as traumatic memories, with potential to trigger intrusions, hyperarousal and avoidance symptoms.

Results from **Study IV** established that shame memories show *basic autobiographical memory properties*. The *strength of recollection* of a shame memory seems to be mainly associated with autobiographical memory properties of vividness of auditory imagery and intensity of the reinstated emotions, whereas the *degree of belief* in the shame memory's accuracy seems to be particularly related to the memory narrative coherence, importance to self and life story, and spatial imagery.

Autobiographical memory properties seem to be enhanced in shame memories that function as traumatic and central to personal identity. Specifically, increased shame traumatic and centrality of memory qualities seem to be associated with heightened strength of recollection, elevated reliving and reinstating of emotions, higher vividness of visual and auditory imagery and greater importance to the self. In turn, it seems that the less rehearsed (i.e., talked and thought about) the shame memory is, the more traumatic and central to identity it tends to become.

Moreover, stronger sense of recollection, reliving and similarity of emotions, and vividness of visual and auditory imagery and language components of shame autobiographical memory seem to be linked to increased external and internal shame and to elevated symptoms of depression, anxiety and stress.

In addition, results from this study revealed an *integrative mediational chain model* in which reliving of emotions, importance to self and rehearsal properties of shame autobiographical memory seem to indirectly impact upon increased external and internal shame and elevated depressive, anxiety and stress symptoms through heightened shame memory traumatic and centrality characteristics.

Thus, these autobiographical memory properties seem to confer a flashback quality to shame memories, which seem to operate as conditioned emotional memories. It seems that when a shame memory is triggered one can be 'reinfected' again with the original shame experience, reliving its visual, auditory, language, cognitive and emotional components. This may elevate the shame memory's traumatic and centrality to identity and life story features. Shame traumatic and central memories may thus engender and reinforce a sense of current threat to one's social attractiveness and psychological integrity, and impact on one's sense of self as it exists in the eyes of the others and in one's own eyes, and render one at higher risk to experience symptoms of depression, anxiety and stress. In turn, elevated proneness to external and internal shame further increases one's vulnerability to enter defeat and threat-related emotional states.

Study V examined the relationship between shame, shame memories, and paranoid and social anxieties and demonstrated that *external shame* is especially associated with *paranoid ideation* whereas *internal shame* is especially related to *social anxiety* symptoms. Additionally, when current external and internal shame are considered simultaneously, the degree to which shame memories function as *traumatic*

memories and become *central to personal identity* seems to be *associated with increased paranoid anxiety but not social anxiety*. These results suggest that different psychological processes seem to lie beneath these two distinct forms of social wariness. Paranoid anxiety tends to be more focused on the malevolence of others intentions towards the self and on how one exists in the minds of others, and early shame experiences that function as traumatic memories and central to identity may play an important role on sensitizing individuals to be socially wary and more prone to paranoid ideation. In contrast, social anxiety seems to be particularly linked to feelings and beliefs focused on one's personal flaws, inadequacies and shortcomings.

Taken together, these studies' findings extend, and can be interpreted in light of, existing models of shame, in particular the evolutionary biopsychosocial approach (Gilbert, 1997, 1998c, 2002a, 2003, 2007a), and current conceptualizations of autobiographical and traumatic memory (e.g., Berntsen & Rubin, 2006, 2007; Ehlers & Clark, 2000; Harman & Lee, 2010; Rubin, 2005; Rubin et al., 2008). These results shed light on the nature of shame memories as autobiographical and traumatic memories that can shape who we are in our own eyes and who we believe to be in the eyes of the others, how we perceive others and the world, and profoundly impact on a range of psychological difficulties.

The uniqueness of shame memories in their association to psychopathology in comparison to other negative emotional memories

Having established the traumatic and autobiographical qualities of shame memories and their detrimental effects on mental well-being, **Study VI** further investigated whether such effects were merely a product of the negative emotionality underlying these shame memories. Results indicated that, when controlling for the effect of centrality and traumatic features of other negative emotional memories (i.e., fear and sadness), *shame memories* that are central to one's identity and life story and with traumatic features have a *unique impact on various psychopathological indicators*, namely, external and internal shame, depression, anxiety, stress, paranoid ideation and dissociation, *above and beyond their negative emotional valence*.

These findings expand upon the previous studies' results and suggest that shame traumatic and central memories independently contribute to a wide range of emotional and psychological difficulties over and above other negative emotional memories. Such results are in line with and add to the evolutionary biopsychosocial perspective on shame (Gilbert, 2002a, 2007a) implying that shame memories, representing perceived losses of one's attractiveness in the eyes of the others, are not only embedded in the threat system (e.g., as are fear memories), but they may represent blocks to positive affects related to affiliation and social connectedness and to drive in pursuing social status. Also, these findings enlarge the knowledge from current memory theories (e.g., Berntsen & Rubin, 2006, 2007; Berntsen et al., 2011; Brewin et al., 2000; Brewin et al., 2010; Ehlers & Clark, 2000; Holmes et al., 2005; Thomsen & Berntsen, 2009) by showing that negative emotional memories are not all the same and may operate differently in autobiographical and traumatic memory, having distinct implications to one's sense of self and psychological suffering.

The role of attachment in shame memories relation to psychological distress

Expanding upon the preceding studies and building on shame, attachment and social neuroscience literature emphasizing the crucial role early affiliative relationships play on genetic expression, brain maturation, affect regulation, self-other schema and mental and physical well-being (e.g., Baldwin, 2005; Baumeister & Leary, 1995; Belsky & Pluess, 2009; Bowlby, 1969, 1973; Cozolino, 2006; Gerhardt, 2004;

Gilbert, 2007a, 2007c, 2009a; H.B. Lewis, 1971; Taylor, 2010; Schore, 2001; Siegel, 2001), results from Study VII and Study VIII revealed that shame memories seem to function and impact differently on psychological difficulties depending on whether they involved an attachment figure or other social agents.

In particular, **Study VII** findings demonstrated that the traumatic memory features and centrality to identity of *shame memories involving social agents from the wider social domain* seem to be more robustly associated with *external shame*, whereas the traumatic memory features and centrality to identity of *shame memories involving attachment figures* appear to be more strongly linked to *internalized shame and depressive symptoms*. Furthermore, although shame traumatic and central memories involving other social agents have an independent effect upon depressive symptoms, only shame traumatic and central memories involving attachment figures *moderated the impact of current external and internal shame on depressive symptoms*. Hence, it seems that when shame traumatic and central memories that took place with one's primary caregivers interact with current shame feelings they may amplify their impact on depressive symptoms.

Moreover, results from **Study VIII** showed that while rumination, thought suppression and dissociation mediated the relationship between shame traumatic memories with other social agents and depression, *no mediator effect* of these *emotion regulation processes* was found for shame traumatic memories with attachment figures, which seem to have a direct impact upon depressive symptomatology.

Overall, these data highlight the importance of the quality and type of attachment relationships in how shame experiences come to be structured as traumatic and central memories and on their association to current shame, emotion regulation processes and psychopathology vulnerability.

Safeness memories and feelings as protection against shame and shame memories impact on psychopathology

Drawing upon the findings from previous studies and research showing that positive affiliative memories and feelings of social safeness and connectedness foster resilience against adverse life events (Atwool, 2006; Cacioppo et al., 2000; Gilbert et al., 2006; Masten, 2001; Richter et al., 2009), Study IX and Study X investigated the buffering effects of affiliative memories and feelings against the damaging impact of shame and shame memories on psychopathology.

Results from **Study IX** indicated that affiliative memories may work differently in protecting against the impact of shame memories. *Early memories of warmth and safeness* seem to *moderate the relationship between centrality of shame memory and depressive symptoms*, by attenuating its impact. This suggests that having a shame memory central to self-identity in the context of an affiliative environment, where one recalls feeling safe, loved and cared about as a child, may provide opportunities for reparation and re-connectedness to others, and thus buffer the negative impact of that shame memory on depression vulnerability. In the absence of such affiliative positive memories one may feel unsafe, alone and disconnected from others, more vulnerable to the negative impact of shame memories that become central to personal identity. However, *when shame memories are structured as traumatic memories* their *impact on depressive symptoms seems to be direct* and not moderated and soothed by early affiliative memories. This implies that when early shame experiences operate as traumatic memories, associated with intrusions, flashbacks, hyperarousal and avoidance symptoms, they might engender a sense of enduring threat to one's sense of self and social status, and constantly activate the threat-protection system, which cannot be toned down by positive affiliative memories.

This study also showed that the protective effect of early memories of warmth and safeness and the detrimental effect of shame memories central to identity on depressive symptoms seem to *operate through their impact upon one's current feelings of social safeness*. That is, through one's ability to feel safe with others and use social relationships to soothe oneself when facing distress.

Moreover, **Study X** established that the *effects of shame traumatic memory, centrality of shame memory and early memories of warmth and safeness upon depressive symptoms seem to be mediated by internal shame*. It seems that it is the internalization of shame traumatic and central memories and of a lack of safeness memories into a sense of self as unattractive, undesirable, inferior and globally self-condemning that is crucial in elevating one's vulnerability to experience depressive symptoms. Conversely, recalling feeling safe and nurtured as a child seems to lessen one's internalized shame, and thus buffer against its impact upon depression vulnerability. External shame, however, seems to be strongly linked to internal shame, but does not mediate these associations.

Overall, these two empirical studies are in line with and extend past research and theoretical perspectives on shame, affiliative relationships and depression (Atwood, 2006; Gilbert, 2003, 2007a, 2007c, 2009a, 2010; Gilbert et al., 2006; Price et al., 1994; Richter et al., 2009). They illuminate the key role of affiliative relationships on providing a source of social safeness and connectedness, crucial to adaptive affect regulation and capable of weakening the pathogenic effects that internalized shame and shame memories traumatic and central to self-identity may have on mental well-being.

Shame memories phenomenology

The findings from **Study XI** and **Study XII** extend the former research and underline the complexity and richness of the phenomenology of early shame experiences and their autobiographical and traumatic memory properties, in a large sample from the general community population and in a mixed clinical sample using a semi-structured interview methodology.

Results showed that, in general, significant shame experiences in childhood or adolescence seem to take place both within the family or in the wider social domain. These recalled shame episodes were typically situations where one was *criticized, put-down, rejected, physically or sexually abused, bullied, negatively compared to others, felt exposed or felt reflected shame*, for example due to one's family status or one's family member's behaviour. In individuals with mental health disorders, shame experiences also included early interactions with attachment figures where one felt *neglected, deprived* of love, care and support or *emotionally abused*. It seems that these early adverse experiences constitute major threats to one's sense of self, social rank and relational bonds and may engender severe shame.

Findings from these two studies further revealed that early shame experiences seem to entail rich phenomenological features, providing solid evidence for what so far were mainly literature speculations on that matter (Kaufman, 1989; Nathanson, 1994; H.B. Lewis, 1971; M. Lewis, 1992, 2003; Tomkins, 1987), and supporting the evolutionary biopsychosocial model of shame (Gilbert, 1997, 1998c, 2002a, 2003, 2007a). In particular, these experiences seem to have a multifaceted nature, involving *externally and internally focused cognitive dimensions*, and specific threat-related emotional, physical/bodily and behavioural components. It seems that at the heart of any shame experience is a sense of self as an unattractive and undesirable social agent, unable to generate positive affect in the mind of the other, who may thus condemn, reject, disengage or harm the self (i.e., external shame thoughts and feelings). Also, it seems that such experience of the self as it exists for others may be internalized, and is associated with derogatory self-evaluations and feelings that influence the self-experience and self-to-self relationship.

Emotionally, shame experiences and memories seem to be rich emotional events where shame affects commonly fuse, bind with, and are textured by a blend of *primary defensive emotions*, such as anxiety, anger, disgust or sadness. Furthermore, shame experiences seem to be associated with a host of *defensive physical/bodily and behavioural responses*, especially submissive flight/escape responses, but also, to a lesser degree, defensive fight responses. Desires to hide, escape, submit or redo the situation seem to be the action tendencies that usually accompany these experiences. Shame episodes seem to trigger *defensive coping strategies* to deal with shame threats and feelings at that moment, such as withdrawal from others, submission, avoidance, compensation, and may involve the internalization (e.g., self-criticism) or externalization of blame. These coping mechanisms in the aftermath of a shame event seem to function as social damage limitation strategies, aimed at restoring one's social image/reputation, de-escalate social conflict and repair damage to social bonds (Gilbert, 1998c, 2002a, 2007b; Keltner & Harker, 1998).

In addition, results from these two studies corroborated our previous findings regarding shame memories and indicated that early shame experiences, as primed by the SEI, seem to lay down emotional memories that comprise a primary threat to one's social self and operate as *traumatic self-defining autobiographical memories*. Specifically, shame memories seem to be associated with elevated levels of intrusions and flashbacks, heightened hyperarousal and re-experiencing symptoms, higher vividness and strong emotional avoidance. These shame memories also reveal robust autobiographical memory properties and are regarded as central to self-identity and life story. This therefore suggests that shame memories seem to act as conditioned emotional hot-spots or scripts in the mind and to be embedded in the threat-protection system. These *threat memories* may thus work at implicit levels and, when triggered by an interpersonal threat, or by other internal or external cues, they may have whole-body effects and generate threat-related psychobiological response patterns that guide subsequent emotional, cognitive and behavioural processing (Brewin, 2003, 2006; Gilbert, 2003, 2007c, 2010; Rothschild, 2000; Tomkins, 1987).

Moreover, these shame experiences seem to significantly influence the *coping mechanisms or safety-protection strategies* one develops to deal with, or avoid, shame during life. In general, individuals tend to engage in submissive, appeasing and non retaliating styles of social relating and to compensate for their possible sources of inferiority to cope with (potential) shame throughout life. These defensive styles of coping seem to significantly *interfere with the achievement of important life goals*. In addition, shame experiences seem to have a considerable *negative impact* on one's life, although some individuals, especially those from the non-clinical sample, also regard these experiences as having had some positive impact on their lives.

Shame experiences seem to be *common throughout life*, being more frequent during adolescence and childhood than in adulthood, and individuals tend to remember more shame episodes involving others from wider social contexts during life, than shame episodes involving caregivers. Nonetheless, it seems that for some people their most significant and difficult shame experiences are too painful to disclose and are still kept secret.

Besides, these empirical studies established that that the degree in which shame memories function as *traumatic memories* and are *central to self-identity* seems to be *associated* with the *intensity of the* abovementioned *phenomenological properties* of those early shame events. These linkages are generally stronger in shame memories with attachment figures in comparison to shame memories with others. So it seems that what distinguishes shame memories with caregivers from those involving other social agents is

not so much the 'quality' or 'type' of their phenomenological features, but the *intensity and strength* of the relationship between such features and the traumatic and centrality properties of those memories.

Additionally, our findings indicated that having an early shame memory that operates as a traumatic and central autobiographical memory seems to be *related to* current elevated levels of *external and internal shame*, higher negative *social comparisons* and increased *psychopathological indicators*, namely depression, anxiety, stress and dissociative symptoms.

Furthermore, these studies revealed that *individuals with mental health disorders* tend to present significantly *higher levels* of cognitive, emotional, physical/bodily and behavioural phenomenological components of early shame experiences, interference and negative impact on one's life and associated traumatic, central and autobiographical memory properties, in comparison to individuals from the general population. In patients, as well, the associations between the phenomenological characteristics of shame experiences and their traumatic and centrality of memory properties were stronger. This suggests that the degree in which such shame memories operate as traumatic and central to identity in a clinical population is more robustly linked to the phenomenological properties of the shame events. These data are in line with the idea that shame processes and shame memories are ubiquitous in everyone's lives and that, for some individuals, they can become extremely powerful and pathogenic memories, key to personal identity and psychological well-being. There seems to be a continuum that goes from lower to mild levels of shame and shame traumatic events, common in the general population, to more severe levels, present in a clinical population.

Results further showed that *patients* seem to have *higher accessibility for general negative emotional memories* in comparison to positive ones, whereas individuals from the general population seem to have a higher accessibility to positive emotional memories in early life than negative ones. Also, in patients, positive affiliative memories with one's attachment figures seem to be less accessible and central to identity than in the general population participants, for whom these emotional memories tend to be more central to identity and life story than shame memories. This suggests that the degree in which people are able to access warm and supportive, in contrast to shaming and condemning, emotional memories of the self-in-relationship-to-others may be crucial in influencing individuals' emotional and social responses to negative life events and, ultimately, vulnerability to psychopathology. So, having access to early positive affiliative memories, that become central to personal identity, might foster feelings of social safeness and connectedness that promote effective affect regulation, for example by helping to sooth threat-related distress, and thus protecting individuals against the detrimental impact of adverse life events and memories, such as shame ones.

On the whole, these results add to existing shame conceptualizations and offer new insights toward the further understanding of the multifaceted and complex nature of shame experiences and shame memories' phenomenology, emphasizing their potentially harmful impact on self-identity and mental health.

The development of the ***Shame Experiences Interview*** was another important outcome of this research project. This semi-structured interview enabled the gathering of detailed information on the richness and complexity of shame memories phenomenology, which was used in some of this thesis studies. Besides, the SEI overcomes some of the existing limitations linked to shame measurement. As it is administered in a face-to-face interaction and in a 'de-shaming' manner, the SEI provides an alternative methodology to self-report instruments to assess shame and shame memories. It also allows the retrieval of more accurate

and consistent retrospective data. So, the SEI seems to be a reliable and useful assessment tool of the phenomenology of shame experiences and memories, both in clinical and non clinical settings.

As a whole, results from this thesis' empirical studies offer new insights into the nature of shame experiences, shame memories phenomenology and properties, and their potential detrimental effects on mental well-being. These findings add to existing theoretical conceptualizations of shame and memory. In particular, we contend that they may be incorporated in the evolutionary biopsychosocial model of shame (Gilbert, 1989, 1997, 2002a, 2007a), as well as in current traumatic and autobiographical memory theories (e.g., Berntsen & Rubin, 2006, 2007; Ehlers & Clark, 2000; Rubin, 2005; Rubin et al., 2008). The following section outlines a comprehensive model of shame and shame memory functioning that integrates this thesis' findings into the evolutionary model of shame that served as the theoretical backdrop for this research.

10.2. Integration of the main results in a comprehensive model of shame and shame memory functioning

Building on the evolutionary biopsychosocial approach to shame (Gilbert, 1989, 1997, 2002a, 2006a, 2007a; fully described in Chapter 2), we propose an integrative and inclusive model of shame and shame memory functioning that incorporates the foremost results of the current doctoral thesis. The model is outlined in Figure 3.

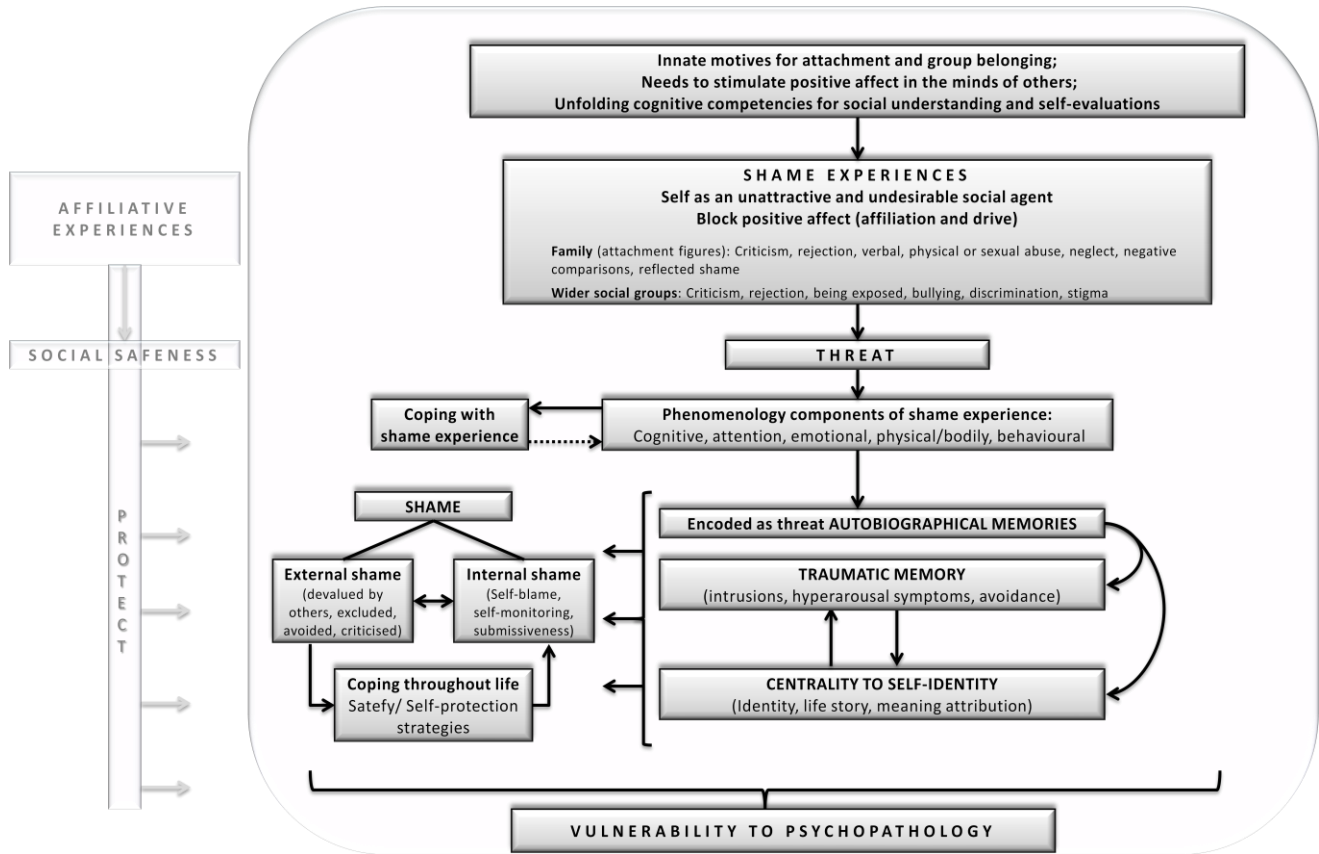


Figure 3. An evolutionary and biopsychosocial model of shame and shame memory functioning

The basic premise for the evolutionary nature of shame, depicted in the first part of the model, is that human beings are a highly social species, whose survival and reproductive opportunities depend on how they relate to others and how others relate to the self. Social relationships are powerful physiological and psychological regulators. In fact, the quality of care and affection we receive from the first days of our lives significantly impact on gene expression, brain maturation, autonomic and neuroendocrine and immune functions, and influence the development of affect regulation systems (Belsky & Pluess, 2009; Cacioppo et al., 2000; Cozolino, 2006; Gerhardt, 2004; Gilbert, 1989, 2007c; Panksepp, 2010; Schore, 2001). So important are affiliative relationships to human survival and prospering, that a suite of *social motivational systems* have evolved to guide us to form certain types of social roles and to understand and think of oneself in relation to others and give oneself social value. Humans are thus innately motivated to seek and respond to **attachment** to carers, **belong to groups**, and to be concerned with their relative **social rank and status** (Bowlby, 1969, 1973; Baumeister & Leary, 1995; Gilbert, 1998c, 2007a, 2007c, 2010). So, humans have intrinsic needs to **create positive affect in the mind of the others**, to be seen as an attractive social agent, so that others choose in one's favour for engaging with them in a variety of fitness-conducive social roles (e.g., eliciting care, engaging friends and sexual partners, be accepted in groups). Being able to stimulate positive affect in the mind of the others allows the formation of supportive bonds within and outside of family settings, and makes one's world safer, promoting the development of safeness-soothing systems and adaptive affect regulation. In addition, with maturation come various **cognitive competencies** for self-evaluation and awareness and also for social understanding. That is, to think about what is going on in the minds of others about the self and assess one's social standing (Gilbert, 1989, 1997, 2002a, 2007a). Hence, these motives and cognitive competencies make humans highly attuned for social living and sensitive and responsive to affiliative relationships.

Shame is therefore rooted in the thwarting of these basic needs for social attractiveness and acceptance. The social contexts where shame emerges are deeply influenced by local, historical, cultural and ecological conditions that impinge on personal interactions and determine how individuals seek to mature and satisfy their social needs and construe their identities. At this level of the model are thus the **shame experiences** that may occur since early in life in specific interactions, both within the family environment, with the attachment figures, and in the wider social domain (e.g., peers, teachers). Shaming interactions in the *family* may involve being criticized, put-down, rejected, being verbally, physically or sexually abused, being neglected and deprived of love and nurturance, being unfavourably compared to others (e.g. siblings) by one's attachment figures, or being ashamed due to one's family status or to behaviours or attributes of one's caregivers. In the *wider social arenas*, shame experiences may take the form of criticism, rejection, being bullied (verbal and physical abuse) or victim of discrimination and prejudice, and feeling one's negative attributes have been exposed to others. In these experiences the self is felt as unattractive and undesirable in the eyes of the others, a self one does not wish to be, vulnerable to social harm. Such (perceived or actual) inability to generate positive affect in the mind of the others put one at risk of being ignored, demeaned, rejected, excluded, persecuted or even attacked by others (see Study VII, VIII, XI and XII).

Therefore, these negative experiences of the self in the mind of the others represent a foremost **threat** to one's sense of self, social status and relational bonds and create major **blocks** to one's **positive affect** systems. Shame experiences not only seem to be key stimulators of the *threat system* but they also seem to produce major *changes* in the *drive and affiliative system*. As social threats, shame experiences entail the separation and withdrawal from the 'shaming object', that is the thwarting or failure in attaining personal (biosocial) motives and goals and access to resources. Such defeats, losses or setbacks related to social rank stress are likely to activate the drive system and produce a loss of drive-based emotions.

Simultaneously, shame experiences represent a threat of lack of activation of the safeness system, for blocked access to potential 'soothing objects'. That is, shame threats are linked to inability to elicit acceptance and soothing from others and undermine the development of inner feelings of safeness and connectedness and self-soothing capacities. Therefore, shame experiences seem to engage the three affect regulation systems (Depue & Morrone-Strupinsky, 2005; Gilbert, 2005b, 2007c, 2010; LeDoux, 1998; Panksepp, 1998, 2010) and involve a triple problem: the threat itself (e.g., the aggressive voice of the shamer, being hit, being rejected, being bullied) which activates the threat system, but also the threat of separation and social defeat/loss (linked to the drive system) and the threat of disconnection and lack of safeness (linked to the safeness system), both of which also trigger the threat self-protection focused system.

Thus, shame experiences constitute severe **threats** to one's social attractiveness, sense of self and social bonds and seem to trigger specific patterns of *threat-related psychobiological systems* (e.g., associated with amygdala, sympathetic arousal). Once primed, the threat-protection system directs attention, controls arousal and selects responses from a menu of evolved responses to threats which might be experienced and expressed before conscious awareness (Baldwin & Fergusson, 2001; Gilbert, 1989, 1998b, 2007c; LeDoux, 1998). So, shame experiences may operate through fast-track limbic centred processes that automatically trigger a set of innate defensive responses (cognitions, attention, emotions, sensations, behaviours), which produce an array of symptoms linked to the complex **phenomenology of shame experiences**. These seem to be rich and multifaceted emotional experiences that comprise heightened defensive cognitive/attentional, emotional, physical/bodily and behavioural components (see Study XI and XII).

In terms of **cognitive and attention** focus, at the centre of any shame experience is a sense of self as existing negatively in the mind of the others, as inferior, different, flawed, incompetent, or unattractive (i.e., external shame thoughts and feelings). This externally/socially oriented cognitive focus is usually accompanied by inwardly focused attention, thoughts and feelings around a sense of the self as globally bad, inferior, different or defective in its own eyes (i.e., internal shame thoughts and feelings). The experience of the self as it exists for others seems to be internalized into negative self-evaluations and feelings. Regarding the **emotional** dimension, shame experiences are rich emotional events where shame fuses with and is textured by a blend of primary defensive emotions (e.g., anxiety, anger, disgust or sadness). At the same time, a host of **defensive physical/bodily and behavioural responses** are triggered. These typically involve high levels of submissive and flight/escape responses (e.g., averted eye gaze, head movements down, slumped posture, withdrawal, escape, inhibition), but can also encompass lower levels of fear bodily responses (e.g., body tension, heart racing, startled) and defensive fight responses (e.g., externalizing anger, counter-attacking). Shame experiences are also accompanied by specific action tendencies, specifically desires to hide, conceal, escape, submit or redo the situation (see Study XI and XII). Hence, these physical and behavioural displays seem to be related to the rapid onset of basic submissive flight defensive responses, akin to subordination displays in primates, and might serve appeasement and social conflict de-escalation functions (Gilbert, 1997; Gilbert & McGuire, 1998; Keltner & Harker, 1998).

Another element outlined in the model is that a set **defensive coping strategies** is usually triggered in the aftermath of a shame event to deal with the shame experience' symptomatology (i.e., phenomenological components). These include responses such as withdrawal from others, submission, avoidance, compensation, and may involve the internalization (e.g., self-criticism) or externalization of blame (see Study XI and XII). These defensive coping mechanisms seem to act as social damage limitation strategies, aimed at restoring one's social image/reputation, de-escalate social conflict and mitigate damage to one's relational bonds (Gilbert, 1998c, 2002a, 2007a; Keltner & Harker, 1998). Although designed to deal with,

and lessen, shame affects, these defensive coping strategies may, in contrast, intensify shame phenomenological symptoms and contribute to aggravate the experience of threat (e.g., if one isolates from others and engages in harsh self-criticism, one is withdrawing from possible sources of soothing as well internally shaming the self).

A key aspect of this model is that these intense and painful multifaceted shame experiences may lay down affect-based memories of the self-in-relationship-to-others which are encoded in autobiographical memory as emotional memories of threat. As **threat autobiographical memories**, they tend to be associated with elevated vividness of recollection and of auditory and visual imagery, heightened reliving and similarity of emotions, high story coherence and importance to self, and lower rehearsal (see Study IV, XI and XII).

Furthermore, these shame autobiographical memories seem to function as **traumatic memories**, being related to intrusions and flashbacks, heightened hyperarousal and re-experiencing symptoms and strong avoidance (see Study I, IV, V, VI, VII, XI and XII). Thus, shame traumatic memories may engender a sense of current threat to one's sense of self and psychological integrity, rendering one to feel inferior, defective, powerless, and basically socially unattractive. Such ongoing sense of threat to one's social self may also influence threat-based attentional, emotional and cognitive processing (Ehlers & Clark, 2000; Harman & Lee, 2010).

These threat memories can shape the entire sense of self and become **central to self-identity**. They also tend to be regarded as turning points in one's life story, structuring one's life narrative, and form highly available reference points to attribute meaning to past, current and future experiences (Study II, III, V, VI, XI and XII). So, shame memories can become a central point around which the sense of self – who the self is and wants to be, what the self should be wary of and can feel safe with – becomes organized. Shame memories construed as central and traumatic autobiographical memories may hence operate as self-defining memories in the self-memory system (Berntsen & Rubin, 2006, 2007; Conway, 2005; Conway & Pleydell-Pearce, 2000; Singer, 1995), giving meaning and continuity to one's sense of self and life story, and influencing behaviour and personal goals (McAdams, 2001; McAdams et al., 2006; Sutin & Robins, 2008).

Also, it seems that the more traumatic the shame memory, the more central to identity it may become. In turn, the more central and well integrated in one's cognitive networks the shame memory, the more it tends to be structured as a traumatic memory (see Study II). Besides, the degree in which shame memories are construed as traumatic and central to self-identity seems to be associated with the robustness of autobiographical memory properties (see Study IV), and with the intensity of the threat-related phenomenological components of the shame experience itself (see Study XI and XII).

Therefore, shame memories seem to be embedded in the threat system and operate through specific traumatic memory systems and body-wide physiological systems (e.g., amygdala, subcortical brain areas) linked to conditioning and to the recreation of 'whole body effects' when primed (Brewin, 2003, 2006; Gilbert, 2007c, 2010; Rothschild, 2000). These heightened emotional memories of threat may work at implicit levels and influence psychobiological response patterns that guide emotional and cognitive processing, basic social engagement orientation and protection-safety strategies. Because these shame memories may operate as conditioned emotional memories of threat, every time they are triggered by an interpersonal threat, the original multi-textured emotional experience may be recreated and reinstated. The same psychobiological response patterns encoded in the memory are reactivated and the self is again reinfected by shame. So, the re-emergence of these emotional memories can change one's brain states

(Brewin, 2006). In fact, such powerful and vivid autobiographical memories may be strengthened during life by their *persistent reactivation* and *prevalence* of other shame experiences. They can become highly accessible aversive emotional memories and be easily triggered by events that threaten one's social attractiveness or social bonds (Study XI and XII).

In addition, these shame emotional 'hotspots' or scripts may shape the emotional foundations for negative internal working models of self and others and integrate interpersonal schema (Baldwin, 2005; Gilbert, 2003, 2007c; Mikulincer & Shaver, 2004). In fact, as outlined in the model, shame traumatic and central autobiographical memories influence how individuals perceive themselves as 'existing in the minds of the others' and how they see and judge themselves. Thus, shame memories seem to be associated with elevated proneness to **external shame** later in life. That is, to believe one is unable to create positive and acceptable images in the mind of the others and exists for them as unattractive, undesirable, inferior, defective or inadequate (Study I, II, III, IV, VI, VII, X, XI, XII). Furthermore, shame traumatic and central autobiographical memories can become the basis for derogatory self-experience and self-evaluations, being related to increased proneness to **internal shame**. That is, to perceive the self as globally bad, inferior, different, worthless or inadequate (Study I, II, III, IV, VI, VII, X, XI, XII).

Linked to shame memories and external shame is the activation *throughout life* of a set of **coping defensive mechanisms** to deal with the threat of shame. One of these defensive manoeuvres may indeed be internalization of shame into an enduring sense of self as globally self-condemning. This involves high levels of self-monitoring, self-blame and self-attribution styles, and submissiveness, aimed at appeasing and minimising harm from others (see Study X, XI and XII). There are however other safety and self-protection strategies individuals may adopt during life to cope with shame feelings and situations, or to avoid encountering harmful shame/threat-based events. For example, individuals may try to avoid potential shame-eliciting situations, they may try to compensate and prove the self as worthy and compete to avoid inferiority, or they may externalize shame into feelings of humiliation and develop a defensive fight interpersonal style (Study XI and XII).

As outlined in the bottom of the model, shame (external and internal) and shame memory' processes are therefore associated with increased **vulnerability to psychopathology**. In particular, shame traumatic and central autobiographical memories significantly impact on mental well-being and have a unique effect in elevating one's vulnerability to a range of psychological difficulties, such as depression, anxiety, stress, paranoid, and social anxiety symptoms (see all empirical studies). Such impact of shame traumatic and central memories on psychopathology vulnerability goes above and beyond their negative emotional valence, being related to their being *shame* memories (see Study VI). Moreover, the traumatic, centrality to identity and autobiographical properties of shame memories tend to be elevated in people suffering from mental health disorders (e.g., depression, anxiety disorders, eating disorders, personality disorders) (see Study XII). In addition, shame traumatic and central memories seem to intensify and strengthen the effect of external and internal shame on psychopathology vulnerability (see Study I, II, III, VI). Furthermore, their effect on psychopathological symptoms seems to operate through their impact on elevating shame proneness, especially internal shame. In fact, it seems that the internalization of shame memories traumatic and central to self-identity is critical in increasing vulnerability to enter defeat emotional states in face of adverse life events (i.e., depressive symptoms; see Study IV and X).

The model therefore highlights the evolved nature of shame, how shame experiences operate and lay down emotional memories of threat and how these impact on self-identity, proneness to shame and vulnerability to psychopathology.

However, a key aspect to this model is the role of *affiliative relationships* (depicted in the left side of the model) in buffering and healing shame and shame memories. Affiliative relationships may lay down positive emotional memories of the self-in-relationship-to-others that provide a source of social safeness and connectedness and enable adaptive affect regulation (both of threat and drive-seeking systems), through access to soothing objects. These offer opportunities for reparation of shame, help soothe distress and regulate arousal caused by threat and foster self-soothing abilities. So, affiliative relations can **protect** against the effects of shame and shame memories at all levels of the model. Having positive affiliative memories (e.g., of others being kind and loving and one feeling content, soothed and connected to others) that are accessible and central to identity lessens the intensity of the phenomenological symptoms of shame experiences, buffer the traumatic features and centrality to self-identity of shame memories and to be related to less mental health difficulties (see Study XI and XII). Thus, to a criticism or rejection we might all experience a first flush of defensive emotions and action tendencies (Dickerson & Kemeny, 2004), but it is one's ability to activate self-soothing systems and access positive schema of others that determines the unfolding of a full shame response. Besides, having strong affiliative relationships also implies that, rather than having insecure and negative experiences of how one exists in the mind of the others and feeling one can be rejected at any time and will always have to prove oneself as worthy, securely attached individuals (i.e., with accessible and central positive affiliative memories) tend to have the confidence that others will accept and value them. This then may reduce the need to engage in coping safety-protection strategies throughout life to deal with (or avoid) shame (see Study XI and XII). Thus, affiliative memories and feelings seem to buffer the impact of shame and shame memories on psychological distress (see Study IX and X).

On the other hand, when shame comes from an attachment object not only it represents a major threat to the sense of self but it also means one is left alone with no one to soothe him/her. Such experiences, where the caregiver can be both the source of, and the solution for, one's fear (Liotti, 2004), constitute 'threats without resolution', overactivating the threat systems and forming the basis of disorganized attachment (Liotti & Gumley, 2009; Schore, 2003). In fact the quality of attachment relationships seems to be important in how shame experiences are structured in autobiographical memory and impact on psychopathology (see Study VII and VIII). Also, the intensity of the association between the phenomenological features and the traumatic and centrality qualities of shame memories seems to be stronger in shame memories with attachment figures (see Study XI and XII).

So, shame memories seem to lay down affect regulation patterns for the sense of self and might become key coordinators of basic affect-regulating systems. If one is not able to access other positive affiliative memories of warmth and safeness, then early shame memories might over-stimulate one's threat system and seriously undermine the development of the safeness-soothing system, compromising adaptive affect regulation in face of threats and aversive life events. Shame memories may hence significantly interfere with one's life goals and negatively impact on mental well-being, elevating proneness to external and internal shame and vulnerability to psychopathology (see Study IX, X, XI and XII).

This model extends the evolutionary biopsychosocial model of shame (Gilbert, 1989, 1997, 2002a, 2007), and provides a new evidence-based outlook on shame and shame memories functioning and their impact on self-identity, emotional and psychological distress.

10.3. Clinical and research implications and preventive actions

The set of results of this doctoral thesis offers relevant clinical and research implications. In line with the foregoing discussion, these findings significantly extend existing empirical and theoretical knowledge on the nature of shame and shame memories. The novel comprehensive model of shame and shame memory functioning derived from our results may shed further light into the richness and complexity of this emotion and how it operates as an emotional memory and impacts on self-identity and psychological well-being. Also, not only this model proposes some of the pathways that might elevate one's vulnerability to psychological distress, but it also offers relevant clues for some of the possible protective factors that might ameliorate the damaging impact of shame memories and heal shame. Therefore, this conceptualization may serve as a guide future research, which should seek to replicate it and further investigate some of its premises (e.g., genetic and neurophysiological correlates of shame's vulnerability and protective factors; as discussed on section 10.5). Moreover, we hope that our findings and this integrative model may be used to inform clinical practice.

Therefore, these studies' results might suggest significant *clinical implications*, both for assessment and intervention, especially with high shame individuals, and those who present depressive, anxiety, eating disorders or personality disorders (e.g., borderline) symptomatology. When dealing with such cases it might be important to:

- Assess shame memories phenomenology, their traumatic and centrality qualities and impact on current distress and difficulties. Such evaluation could be done using a semi-structured interview methodology, using the SEI as a clinical tool to provide both qualitative and quantitative data.
- Evaluate possible subtle differences in shame memories depending on who shamed the self: an attachment figure or other social agents. Even though both types of shame experiences seem to be important, the phenomenology of those with attachment figures seems to be more robustly associated with the traumatic and central nature of those shame memories.
- Explore the importance of the emotional textures of the shame memories, and assess which emotions were associated with the shame experience and are reactivated when the memory is triggered, and how such emotions may texture the self-experience and sense of self in the present (e.g., self-disgust, self-directed anger, self-contempt) and translate into psychopathological symptoms (e.g., self-harm behaviours).
- Assess the external and internal shame thoughts and feelings in the traumatic shame experience and how they might prevail as verbal labels of the self in the present and be implicated in self-identity.
- Explore the 'body effects' of shame memories and how their re-emergence may trigger bodily/physical effects and psychobiological response patterns, with activation of brain structures (e.g., amygdale) linked to the threat system. Also, it might be important to evaluate non-verbal displays of shame, behaviours and action tendencies, and how these are reactivated when the memory is triggered.
- Assess the coping strategies used in the shame experience and whether they became prominent safety-protection strategies that are activated every time the memory is triggered and that may be contributing to maintain or aggravate current shame and psychological distress.
- Evaluate the shame memory as a script, assessing all the components that were encoded together in the shame experience and that are reactivated when the memory is primed. Aspects related to how the shame memory affects threat-related psychobiological response patterns, views of the self, others and the world, social engagement and protection-safety strategies, are important to be targeted.

- Assess the traumatic and autobiographical qualities of significant shame memories, and their centrality to self identity and life story.
- Assess the frequency of shame memories' reactivation and what are usually the triggering cues. Also, it might be relevant to evaluate the vividness of memory, intrusiveness and flashback qualities and associated re-experiencing and hyperarousal symptoms.
- Consider the impact of these shame memory properties on current external and internal shame and how they may amplify their effect on psychopathological symptoms and maintain current psychopathological symptoms.
- Integrate the conceptualization of shame memories functioning in clinical cases formulation and derive specific interventions targeted at them.
- Work with shame memories that are traumatic and central to identity and significantly impact on psychological distress in order to lessen their traumatic nature and reconstruct their autobiographical meaning. A proposal for a possible intervention protocol for shame memories derived from Compassion Focused Therapy (CFT; Gilbert, 2005a, 2009a, 2010) and from therapeutic interventions in traumatic memory and imagery re-scripting (Brewin, 2003, 2006; Clark & Ehlers, 2004; Lee, 2005; Wheatley et al., 2007) is given in Study XII.
- Assess the accessibility of positive affiliative memories with others and the existence of emotional memories of warmth and safeness and current feelings of social safeness and connectedness, which could function as protective factors for the damaging impact of shame memories and shame.
- Use CFT to foster feelings of social safeness and develop self-compassion. This could promote the development of the safeness-soothing system and help regulate threat and distress associated with shame and shame memories.
- Consider the importance of the therapeutic relationship and beware of possible reactivation of shame memories in the therapeutic session, for example when the therapist shows affiliative emotions and care towards the patient. In fact, these displays from the therapist might be a source of threat for high shame individuals who have few, or no positive affiliative memories, and may in turn elicit feelings of grief, aloneness and disconnection (Gilbert, McEwan, Matos & Rivis, 2011; Rockliff, Karl, McEwan, Gilbert, Matos, & Gilbert, 2011). So it might be pertinent to assess and target possible fears of compassion in patients with high shame traumatic memories.
- Assess the emotion regulation strategies used to cope with shame traumatic memories, specifically rumination, thought suppression and dissociation, as they might impact on the association between shame memories and psychopathology. However, take notice that such emotion regulation strategies might operate differently if shame memories occurred with attachment figures. When relevant, work with maladaptive emotion regulation processes and try to develop more adaptive ones (e.g., self-compassion, acceptance, mindfulness) to cope with shame and shame memories.

In terms of preventive actions, this thesis' results point to the importance of assessing and working with shame experiences early in life, for example in late childhood or adolescence, in order to prevent them becoming traumatic and central to personal identity and impact of future emotional distress. In fact, recent research has begun to explore shame memories in adolescence and found that shame memories can operate as traumatic and central to identity and impact on shame feelings, especially on external shame, and psychological adjustment of adolescents (Cunha, Matos, Faria, & Zagalo, 2012). It might thus be pertinent to develop prevention programs and work with parents, schools and teachers. Such a program could alert these education agents to the potential deleterious effects of shame processes and experiences, and promote the early detection of shame experiences, in the family or in the wider social

arenas (e.g., school) such as abuse or bullying. On the other hand, it could target shame and shame memories working with adolescents. For example, a prevention program could incorporate the development of adaptive emotion regulation processes (e.g., self-compassion, acceptance), especially in the juveniles at risk (e.g., victims of bullying, neglect, abuse). This could promote a positive sense of self in these adolescents and foster their self-soothing and acceptance abilities, helping them to cope with shame affects, experiences and memories throughout life, and prevent their damaging impact on self-identity and psychological adjustment.

Regarding other research implications, we underscore the development of the SEI, which might be a useful research tool to evaluate shame and shame memories' phenomenology in future studies. It might however be pertinent to develop a shorter version of the SEI which could be more effectively used for research purposes. Additionally, the translation, adaptation and psychometric study of self-report measures of shame and shame memories (shown in Appendix A), might have helped to overcome the dearth of assessment instruments in the Portuguese language in these area and thus might contribute to instigate further research on shame and shame memories.

10.4. Limitations of the studies

Even though this thesis' results seem promising, they should be interpreted considering some methodological limitations. Albeit these limitations were examined individually in each empirical study, this section outlines the main methodological constrains of the current research project.

First, the cross-sectional design and the correlational nature of the data preclude any robust causal conclusions being drawn from the findings. Related to this, is the circularity of the data, given that other alternative conclusions might be derived from the same results (e.g., current emotional states might influence the degree in which shame memories are recollected as traumatic and central autobiographical memories). Longitudinal and experimental designs should be implemented in future research to clarify the causal relations between the variables (e.g., shame traumatic memory and current external and internal shame and psychopathology symptoms) and the stability of the findings across time.

Furthermore, the results regarding shame memories are based on retrospective reports, raising the issue of the accuracy and reliability of those recollections. Also, most studies relied on self-report data, which carry concerns regarding social desirability biases and the exact emotional nature of the memories elicited. Nonetheless, research has indicated that retrospective recall data are generally stable over time, accurate and reliable (Brewin et al., 2003). Besides, a major strength of this research was the development and use of a semi-structured interview, the SEI, to assess shame memories phenomenology. The fact that results based on the SEI corroborated the findings derived from self-report questionnaires adds further support to the consistency of the findings regarding shame memories.

In terms of recruitment procedures, the samples were convenience samples. They were collected from the general community, student and clinical populations according to inclusion criteria established in advance by the researcher. Therefore, this lack of randomization may constrain the generalization of results to other populations. In addition, the samples were predominantly composed of female participants. Although both men and women may be equally affected by shame and no significant differences between genders regarding shame and shame memory variables were found, future studies should seek to replicate these results using more egalitarian samples. Also, it is possible that men have a higher tendency to externalize shame whereas women might tend to internalize it, and this could be an interesting aspect

other studies could examine. Furthermore, ethnicity and age were not explored in regard to shame and shame memories. For example, recent studies have shown that the centrality of shame memories may change across life span (Rubin & Berntsen, 2009). These aspects could thus be investigated in future studies.

Notwithstanding our studies were conducted both in clinical and non-clinical samples and the findings in the clinical studies mirrored those in the nonclinical ones, it would be valuable to replicate in a clinical population some of the results obtained in the empirical studies using general community population samples. It is important to note that despite the non clinical nature of some of our data, shame and shame memories are present at clinical and non clinical levels and are transdiagnostic processes, as outlined in Study XI and XII. Besides, non-clinical populations may provide valuable samples to assess shame memories enabling the collection of diverse traumatic experiences. In fact, non-clinical samples are commonly used in traumatic and autobiographical memory research since these can provide a wide range of adverse and traumatic events (Bernat et al., 1998; Schuetler & Boals, 2011; Smyth et al., 2008).

10.5. Future research recommendations

Findings from this doctoral thesis suggest some recommendations for future research, most of which were discussed in the empirical studies. Nevertheless, this section highlights future research areas that seem more relevant and potentially more promising.

A research question worthwhile to be investigated relates to whether shame memories differ according to specific clinical groups. Future studies could be conducted in clinical samples using the SEI, examining how shame memories operate and influence current psychopathology in particular diagnosis groups. For example, in patients with eating disorders or with borderline personality disorder, two groups known to have high propensity to shame. In addition, as stated above, some of the findings derived from non-clinical samples should be replicated in a clinical population to enhance the robustness of clinical inferences.

An important next step for future research is to conduct longitudinal studies, where the structuring of shame memories, their traumatic and centrality qualities, and their impact on shame and psychopathology could be examined across the time. This would allow an improved understanding of causal relations between the variables, and whether these are stale over time. Also, this type of research could better control for the effect of current emotional distress on the associations being explored.

Another interesting avenue for future research regarding shame experiences and memories is linked to recent social neuroscience research, which has shown that psychological sensitivity to stressful life events is influenced by gene-environment interactions and genetic variation (Belsky & Pluess, 2009; Caspi & Moffitt, 2006). In fact, early social environments (i.e., stressful and risky family environments) seem to impact on biological stress regulatory systems (Taylor et al., 2004) and influence mechanisms by which the brain manages stress (i.e., threat detection and regulation of responses to threat, in particular, involving amygdala reactivity and activity in the right ventrolateral prefrontal cortex; Taylor, Eisenberger et al., 2006). Moreover, early social environment (e.g., harsh family environment, childhood maltreatment or adversity) can also affect the expression of genes and lead to epigenetic modifications (e.g., serotonin transporter gene, glucocorticoid receptor gene), which negatively influence several mental and physical health outcomes (Kupfer, Frank & Philips, 2011; Taylor, 2010; Taylor, Way, et al., 2006; Tyrka et al., 2012). A recent study in female monkeys has further indicated that social status can influence gene expression

and demonstrated a link between social status and genetic regulation in primates on a genome-wide scale, revealing a strong, plastic link between social environment and biology (Tung et al., 2012).

This is therefore an exciting field for research which could investigate how shame experiences in early life influence epigenetic mechanisms, how they impact on genetic expression, and how these processes influence vulnerability to psychopathology. Furthermore, another interesting pathway for future research could be to investigate how shame and shame memories are expressed and impact on neurobiological stress systems. For example, studies could explore how shame memories actually trigger the threat system by examining specific neurophysiological correlates, such as cortisol, heart rate variability or brain activity (e.g., through fMRI studies), associated with the priming of such memories or with the activation of shame emotion.

Importantly, future research could explore the processes through which shame and shame memories can be healed, for example exploring whether self-compassion, acceptance and mindfulness abilities could buffer the pathogenic impact of these processes. Building on our findings, it might be worthwhile to carry out experimental and clinical outcome studies to test the effectiveness of specific interventions in individuals with high shame and traumatic and central shame memories. Such intervention could be focused on the promotion of adaptive emotion regulation processes to cope with shame and mitigate the traumatic nature and centrality to identity of shame memories, such as self-compassion, acceptance and mindfulness abilities. So, this intervention could incorporate principles and strategies of empirical-based third wave cognitive and behavioural therapies, such as Compassion Focused Therapy (Gilbert, 2005a, 2009a, 2010), Acceptance and Commitment Therapy (Hayes, 2004; Hayes, Strosahl, & Wilson, 1999; Hayes, Luoma, Bond, Masuda, & Lillis, 2006), and Mindfulness-based approaches (Kabat-Zinn, 1990, 2003; Segal, Teasdale, & Williams, 2004; Segal, Williams, & Teasdale, 2002). Besides, research could investigate whether an intervention program targeting the development of self-compassion, acceptance and/or mindfulness abilities in high shame individuals with shame traumatic memories would be related to the activation safety-related neuronal structures and physiological patterns, and could alter or inhibit the expression of specific genes, and thus buffer the detrimental effects of shame memories on mental well-being.

Closing remarks

Shame can be an overwhelming emotional experience and embody profound threats to the social self. Since early in life, shame experiences can tear away the fibers of one's very being, inasmuch as they destroy relational bonds with the social world. So, shame experiences can leave deep scars in the self and be encoded in our autobiographical memory as powerful traumas, damaging one's most cherished and inner sense of identity and humanity, and influencing one's psychological well-being throughout life.

Taken as a whole, the results of this doctoral thesis may shed light towards the further understanding of the complexity and richness of shame and shame memories and their potential pathogenic and damaging effects on mental well-being. We expect that these findings can inspire future research to further advance our knowledge on these processes and improve clinical interventions with individuals suffering from shame-related difficulties.

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