Influence of family and childhood memories in the development and manifestation of paranoid ideation

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Abstract

Several studies point out to the influence of social experiences on perceptions of the

environment and others in cognitive functioning and different aspects of psychopathology.

The current study aimed at studying the influence of the psychosocial risk-factors in a

mixed sample of participants from the general population and affected by paranoid

schizophrenia. The extent to which the existence of negative life events and events that are

threatening to the inner models of the self (i.e. History of maltreatment, physical, social or

psychological abuse) or the memories of these traumatic events occurring during childhood

are related to the existence of paranoid beliefs in adulthood was explored. Results

suggested that memories of parental behaviors characterized by antipathy from both

parental figures, submissiveness and bullying victimization were important predictors of

paranoid ideation in adult life. This further emphasizes the need for understanding of the

family and social dynamics of people presenting paranoid ideations to the development of

therapeutic interventions that can effectively reduce the invalidation caused by severe

psychopathology, as is the case of schizophrenia.

Keywords: paranoia; parental styles; schizophrenia; bullying.

Key practitioner message:

- Memories of family dynamics characterized by behaviors of antipathy from both parental figures, submissiveness and bullying victimization are important predictors of paranoid ideation in adult life.

- The study highlights the importance of exploring subjective recalls of feelings and behaviors associated to early rearing experiences, peer relationships and themes related to social rank theory in the roots of internal models of relationship with the self and others in the general sample, patients diagnosed with schizophrenia and their first-degree relatives.

- Our findings indicate that schizophrenic patients in active phase differ regarding memories of threat and submission, and are more likely to remember childhood experiences perceived as threatening during an active phase than when in remission.

- It is possible that by changing these internal models and social interaction styles, patients may be able to get involved in more cooperating and affiliative interactions, disconfirming these early beliefs about others being rejecting, critical or hostile towards the self, and more effectively reducing the invalidation caused by positive and negative symptomatology of schizophrenia on social functioning.

Influence of family and childhood memories in the development and manifestation of

paranoid ideation

Several authors have researched the influence of social experiences on perceptions

of the environment and others in paranoid ideation, based on the evolutionist perspective by

Dixon (1998). It is acceptable, as defended by Dixon (1998), that our capacity to detect

signs of threat are directly proportional to our survival skill. When exposed to potentially

threatening situations (by others or the environment) or negative life events for a long

period of time, individuals may easily develop persecutory ideas about others and the

world. According to the interpersonal theory by Trower & Chadwick (1995), there are two

types of paranoia ("poor me" and "bad me") that can be manifested depends on the

individual's construction of the self. In both cases, this deficient construction of the self

leads individuals to perceive social interaction as potentially threatening and to use

paranoia as a defense to this perceived social threat. Attachment theorists have long

explored how early attachment experiences are fundamental to the construction of the

dynamic internal models of the self (Bowlby, 1969, 1973, 1980). These models determine

the psychological development over the lifespan and influence different interpersonal

styles, with distinctive features such as anxiety and/or avoidance, or security (Collins &

Feeney, 2000). Studies based on attachment theory have focused on the implications of the

absence of warm parental relations and on parenting styles that are controlling or intrusive,

and research on the relationship between psychopathology and early memories of parenting

in adults are based on the experiences of parental styles and behaviors such as negligence,

rejection or overprotection (Schore, 2000, 2001). However, studies based on social rank

theories suggest that the individual's feelings and behaviors towards the parental styles may

be more important than parental behaviors itself. The relationship between parents and

children are based on power. Social rank theorists emphasize the threats felt by offspring

(lower rank) and submissive behaviors that are learned through these early relationships

(Gilbert, Boxall, Cheung, & Irons, 2005; Gilbert, 2000). Results from research based on

attachment theory showed that the influence that early attachment experiences have in

social interaction styles. Troy & Sroufe (1987) proposed that children with avoidant

attachment styles have an increased probability of being bullied, and victimization is

common and frequent experience (Bendixen & Olweus, 1999; Craig, 1998; Solberg &

Olweus, 2003). Current research points to the role of early life events in the development of

psychopathological symptoms in adulthood. Results have shown that experiences of abuse

and neglect in childhood, assessed through retrospective interviews, are predictive of

psychiatric disorders in adult life, with an important role in the definition of etiological

models of these disorders (Bifulco, Bernazzani, Moran, & Jacobs, 2005). The current study

investigates the influence of the aforementioned psychosocial risk-factors in a mixed

sample of participants from the general population and those affected by paranoid

schizophrenia. The main goal is to assess the extent to which the existence of negative life

events and threats to the inner models of the self (as the history of maltreatment, physical,

social or psychological) or the memories of these traumatic events occurring during

childhood may be related to the existence of paranoid beliefs in the general population and

in a group of patients with paranoid schizophrenia. One of the goals of our study is to

assess the influence of family dynamics, specifically parental antipathy and neglect, and

physical and sexual abuse in childhood, in the development and manifestation of paranoid

ideation in adult life. The assumption that patients with paranoid schizophrenia (presenting

more paranoid ideation) differ from unaffected individuals concerning the memories of traumatic life events (for example, physical abuse, parental hostility and neglect). Concerning paranoid ideation, it is expected that early experiences of neglect and abuse lead to increased frequencies and severity of paranoid thoughts. It is expected that individuals presenting high scores on scales referring to memories of traumatic life events (physical abuse, antipathy or neglect from parental figures) are those who present higher scores on scales assessing the presence and intensity of paranoid ideation. This association is also expected in case of memories of threatening situations or subordination, and it is expected that paranoid ideation presents a similar relationship to those found in depression and mood disorders (Anlı & Karslı, 2010; Baker & Hoerger, 2012; Heider, Matschinger, Bernert, Alonso, & Angermeyer, 2006; Manfredi et al., 2011; Muris, Schmidt, Lambrichs, & Meesters, 2001; Parker, 1993; Richter, Richter, Eisemann, Seering, & Bartsch, 1995; Yap, Pilkington, Ryan, & Jorm, 2014). It is also expected that the experiences of being bullied by others are more frequent in individuals with schizophrenia than in their relatives and unaffected individuals.

Methods

Participants and procedures

The study was conducted with the approval and meeting the standards required by the ethical committee and boards from the hospitals and institutions in S. Miguel Island (Azores), and Funchal (Madeira). Study goals and the methods used in the current research were explained and informed consent was obtained prior to participation. Participation was

voluntary and consisted of filling a set of self-report instruments. Data confidentiality and

anonymity were observed at all times. In the case of participants suffering from paranoid

schizophrenia, senior psychologists were available to aid in the proper filling of the

questionnaire in case of reading or comprehension difficulties. One of the psychologists

was also present to aid participants from the remaining groups in case they presented any

difficulties.

Participants were distributed across four different groups: participants in an active paranoid

schizophrenia phase, individuals with paranoid schizophrenia currently in remission,

patients' relatives and participants from the general population.

Statistical analysis

Statistical analysis was carried out using SPSS v. 16.0 (SPSS Inc., Chicago, Illinois,

U.S.A.) Correlation analysis, independent sample t-tests and multiple analysis of

covariance were used to assess the associations or compute group comparisons across

different measures. Tukey and pairwise *post-hoc* tests were calculated when results from

analysis of variance and covariance were statistically significant. Chi-square tests were

used to study the differences in distribution scores from paranoia scales between groups.

Measures

General Paranoia Scale – GPS; Fenigstein & Vanable (1992), Portuguese version by Lopes

& Pinto-Gouveia (2010). The GPS is a widely used self-report scale assessing paranoid

ideation in non-clinical populations. It encompasses beliefs concerning influence and

malevolence from others. These beliefs may take the form of mistrust and suspicion of

others' intentions, negative judgments about the self or even persecutory ideas. The 20

items are scored on a 5-point Likert-type scale (from 1 = "completely disagree" to 5 =

"completely agree"), and total scores may vary between 20 and 100, with higher scores

indicating more paranoid ideation. Internal consistencies in the original studies by

Fenigstein & Vanable (1992) presented good reliability in four different samples, ranging

between .78 and .89. In the current study, internal consistency was very good (α = .92).

Paranoia Checklist (PC, Freeman et al (2005); Portuguese version by Lopes & Pinto-

Gouveia (2010). The PC was designed to assess paranoid thoughts with more clinical

relevance than those assessed by the GPS, and to allow a multidimensional evaluation of

paranoid ideation. This checklist comprises 18 items for each dimension (frequency, degree

of conviction and distress caused by paranoid thoughts). Items are answered in a 5-point

Likert-type scale, on a continuum: 1 = "rarely" to 5 = "at least once a week" for the

frequency dimension, 1 = "I do not believe it" to 5 = "I totally believe it" for the conviction

dimension, and 1 = "no distress" to 5 = "it causes me a lot of distress" for the distress

dimension. The authors have validated the PC in a large non-clinical sample (n = 1202),

obtaining very good internal consistency for each dimension (all above .90). In the current

study, Cronbach's alpha coefficient presented similar results, also above .90 in the three

dimensions of the scale.

Beck's Depressive Inventory (BDI; Beck, et al. (1961); Portuguese version by Vaz Serra &

Pio Abreu (1973). The BDI assesses depressive symptomatology, organized in six types of

symptoms: affective, cognitive, motivational, delusional, physical and functional (sleep, appetite, weight and libido). It comprises 27 sets of statements related to depressive symptoms, ordered by severity (nonexistent, mild, moderate, severe). Studies indicate that the BDI is a valid and reliable instrument (Beck & Beasmesderfer, 1974 cit. in Pinto-Gouveia, 1990). Kendall, Hollon, Beck Hammen & Ingram (1987) have proposed several cutoff points for BDI scores: 0 – 9 = individuals are considered to be healthy; 10 - 20 = mild depression, in which 10 to 17 represent dysphoric states, and scores above 17 represent depressive states; 20 - 30 = moderate depression and above 30 = severe depression. Validation studies in the Portuguese population propose a cutoff point of 12 to distinguish between depressed and non-depressed individuals. Internal consistency for BDI found in the current sample was of .90.

Early Life Experiences Scale (ELES; Gilbert, Cheung, Granfield, Campley & Irons (Gilbert, Cheung, Grandfield, Campey, & Irons, 2003); Portuguese version by Lopes & Pinto-Gouveia, 2005), is a questionnaire designed to assess childhood memories, concerning experiences of perception of threat and subordination. The scale comprises 15 items, 6 referring to the perceptions of threat and 9 items referring to feelings of subordination and submissive behaviors, answered with a 5-point Likert scale on the frequency and veracity of statements depicting childhood memories (1 – "completely false" to 5 – "completely true"). Internal consistency was very good in the original studies by Gilbert et. al (2003), ranging between .85 and .89. In the current sample, internal consistency ranged between .77 and .81 for the subscales and total scale.

Childhood Experiences of Care and Abuse Questionnaire (CECA-Q; (Bifulco et al., 2005);

Portuguese version by Carvalho et al, 2006) is a questionnaire devised to collect

information on family dynamics and parental abandonment during childhood, and to

identify the parental figures that were most significant during development (before the age

of 17 years). This questionnaire is composed of screening questions for sexual and physical

abuse, and neglect and antipathy scales scored separately for each parent (e.g. Mother and

father).

The Antipathy and Neglect scales comprise 8 items related to antipathy (coldness, criticism,

rejection or hostility towards the child) from the parent (e.g. He/she was critical towards

me) and 8 relating to neglect (e.g. He/she was interested in my problems). All items are

repeated for each parental figure, and answered in a 5 point Likert-type scale (1 = "Not at

all" to 5 = "Totally"). Bifulco et al. (2005) state that the CECA-Q is a good screening tool

for studying the relationships between adverse experiences during childhood and the

development of psychopathology. In the current study, internal consistencies ranged

between .78 (Mother's Antipathy) and .88 (Neglect from father).

Bully/victim Questionnaire (BVQ; Olweus, 1989, Portuguese version by Lopes & Pinto-

Gouveia, 2005) is a questionnaire assessing the perceptions of being bullied and victimized

by others during childhood. The questionnaire presents a definition of bullying, and the

following questions explore the characteristics of bullying (e.g. Where it took place, the

number of perpetrators). Next, several items are answered in a 5-point Likert-type scale (1

= "Never occurs"; 5 = "it occurs several times a week"). The total score is an indicator of

the severity of the bullying, allowing the characterization of bullying as physical, verbal or

indirect. The BVQ presented good internal consistency for the sample in the current study,

with .68 for the total scale, .80 to the indirect bullying and .60 for the remaining dimensions

(physical and verbal bullying).

Results

Sample characteristics

The sample in this study consisted of 187 participants. Participants diagnosed with paranoid

schizophrenia were divided in 3 subsamples: Azorean patients in remission, Azorean

patients in active phase and Madeira island patients in active phase. The Madeira patients

were distinct from the other groups because it comprised female participants only (see table

1). Because of the nature of the samples in this study (clinical and non-clinical), some

differences in sociodemographic variables are expected. The healthy control group differed

from the clinical groups in terms of years of education and age, where participants from the

general population had completed more years in school and patients' relatives were older

than the remaining groups. In addition, the participants from the general population also

presented a higher socioeconomic status than the remaining groups while participants in the

clinical groups presented higher percentages of single people in comparison to the non-

clinical groups. Despite these differences, there were no significant correlations between

the variables investigated (scales and subscales) and sociodemographic variables.

Concerning the groups of patients in active phase from Madeira and Azores, independent

sample t tests showed that both groups differed solely on the bullying variable ($t = 2.67$; $p =$

.011). For this reason, these patients were grouped together in further analyses, except for

in the analysis on bullying experiences.

(insert table 1)

Parental styles and memories of threat and submission during childhood and their

influence on paranoid ideation in adult life

Correlation analysis showed that the significant and positive associations between BDI

scores and ELES and all subscales and total CECA-Q scores (ranging from $r = .146$ to $r =$

.335). All correlations between CECA-Q scores and paranoia measures (PC and GPS) were

significant and positive. Thus, considering the moderate correlations between neglect and

antipathy dimensions and paranoia, the relative contributions of these variables were

analyzed.

Regarding depression, both patient groups significantly differ on BDI scores (M = 20.1, SD

= 10.9; M = 14.7, SD = 10.1), $t = 2.25$, $p = .028$ and this variable is correlated with the

variables in this study. For this reason, depression was included as a covariate in

subsequent analysis.

Analysis of covariance (including BDI scores on depression as a covariate) showed that the

mean scores of CECA-Q factors (Neglect and Antipathy) did not differ significantly

between groups, but samples differed significantly concerning the variables of ELES (See

table 2).

(insert table 2)

Because paranoia is considered to be distributed across a continuum in the population, a dimensional approach was used and multiple regression analysis was performed for the total sample (n = 187). The first block comprised relevant predictor variables (CECA-Q antipathy and neglect dimensions from both parents) to the dependent variable (GPS and PC). This model explained 26.3% (R^2 = .263) of the total variance of the GPS [$F_{(4,182)}$ = 16.204, p = .000]. Standardized regression coefficients (Beta values) showed that antipathy from the father is the strongest predictor of paranoia (β = .400, p = .008), followed by mother's antipathy on GPS scores (β = .242, p = .006). Similar results were obtained from the frequency of paranoid ideation assessed by the PC, in which multiple regression functions explain 24.8% (R^2 =.248) of the total variance of the scale [$F_{(4,182)}$ = 14.965, p =.000]. Father's antipathy (β = .406, p = .001) and mother's antipathy (β = .205, p = .021) were also significant predictors of the frequency of paranoid ideations assessed by the PC.

Concerning the degree of conviction in those paranoid thoughts, regression analysis showed that 16.2% (R^2 = .162) of the total variance is explained by the CECA-Q factors [$F_{(4,182)}$ = 8.768, p = .000]. In this model, only antipathy from father was a significant predictor of conviction on paranoid ideations (β = .321, p = .002).

Lastly, 14.4% (R^2 = .144) of the total variance in the degree of distress endorsed by participants at the occurrence of paranoid ideations [$F_{(4,182)}$ = 7.659, p = .000] was explained by the CECA-Q variables. In this analysis, the antipathy from the mother was the strongest predictor of the distress caused by paranoid ideation (β =.280, p =.002), followed by father's antipathy (β =.218, p =.041)

In order to understand the relationship between paranoid ideation (assessed with GPS and

PC) and memories of perceptions of threat and submissiveness in childhood (ELES),

Pearson correlation coefficients were computed between those variables before carrying out

multiple regression analysis. Moderate positive correlations were found between PC

dimensions and GPS scores and Submission, ranging between $r =.401$, $p = .000$ and r

$=.460$, $p = .000$; threat ranging between $r =.269$, $p = .000$ and $r =.388$, $p = .000$ and the total

ELES scale, ranging between $r =.335$, $p = .000$ and $r =.389$, $p = .000$. In a first regression

model, the total ELES scores were entered as a single predictor of paranoid ideation. The

regression function including the total ELES scores explained 12.9% ($R^2 = .129$; $F_{(1,185)} =$

27.473, $p = .000$) of the total variance in GPS scores. Positive standardized beta ($\beta = .360$, p

$= .000$) indicates that memories of perceived threat and submission in childhood may

significantly predict paranoid ideation in adult life. Similar results were found concerning

the dimensions of PC as dependent variables. Regarding the PC, ELES total explained

15.1% of the total variance of the frequency of paranoid ideations ($R^2 = .151$; $F_{(1,185)} =$

33.01, $p = .000$); 12.8% of the total variance of the conviction on paranoid thoughts ($R^2 =$

$.128$; $F_{(1,185)} = 27.18$, $p = .000$), and 11.2% of the distress caused by paranoid ideation ($R^2 =$

$.112$; $F_{(1,185)} = 23.38$, $p = .000$). Standardized beta values indicate that the total ELES scores

are a significant predictor of the dimensions assessed by PC ($\beta = .389$, $p = .000$ for

frequency, $\beta = .535$, $p = .000$ for conviction and $\beta = .335$, $p = .000$ for the distress caused

by paranoid ideation), suggesting that paranoid ideation in adult life can be more present as

more memories relating to experiences of threat and submission in childhood are recalled.

Multiple regression analysis including the threat and submission factors of ELES explained

19% of the total variance in paranoia assessed by GPS $F_{(1,185)}$ = 27.186, p = .000).

Curiously, only memories relating to submissiveness emerged as a significant predictor of

general paranoia β = .400, p = .000 in adulthood. These results were similar to the paranoid

ideation assessed by PC. Submissiveness was the significant predictor for models including

frequency (R^2 = .216; $F_{(2,184)}$ = 25.35, p = .000, $\beta_{submissiveness}$ = .385, p = .000), conviction (R^2

= .164; $F_{(2,184)}$ = 18.10, p = .000, $\beta_{submissiveness}$ = .432, p = .004) and distress (R^2 = .163;

$F_{(2,184)}$ = 17.95, p = .000, $\beta_{submissiveness}$ = .453, p = .000) caused by paranoid thoughts.

Overall, results indicate that recall of threat does not add explanatory value to paranoia, but

the recall of submissiveness during childhood is the main predictor of frequency,

conviction and distress caused by paranoid thoughts.

Bullying experiences and paranoia

In addition to family dynamics and childhood memories, experiences of bullying over the

lifespan were studied, both concerning victimization and perpetrating physical, verbal or

indirect bullying. No statistically significant differences were found between the samples in

this study (table 3). All correlations between the BVQ scores and paranoia measures were

positive and significant, ranging from r =.286, p =.000 for GPS and r =.370, p =.000 for the

frequency of paranoid thoughts (PC) and total BVQ scores. Linear regression analysis

showed that the total score of the BVQ predicted 8.2% (R^2 = .082; $F_{(1,185)}$ = 16.487, p =

.000 of the total variance of paranoia (GPS). Similar findings were obtained for the PC

subscales (frequency, R^2 = .137; $F_{(1,185)}$ = 17.74, p = .000; conviction, R^2 = .088; $F_{(1,185)}$ =

21.70, $p = .000$) and distress ($R^2 = .105$; $F_{(1,185)} = 21.70$, $p = .000$), indicating that

experiences of bullying victimization can increase the frequency, conviction and distress in

adulthood.

Further, multiple regression analysis was calculated to investigate the differences in the

predictive ability of types of bullying (physical, verbal, and indirect). The regression

function explained 9.8% of the total variance of GPS ($R^2 = .098$; $F_{(3,183)} = 6.64$, $p = .000$).

Standardized regression coefficient showed that only indirect bullying was a significant

predictor of paranoia ($\beta = .272$, $p = .031$). These results were different for the paranoid

ideation assessed by PC. The different forms of bullying considered individually did not

present significant predictor effects in models including frequency ($R^2 = .138$; $F_{(3,183)} =$

9.74, $p = .000$), conviction ($R^2 = .089$; $F_{(3,183)} = 5.94$, $p = .001$) and distress ($R^2 = .105$;

$F_{(3,183)} = 7.14$, $p = .000$) caused by paranoid thoughts. Overall, results indicate that the

different natures of bullying experiences do not add explicative value to paranoia.

However, it is important to highlight that most participants (74.3%) did not endorse having

experienced bullying in the past.

Discussion

Parent-child relationships can be regarded as relationships of power, according to social

rank theory. As suggested by Gilbert and colleagues (Gilbert et al., 2003; Gilbert, 2000,

2002; Irons & Gilbert, 2005), threatening environments can stimulate children to develop

avoidant and submissive coping strategies to stressful situations as a defense from others

and become focused on their power to harm, humiliate or reject them. These experiences

render them more prone to focusing on social rank and their status, and particularly

vulnerable to engaging in competitive dynamics in which one must "win" or "dominate"

another in order to assert their social status. In addition, children also become more worried

with rejection and relative superiority/inferiority and can more easily trigger defensive

behaviors of submission, avoidance or aggressive control.

Thus, because most human anxieties are related to what others may do to us (hostile

intentions or who are more powerful), the contribution of perceptions of submission (when

parental styles are dominated by criticism and hostility) in childhood to later-life paranoia

becomes more clear, whether in clinical (delusions) or subclinical manifestations.

Moreover, these internal models of the social world are carried to peer groups, and

functioning in these groups may reinforce those strategies.

Overall, the study of the relationship between life events and paranoid ideation shows that

memories of family dynamics characterized by behaviors of antipathy from both parental

figures, submissiveness and bullying victimization (although less expressive) are important

predictors of paranoid ideation in adult life, influencing not only the frequency, but also the

degree of conviction and distress felt at the occurrence of paranoid thoughts.

Memories relating predominantly to antipathy or neglectful parental styles showed no

significant differences in the four samples, suggesting that responses by patients in active

phases about family dynamics during childhood did not derive from delusional activities.

The results seemed to show that memories of coldness, demandingness and criticism

(antipathy) from parents were more related to later development of paranoid ideation than

experiences of neglect. These outcomes are congruous with the current literature, which

proposes that rearing experiences based on criticism and dominance do not provide a nurturing environment for the child, which are common indicators of poor attachment, marked by ambivalence and insecurity (Ainsworth, Blehar, Waters, & Wall, 1978). These forms of attachment may support the development of internal models of insecurity and inferiority, in which others are seen as unavailable or hostile, and that the self is seen as incapable and undesirable (Mikulincer, Birnbaum, Woddis, & Nachmias, 2000). Moreover, these internal models and perceptions of the self may lead individuals to perceive social interactions as potentially threatening and to resort to paranoia as a defense to this threat (Trower & Chadwick, 1995). In addition, Mills et al. (2007) demonstrated that paranoid beliefs are associated with a self-critical and hateful experience of the self.

Concerning the influence of the perception of threat and submission during childhood, results indicate that the patients in active phase differ from the participants in the remaining samples: from the patients in remission regarding memories of threat, and from the relatives' sample on the memories of submission, and from the general population in all dimensions evaluated by ELES. The non-significant differences between patients in remission and in active phases on submission suggest that perceptions of threat were not totally induced by paranoid schizophrenia symptomatology, since they are maintained after treatment. This was not observed regarding memories of perceptions of threats. However, this distinction may be caused by memories induced by paranoia. Paranoid beliefs are conceptualized as derived from perceptions of threats (Freeman et al., 2002) and thus a defense mechanism encompassed in social defenses against threats from organisms of the same species (Gilbert, 1992, 1998; Gilbert et al., 2001). Gilbert (Gilbert, 2010) suggested

that, once the threat system becomes active, thoughts arise in the form of a "better safe than

sorry" approach to social interactions, because it is safer to assume that a situation may be

threatening to the individual, than failing to identify actual threats. When taking into

consideration that autobiographical memories (the recovery process of a past event that

contributed to an individual's sense of self) can be biased by emotional disorders (Williams

et al., 2007), it is possible to conclude that patients diagnosed with schizophrenia are more

likely to remember childhood experiences perceived as threatening during an active phase

than when in remission.

In addition, results showed that, despite the fact that the total score of early memories of

submission and threat is predictive of paranoia, only submission was a significant predictor

in the explanation of paranoid ideation, associated with higher frequency, conviction and

distress of these ideations in adult life. These results are also congruous with studies on

depression (Hart, Gunnar, & Cicchetti, 1996) and mood disorders (Parker, 1993; Perris,

1988; Richter et al., 1995; Rutter et al., 1997).

All dimensions of bullying were associated with paranoia, but only the total bullying score

was a significant predictor of paranoia later in life. This may be due to the fact that only

25.7% of participants having reported such memories/experiences. Individuals that were

actually bullied or victimized have their beliefs that others are a source of threat reinforced.

In such cases, anxiety and worry concerning others can be adaptive and activate defense

mechanisms related to more primitive social anxieties that have evolved in order to detect

and cope with social threats (Birchwood et al., 2007; Gilbert, 2001; Gilbert et al., 2001;

Trower & Gilbert, 1989). The activation of those defenses can, in turn, trigger memories of

situations in which one was submissive, and to parental styles dominated by antipathy, can

give rise to paranoid ideations.

Overall, results are congruous with similar studies (Dagnan, Trower, & Gilbert,

2002; Gilbert, 2001; Gilbert et al., 2001; Trower & Gilbert, 1989), although studies of this

nature are still scarce (Campbell & Morrison, 2007). To the best of our knowledge, this is

the first study encompassing the 4 populations and the first of this kind in the Portuguese

population. The implications of the current findings for clinical practice relates to the

importance of exploring subjective recalls of feelings and behaviors associated to early

rearing experiences, peer relationships and themes related to social rank theory (Benn,

Harvey, Gilbert, & Irons, 2005) in the roots of internal models of relationship with the self

and others in later life. The relationship between parental behaviors and the child's

affective experience is complex and may reflect interactions between parent's personality

and child's temperament (Collins & Feeney, 2000). Nevertheless, individuals who grew up

with a perceived need for constant attention to threat (instead of warm relationships that are

a source of safeness and emotion regulation as in secure attachment styles) become more

vulnerable to psychological problems, namely affective disorders (Gilbert et al., 2003). This

also aids clinicians to make sense of depression being significantly associated with low

self-esteem, criticism from others and feelings of personal defeat. Subjective feelings of

personal defeat and entrapment that may stem from these early experiences are not only

associated with anhedonia and feelings of inferiority, but also with depressive

symptomatology of patients with paranoid schizophrenia (Birchwood et al., 2004; Gilbert,

Allan, Brough, Melley, & Miles, 2002). It is also important to emphasize that these

perceptions of threat and defeat may not be necessarily related to overt or direct

interpersonal conflict, but are related to perceptions of failure or lack of capacity to achieve

relevant social goals or resources in life (e.g. care eliciting, safeness, supportive

relationships, sexual partners, material resources) (Gilbert, 2006; Irons, Gilbert, Baldwin,

Baccus, & Palmer, 2006; Morriss, 2000). Thus, these subjective recalls help shape internal

models and social interaction styles, which are used in different social environments (i.e.

peer groups) in a way that may reinforce certain defensive strategies that were effective in

previous interactions (e.g. anxious and submissive individuals are less attractive and

desired by their peer group, further confirming the belief that others are rejecting or

hostile). It is possible that by targeting intervention on changing these internal models and

social interaction styles, patients may be able to get involved in more cooperating and

affiliative interactions, disconfirming these early beliefs about others being rejecting,

critical or hostile towards the self.

The current study is not free from limitations, as the small convenience samples hinders

result generalizability. In addition, the cross-sectional design requires further studies to

corroborate these findings. By providing evidence on the influence of life trajectories and

social-cognitive variables in the development and maintenance of paranoid ideation, current

results highlight the need for understanding the family and social dynamics of people

presenting paranoid ideations, and in devising focused intervention targeting dysfunctional

internal relationship models that stem from early attachment. These are important factors to

take into consideration when conducting psychotherapeutic strategies to reduce paranoid

ideation, a main symptom presented by patients diagnosed with schizophrenia. By

understanding that these patients have a different coping style with paranoid ideation than

people without psychopathology (Barreto Carvalho, da Motta, Pinto-Gouveia, & Bernardo Peixoto, 2014), these results also emphasize the importance of changing how people cope with paranoid ideation. This aspect becomes even more significant when it refers to a positive symptom that many patients (approximately 25%) still present when administered antipsychotic medication (Chadwick, Birchwood, & Trower, 1996).

Thus, understanding these mechanisms can be fundamental to the development of therapeutic interventions that can help tackle these issues in order to more effectively reduce the invalidation caused by schizophrenia and improve patient's social functioning, thus reducing stress levels involved in relapse.

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Table 1.

Sample characteristics

	Non-Clinical Population		Clinical Population				
			Azores Islands		Madeira Islands		
	General Population (n = 64)	Patients' relatives (n = 32)	Active schizophrenia (n = 31)	Patients in remission (n = 30)	Active schizophrenia (n = 30)		
	N (%)	N (%)	N (%)	N (%)	N (%)	X^2	*p*
Gender							
Male	43 (67.2)	8 (25.0)	20 (64.5)	24 (80)	0 (0)	58.94	.0001
Female	21 (32.8)	24 (75.0)	11 (35.5)	6 (20)	30 (100)		
Single	18 (30.0)	0 (0.0)	21 (70)	21 (70)	12(41.4)	70.8	.0001
Married	35 (58.3)	28 (90.3)	4(13.3)	6 (20)	9(31)		
Divorced	3 (5.0)	0 (0)	3(10)	2 (6.7)	4(13.8)		
Widowed	3 (5.0)	3 (9.7)	1(3.3)	1 (3.3)	3(10.3)		
Civil Union	0 (0)	0 (0)	0 (0)	0 (0)	1(3.4)		
SES							
Low	22 (37.3)	15 (62.5)	21 (75)	27 (90)	25(86.2)	46.6	.0001
Medium	20 (33.9)	4 (16.7)	7 (25)	3 (10)	4(13.8)		
High	12 (20.3)	5 (20.8)	0 (0)	0 (0)	0 (0)		
Students	5 (8.5)	0 (0)	0 (0)	0 (0)	0 (0)		
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	*F*	*p*
Age (in years)	45.2 (17.3)	55.6 (13.0)	41.5(13.0)	43.5 (12.6)	46.5 (11.8)	4.53	.002
Years of education	9.8 (4.8)	7.7 (4.3)	6.6 (3.2)	6.3 (3.4)	6.2 (3.9)	6.16	.000

Note: SES = socioeconomic status

Table 2.

Multiple analysis of covariance comparing CECA and ELES scores between groups

	General Population (n = 62)	Patients - Active Phas (n= 61)	Patients – In remission (n = 30)	Relatives (n = 30)	F (3;178)	p
CECA-Q						
Antipathy mother						
M	14.25	16.59	15.36	14.27	.763	.516
CI 95%	13.20/16.08	14.65/17.63	13.13/14.15	12.59/16.51		
Antipathy father						
M	15.29	18.37	15.00	16.30	1.461	.227
CI 95%	14.56/17.82	15.64/19.02	12.21/16.78	14.73/19.18		
Neglect mother						
M	13.60	14.69	13.33	14.22	.379	.768
CI 95%	12.57/15.47	12.70/15.71	11.06/15.13	12.55/16.51		
Neglect father						
M	15.39	17.87	15.15	18.84	2.520	.059
CI 95%	14.44/18.51	14.89/18.74	12.04/17.23	16.98/22.04		
ELES Total						
M	34.34	42.28	36.94	37.03	6.114	.001
CI 95%	31.85/36.83	39.74/44.82	33.51/40.37	33.57/40.48		
Threat						
M	13.26	16.73	12.69	14.54	4.629	.004
CI 95%	11.77/14.75	15.21/18.25	10.64/14.74	12.48/16.61		
Submission						
M	11.74	15.42	12.68	12.24	5.771	.001
CI 95%	10.50/12.98	14.16/16.69	10.97/14.38	10.52/13.96		

Covariate value: BDI = 11.80

Table 3.

Multiple analysis of covariance comparing QBV scores between groups

	General Population (n = 62)	Patients - Active Phas (n= 61)	Patients – In remission (n = 30)	Relatives (n = 30)	F (3;178)	*p*
QBV Total						
M	13.88	15.56	16.01	14.13	1.20	.310
CI 95%	12.38/15.39	14.03/17.10	13.94/18.01	11.83/16.13		
Physical						
M	4.32	5.00	4.82	4.50	1.49	.217
CI 95%	3.88/4.76	4.55/5.45	4.21/5.42	3.89/5.11		
Verbal						
M	3.78	4.01	4.30	3.87	.446	.720
CI 95%	3.25/4.30	3.48/4.55	3.58/5.03	3.14/4.60		
Indirect						
M	4.73	5.26	5.67	4.69	1.10	.350
CI 95%	4.07/5.39	4.59/5.94	4.76/6.57	3.77/5.60		

Covariate: BDI = 11.80