Nélio Jesus de Freitas Brasão

# A Eficácia do Programa Gerar Percursos Sociais (GPS) em reclusos do sexo masculino: um ensaio clínico aleatorizado

Tese de Doutoramento em Psicologia, especialidade em Psicologia Forense, orientada pelo Professor Doutor Daniel Maria Bugalho Rijo, pela Professora Doutora Maria do Céu Teixeira Salvador e pelo Professor Doutor José Augusto Veiga Pinto Gouveia e apresentada à Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra.

Julho de 2018

Faculdade de Psicologia e de Ciências da Educação da
Universidade de Coimbra

# A EFICÁCIA DO PROGRAMA GERAR PERCURSOS SOCIAIS (GPS) EM RECLUSOS DO SEXO MASCULINO:

## UM ENSAIO CLÍNICO ALEATORIZADO

Nélio Jesus de Freitas Brasão

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| **Título** | A eficácia do programa Gerar Percursos Sociais (GPS) em reclusos do sexo masculino: Um ensaio clínico aleatorizado |
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# Índice

**NOTA INTRODUTÓRIA** ........ 1

**CAPÍTULO I | ENQUADRAMENTO TEÓRICO** ........ 5

SECÇÃO I | A EFICÁCIA DAS INTERVENÇÕES NA REINCIDÊNCIA CRIMINAL: O CONTRIBUTO DOS ESTUDOS DE META-ANÁLISE ........ 7

1. Introdução ........ 9
2. Impacto geral das intervenções ........ 10
3. Princípios das intervenções eficazes ........ 20
   3.1. Teoria e base empírica ........ 20
   3.2. Nível de risco ........ 21
   3.1. Fatores de risco como alvos de mudança ........ 21
   3.4. Alvos múltiplos ........ 21
   3.5. Sensibilidade ........ 22
   3.6. Integridade ........ 22
   3.7. Contexto comunitário ........ 23
4. Efeitos positivos com agressores adultos ........ 24
5. Estudos de meta-análise: Uma perspetiva crítica ........ 25
6. Síntese ........ 27

SECÇÃO II | ENSAIOS CLÍNICOS ALEATORIZADOS EM CONTEXTOS FORENSES: DESAFIOS, ALCANCES E LIMITES ... 29

1. Introdução ........ 31
2. Ensaio clínico aleatorizado: Conceito e normas CONSORT ........ 31
3. RCT em contextos forenses: Validade descritiva ........ 33
4. RCT com reclusos do sexo masculino: A eficácia dos programas cognitivo-comportamentais ........ 37
   4.1. *Reasoning and Rehabilitation* (Ross et al., 1989) ........ 38
   4.2. *Enhanced Thinking Skills* (Clark, 2000) ........ 40
   4.3. Limitações e pistas para investigações futuras ........ 41
5. Síntese ........ 43

SECÇÃO III | O PROGRAMA GERAR PERCURSOS SOCIAIS ........ 45

1. Introdução ........ 47
2. Fundamentos para a elaboração do programa ........ 47
3. Bases conceptuais ........ 49
   3.1. Multicausalidade do comportamento desviante ........ 50
   3.2. Mediação cognitiva ........ 51
   3.3. Esquemas Mal-Adaptativos Precoces subjacentes ao processamento de informação dos agressores ........ 52
   3.4. Processos disfuncionais ........ 54
      3.4.1. Processos de manutenção ........ 54

3.4.2. Processos de evitamento ........................................................ 56
3.4.3. Processos de compensação ...................................................... 56
3.5. FInalidade da intervenção e natureza dos fatores de mudança ..................... 57
4. Estrutura, conteúdos e metodologia ........................................................ 57
5. Equipa terapêutica ........................................................................ 68
6. Contextos de aplicação e estudos de eficácia .............................................. 69
7. Síntese ...................................................................................... 71

**CAPÍTULO II | METODOLOGIA GERAL E OBJETIVOS DE INVESTIGAÇÃO ........................73**

1. Apresentação do projeto de investigação ................................................... 75
2. Objetivos ..................................................................................... 75
3. Opções metodológicas ........................................................................ 81
3.1. Desenho do estudo e participantes ....................................................... 81
3.2. Instrumentos ............................................................................... 84
3.2.1. Ficha de dados sociodemográficos e jurídico-penais ..................................... 84
3.2.2. Entrevista Clínica ....................................................................... 84
3.2.2.1. SCID-II ............................................................................... 84
3.2.3. Questionários de autorresposta ......................................................... 85
3.2.3.1. YSQ-S3 ............................................................................... 85
3.2.3.2. ACS .................................................................................. 86
3.2.3.3. STAXI ................................................................................ 87
3.2.3.4. OAS .................................................................................. 87
3.2.3.5. PS ................................................................................... 87
3.2.3.6. ERQ .................................................................................. 88
3.2.4. Grelha de registo das infrações e procedimentos disciplinares ............ 88
3.3. Procedimentos de investigação ........................................................... 90
3.3. Análise de dados ........................................................................... 91
3.3.1. Análise de poder estatístico ........................................................... 91
3.3.2. Análise da covariância e *Reliable Change Index* ...................................... 91
3.3.3. Modelos de Crescimento Latente ........................................................ 93
3.3.4. Análise de Perfis Latentes e análise da variância mista ............................... 94
4. Princípios éticos ........................................................................... 95

**CAPÍTULO III |ESTUDOS EMPÍRICOS ........................................................99**

ESTUDO EMPÍRICO I | CLINICAL CHANGE IN COGNITIVE DISTORTIONS AND CORE SCHEMAS AFTER A COGNITIVE-BEHAVIORAL GROUP INTERVENTION: PRELIMINARY FINDINGS FROM A RANDOMIZED CONTROLLED TRIAL .... ... 101
ESTUDO EMPÍRICO II | CLINICAL CHANGE IN ANGER, SHAME AND PARANOIA AFTER A STRUCTURED COGNITIVE-BEHAVIORAL PROGRAMA: EARLY FINDINGS FROM A RANDOMIZED CONTROLLED TRIAL ....................... 125
ESTUDO EMPÍRICO III | THE EFFECTS OF THE GROWING PRO-SOCIAL PROGRAM ON COGNITIVE DISTORTIONS AND EARLY MALADAPTIVE SCHEMAS OVER TIME IN MALE PRISON INMATES: A RANDOMIZED CONTROLLED TRIAL .... 151

Estudo Empírico IV | The efficacy of the Growing Pro-Social Program in reducing anger, shame and paranoia over time in male prison inmates: a randomized controlled trial ........................ 187

Estudo Empírico V | Promoting emotion and behavior regulation in male prison inmates: A secondary data analysis from a randomized controlled trial testing the efficacy of the Growing Pro-Social Program ........................ 223

Estudo Empírico VI | Personality pathology profiles as moderators of the Growing Pro-Social Program outcomes on cognitive, emotion and behavior regulation in male prison inmates ....... 255

**CAPÍTULO IV | DISCUSSÃO GERAL ........................ 291**

1. Síntese e discussão integrada dos principais resultados ........................ 296
   1.1. Efeitos do tratamento ........................ 296
      1.1.1. Processamento de informação (processos e estruturas cognitivas)....... 296
      1.1.2. Raiva, vergonha e paranoia ........................ 298
      1.1.2. Regulação emocional e comportamental ........................ 300
   1.2. Efeitos moderadores........................ 302
2. Potencialidades do estudo ........................ 305
3. Limitações ........................ 308
4. Investigação futura ........................ 309
5. Implicações para a intervenção clínica-forense com agressores e para a gestão do sistema prisional ........................ 310
6. Conclusão ........................ 311

**REFERÊNCIAS BIBLIOGRÁFICAS ........................ 313**

**ANEXOS ........................ 341**

Anexo A | From Multimodal Programas to a new cognitive-interpersonal approach to the rehabilitation of offenders ........................ 343

Anexo B | The prevalence of personality disorders in Portuguese male prison inmates: Implications for penitentiary treatment ........................ 367

# Índice de quadros

**Capítulo I | Secção I | A eficácia das intervenções na redução das taxas de reincidência: O contributo dos estudos de meta-análise**

Quadro 1 Meta-análises ou revisões sistemáticas acerca da eficácia das intervenções na redução da reincidência criminal 13

**Capítulo I | Secção II | Ensaios clínicos aleatorizados em contextos forenses: Desafios, alcances e limites**

Quadro 2 RCT com validade descritiva moderada ou elevada realizados com amostras forenses 35

**Capítulo I | Secção III | O Programa Gerar Percursos Sociais**

Quadro 3 Esquemas Mal-Adaptativos Precoces subjacentes ao comportamento antissocial 53

Quadro 4 Distorções cognitivas associadas ao comportamento antissocial 55

Quadro 5 Módulos e conteúdos do GPS – Visão geral 59

Quadro 6 Conteúdos e objetivos do Módulo I – Comunicação Humana 60

Quadro 7 Conteúdos e objetivos do Módulo II – Relacionamento Interpessoal 61

Quadro 8 Conteúdos e objetivos do Módulo III – Distorções Cognitivas 62

Quadro 9 Conteúdos e objetivos do Módulo IV – Significado e Função das Emoções 63

Quadro 10 Conteúdos e objetivos do Módulo V – Esquemas Mal-Adaptativos Precoces 64

**Capítulo II | Objetivos e Metodologia Geral**

Quadro 1 Objetivos específicos dos estudos empíricos 80

Quadro 2 Variáveis, instrumentos e momentos de avaliação 89

**Capítulo III | Estudo Empírico I | Clinical change in cognitive distortions and core schemas after a cognitive-behavioral group intervention: Preliminary findings from a randomized trial with male prison inmates**

Table 1 *Means and SDs of the Outcome Measures by Group at Post-treatment, and Analysis of Covariance* 113

Table 2 *Within Group T-tests for Treatment and Control Groups* 114

Table 3 *Reliable Change Index for the Adaptive and Maladaptive Processes, and for the 8 EMS Underlying Antisocial Behavior as Hypothesized by the GPS Theoretical Model* 115

**Capítulo III | Estudo Empírico II | Clinical change in anger, shame and paranoia after a structured cognitive-behavioral group program: Early findings from a randomized trial with male prison inmates**

Table 1 *Socio-Demographic Sample Characteristics by Group* 133

Table 2 *Legal and Criminal Sample Characteristics by Group* 134

Table 3 *GPS Modules and Contents* 137

Table 4 *Baseline Differences on the Outcome Measures by Group* 139

Table 5 *Means and SDs of the Outcome Measures by Group at Post-treatment, and Analysis of Covariance* 139

Table 6 *Within-Group t-test of Changes in the Treatment Group* 140

Table 7 *Within-Group t-test of Changes in the Control Group* 140

Table 8 *Reliable Change Index for Anger, Paranoia and External Shame by Group* 141

**Capítulo III | Estudo Empírico III | The effects of the Growing Pro-Social Program on cognitive distortions and early maladaptive schemas over time in male prison inmates: A randomized controlled trial**

| | | |
|---|---|---|
| Table 1 | *GPS Modules and Contents* | 160 |
| Table 2 | *Baseline Differences on the Outcome Measures by Group* | 168 |
| Table 3 | *Unconditional Model of the Rate of Change (Slope) in Maladaptive and Adaptive Cognitive Processes and Early Maladaptive Schemas in the Treatment Group* | 169 |
| Table 4 | *Unconditional Model of the Rate of Change (Slope) in Maladaptive and Adaptive Cognitive Processes and Early Maladaptive Schemas in the Control Group* | 170 |
| Table 5 | *Conditional Model with Condition as Predictor of the Initial Level (Intercept) and Rate of Change (Slope) in Maladaptive and Adaptive Cognitive Processes and Early Maladaptive Schemas* | 171 |
| Appendix C | Model fit indices for the unconditional models in the treatment and control groups, and for the conditional model with condition as predictor | 182 |

**Capítulo III| Estudo Empírico IV | The efficacy of the Growing Pro-Social Program in reducing anger, shame and paranoia over time in male prison inmates: A randomized controlled trial**

| | | |
|---|---|---|
| Table 1 | *GPS Modules and Contents* | 196 |
| Table 2 | *Baseline Differences on the Outcome Measures by Group* | 202 |
| Table 3 | *Baseline Differences on the Outcome Measures by Group* | 204 |
| Table 4 | *Model Fit Indices for the Unconditional Models in Treatment and Control Groups, and for the Conditional Model with Condition as Predictor* | 205 |
| Table 5 | *Conditional Model with Condition as Predictor of the Initial Level (Intercept) and Rate of Change (Slope) in Anger, Shame and Paranoia* | 207 |
| Appendix A | Unconditional model of the initial status (intercept) and the rate of change (slope) in anger, shame and paranoia in the treatment group | 220 |
| Appendix B | Unconditional model of the initial status (intercept) and the rate of change (slope) in anger, shame and paranoia in the control group | 221 |

**Capítulo III | Estudo Empírico V | Promoting emotion and behavior regulation in male prison inmates: A secondary data analysis from a randomized controlled trial testing the efficacy of the Growing Pro-Social Program**

| | | |
|---|---|---|
| Table 1 | *GPS Modules and Contents* | 233 |
| Table 2 | *Baseline Differences on the Outcome Measures by Group* | 239 |
| Table 3 | *Model Fit Indices for the Unconditional Models in Treatment and Control Groups, and for the Conditional Models with Condition and Treatment Dosage as Predictors* | 240 |
| Table 4 | *Unconditional Model of the Initial Status (Intercept) and the Rate of Change (Slope) in Emotion and Behavior Regulation in the Treatment Group* | 242 |
| Table 5 | *Unconditional Model of the Initial Status (Intercept) and the Rate of Change (Slope) in Emotion and Behavior Regulation in the Control Group* | 243 |
| Table 6 | *Conditional Model with Condition as Predictor of the Initial Level (Intercept) and Rate of Change (Slope) in Emotion and Behavior Regulation* | 244 |

**Capítulo III | Estudo Empírico VI | Personality pathology profiles as moderators of the Growing Pro-Social Program outcomes on cognitive, emotion and behavior regulation in male prison inmates**

| | | |
|---|---|---|
| Table 1 | *GPS Modules and Contents* | 263 |

Table 2 *Frequency of the Main Diagnosis for the Complete Sample and by Groups* 271
Table 3 *Model Fit of the Latent Profile Analyses in the Complete Sample* 272
Table 4 *Profile Allocation Based on Maximum Posterior Probability for the Four Latent Profiles, and Mean Scores in ASPD and Number of PD* 273
Table 5 *Frequency of the Personality Pathology Profiles by Groups* 273
Table 6 *Means and Standard Deviations for the Outcome Measures in the Treatment and Control Groups by Personality Pathology Profiles* 275
Table 7 *Mixed ANOVA with Time, Time X Condition, Time X Personality Pathology Profiles and Time X Condition X Personality Pathology Profiles effects for each Outcome Measure* 278
**Anexo A | From multimodal programs to a new cognitive-interpersonal approach in the rehabilitation of offenders**
Table 1 *GPS Modules and Contents* 356
**Anexo B | The prevalence of Personality Disorders in Portuguese male prison inmates: Implications for penitentiary treatment**
Table 1 *Sample Characteristics* 375
Table 2 *Prevalence of Personality Disorders: Any Prevalence and Main Diagnosis* 377
Table 3 *Prevalence of Personality Disorders by Clusters: Any Prevalence and Main Diagnosis* 377
Table 4 *Prevalence of Personality Disorders: Number of Diagnosis by Participants* 378
Table 5 *Risk Estimate for Antisocial Personality Disorder Being Diagnosed with Other Axis II Disorders* 378

# Índice de figuras

**Capítulo II | Objetivos e Metodologia Geral**

Figura 1 Representação gráfica da participação dos reclusos no estudo 83

**Capítulo III | Estudo Empírico II | Clinical change in anger, shame and paranoia after a structured cognitive-behavioral group program: Early findings from a randomized trial with male prison inmates**

Figure 1 Flowchart of inmate participation 132

**Capítulo III | Estudo Empírico III | The effects of the Growing Pro-Social Program on cognitive distortions and early maladaptive schemas over time in male prison inmates: A randomized controlled trial**

Figure 1 Flowchart of inmate participation 165

Appendix A Latent Growth Curve Model for one outcome measure measured on the four timepoints with condition as predictor 182

Figure B1 Change over time in maladaptive cognitive processes in treatment and control groups 183

Figure B2 Change over time in adaptive cognitive processes in treatment and control groups 183

Figure B3 Change over time in early maladaptive schemas in treatment and control groups 183

**Capítulo III| Estudo Empírico IV | The efficacy of the Growing Pro-Social Program in reducing anger, shame and paranoia over time in male prison inmates: A randomized controlled trial**

Figure 1 Flowchart of inmate participation 201

**Capítulo III | Estudo Empírico V | Promoting emotion and behavior regulation in male prison inmates: A secondary data analysis from a randomized controlled trial testing the efficacy of the Growing Pro-Social Program**

Figure 1 Flowchart of inmate participation 238

**Capítulo III | Estudo Empírico VI | Personality pathology profiles as moderators of the Growing Pro-Social Program outcomes on cognitive, emotion and behavior regulation in male prison inmates**

Figure 1 Flowchart of inmate participation 269

Figure 2 Frequency of comorbidity rate for the complete and by groups 271

# Lista de abreviaturas e siglas

| | |
|---|---|
| BIC | *Bayesian Information Criteria* |
| CFI | *Comparative Fit Index* |
| CINEICC | Centro de Investigação em Neuropsicologia e Intervenção Cognitivo-Comportamental |
| CONSORT | *Consolidated Standards of Reporting Trials* |
| DGRSP | Direção-Geral de Reinserção e Serviços Prisionais |
| EMP | Esquemas Mal-Adaptativos Precoces |
| ETS | *Enhanced Thinking Skills Program* |
| FCT | Fundação para a Ciência e a Tecnologia |
| I&D | Investigação e Desenvolvimento |
| GPS | Gerar Percursos Sociais |
| GPS-25 | Gerar Percursos Sociais – versão compactada em 25 sessões |
| LPA | *Latent Profile Analysis* |
| OR | *Odds ratio*/rácio de risco relativo |
| PIEF | Programa Integrado de Educação e Formação |
| PPAS | Perturbação de Personalidade Antissocial |
| RCI | *Reliable Change Index* |
| RCT | *Randomized controlled trial/*ensaio clínico aleatorizado |
| RMSEA | *Root-Mean Square Error of Approximation* |
| RNR | *Risk-Need-Responsivity*/Risco-Necessidade-Responsividade |
| R&R | *Reasoning and Rehabilitation Program* |
| SRMR | *Standardized Root-Mean Square Residual* |
| TREND | *Transparent Reporting of Evaluations with Nonrandomized Designs* |

# Resumo

**Introdução:** Gerar Percursos Sociais (GPS) é um programa de intervenção cognitivo-comportamental destinado à reabilitação de agressores. O GPS é constituído por 40 sessões, agrupadas em cinco módulos: (1) Comunicação Humana; (2) Relacionamento Interpessoal; (3) Distorções Cognitivas; (4) Significado e Função das Emoções; (5) Esquemas Mal-Adaptativos Precoces (EMP). O objetivo do programa é promover mudanças no funcionamento cognitivo dos participantes, não só ao nível das distorções cognitivas, mas sobretudo ao nível dos EMP. Ao modificar o processamento disfuncional de informação social, o GPS procura também mudar correlatos comportamentais e emocionais do comportamento antissocial. Esta dissertação teve como objetivo estudar a eficácia do GPS em reclusos do sexo masculino. Especificamente, através de um ensaio clínico aleatorizado, testou-se a capacidade do programa em: (a) incrementar o recurso a um estilo de pensamento adaptativo e reduzir o recurso distorções cognitivas; (b) diminuir a proeminência de EMP; (c) reduzir os sentimentos de raiva e aumentar o controlo da mesma; (d) diminuir os sentimentos de vergonha e a ideação paranoide; (e) aumentar o recurso a estratégias de regulação emocional adaptativas e diminuir o recurso a estratégias de regulação emocional mal adaptativas; (f) reduzir o número de infrações disciplinares e a duração dos procedimentos disciplinares (i.e., punições aplicadas aos reclusos). Investigou-se também o papel moderador da severidade da patologia da personalidade sobre os efeitos do GPS no funcionamento cognitivo, emocional e comportamental dos reclusos.

**Metodologia:** Dois estudos piloto testaram a adequação e a eficácia inicial do GPS em reclusos do sexo masculino (desenho pré/pós-teste com grupo de controlo). Avaliou-se a significância estatística (mudança grupal) e a significância clínica (mudança individual) através do *Reliable Change Index*. Posteriormente, foram realizados estudos com amostras de maior dimensão e com procedimentos metodológicos e analíticos mais robustos. Os participantes incluíram 254 reclusos do sexo masculino, com idades compreendidas entre os 18 e os 40 anos, distribuídos aleatoriamente pelo grupo de tratamento ($n$ = 121) e pelo grupo de controlo ($n$ = 133). Os participantes responderam a questionários de autorresposta em quatro momentos: pré-tratamento (antes do início do GPS), avaliação intermédia (após a 20ª sessão do programa), pós-tratamento (após o término do GPS) e *follow-up* de 12 meses. A patologia da personalidade foi avaliada no pré-tratamento através de uma entrevista clínica estruturada. As medidas disciplinares foram recolhidas nas bases informáticas da Direção-Geral de Reinserção e Serviços Prisionais em três intervalos de tempo: nos 12 meses anteriores ao GPS, durante os 12 meses do programa, e nos 12 meses seguintes ao término do GPS. Os efeitos do tratamento foram analisados com Modelos de Crescimento Latente. Os efeitos moderadores foram analisados com ANOVA mistas, após a realização de uma Análise de Perfis Latentes que identificou diferentes perfis de severidade de patologia da personalidade.

**Resultados:** Os resultados dos estudos prévios apontaram para diferenças estatisticamente e clinicamente significativas entre o grupo de tratamento e o grupo de controlo na maioria das dimensões avaliadas (pensamentos adaptativos/distorções cognitivas, EMP, sentimentos de raiva e de vergonha, paranoia). Enquanto os reclusos do grupo de tratamento apresentaram melhorias significativas no pós-tratamento, os participantes do grupo de controlo deterioraram ou não apresentaram mudança.

Nos estudos com amostras de maior dimensão, os Modelos de Crescimento Latente mostraram que a condição foi um preditor significativo da mudança observada ao longo do tempo em todos os indicadores avaliados. Enquanto os reclusos do grupo de tratamento apresentaram melhorias significativas ao nível cognitivo (maior recurso a pensamentos adaptativos e redução nas distorções cognitivas e na proeminência de EMP), nos sentimentos de raiva e de vergonha, na paranoia, nas estratégias de regulação emocional, no número de infrações disciplinares e na duração dos procedimentos disciplinares, os reclusos do grupo de controlo deterioraram ou não apresentaram mudanças. Os resultados mostraram ainda que os ganhos se mantiverem estáveis 12 meses após a conclusão do GPS. Análises adicionais mostraram que os indivíduos que completaram o programa apresentaram ganhos superiores em todas as dimensões avaliadas, comparativamente aos reclusos que não completaram o GPS.

No estudo dos efeitos moderadores, foram identificados quatro perfis de severidade da patologia da personalidade: (1) sem patologia da personalidade; (2) apenas com Perturbação de Personalidade Antissocial (PPAS); (3) com PPAS e um diagnóstico comórbido; e (4) com PPAS e dois ou mais diagnósticos comórbidos. As ANOVA mistas apontaram para um efeito interação tempo x condição x perfis de patologia da personalidade não significativo, sugerindo que as mudanças cognitivas, emocionais e comportamentais nos reclusos não foram afetadas pela severidade da patologia da personalidade.

**Conclusões:** Os resultados apontam para a eficácia do programa GPS em modificar correlatos comportamentais, emocionais e cognitivos subjacentes ao comportamento antissocial em reclusos do sexo masculino. Os ganhos observados traduzem-se num maior ajustamento interpessoal dos reclusos durante a pena de reclusão, permitindo uma gestão mais eficiente do sistema prisional. Os resultados mostram ainda que os reclusos com patologia da personalidade severa beneficiam de programas de intervenção cognitivo-comportamental como o GPS, o que enfatiza a necessidade de o sistema prisional providenciar tratamento adequado às necessidades de intervenção dos reclusos.

**Palavras-chave:** análise de perfis latentes; comportamento antissocial; ensaio clínico aleatorizado; programa Gerar Percursos Sociais; índice de mudança clínica; modelos de crescimento latente; perturbações da personalidade; reclusos do sexo masculino.

# Abstract

**Introduction:** Growing Pro-Social (GPS) is a structured cognitive-behavioral intervention program for the rehabilitation of offenders. GPS is made of 40 sessions, grouped into five sequential modules: (1) Human Communication; (2) Interpersonal Relationships; (3) Cognitive Distortions; (4) Function and Meaning of Emotions; and (5) Early Maladaptive Schemas (EMS). The program's ultimate goal is to change the participants' cognitive functioning, not only reducing cognitive distortions, but mainly promoting change at EMSs level. By changing the dysfunctional social information processing, the GPS aims to promote change in behavioral and emotional correlates of antisocial behavior. This thesis's main goal was to test the GPS efficacy when delivered to male prison inmates. Specifically, a randomized controlled trial assessed the program's ability to: (a) increase adaptative thinking and decrease cognitive distortions; (b) decrease EMSs prominence; (c) decrease anger feelings and increase anger control; (d) decrease shame feelings and paranoid ideation; (e) increase the use of adaptive emotion regulation strategies and decrease the use of maladaptive emotion regulation strategies; (f) decrease the number of disciplinary infractions and the subsequent number of days in punishment. It was also investigated the role of personality pathology severity as a moderator of the GPS effects over the offender's cognitive, emotional and behavioral functioning.

**Method:** Two pilot studies were conducted to assess the program's feasibility, as well as to establish initial efficacy of the GPS with male prison inmates (pre/post-test design with a control group). Both statistical and clinical significance (change at a group level and individual change, respectively) were evaluated. Afterwards, studies with larger samples and including more robust methodological and statistical procedures were carried out. Participants included 254 male prison inmates, aged between 18 and 40 years old, which were randomly assigned to the treatment ($n$ = 121) and to the control ($n$ = 133) groups. Participants completed self-report measures in four time-points: baseline (before the GPS sessions), mid-treatment assessment (after the 20$^{th}$ session of the program), at the end of treatment, and 12 months after treatment completion (follow-up assessment). Participants were also interviewed with a structured clinical interview for personality disorders at baseline. Disciplinary infractions were collected from prison records for three time-intervals: during the 12 months before the program's onset, during the GPS's 12-month length, and also during the 12 months after GPS completion. Treatment effects were tested with Latent Growth Curve Models. A Latent Profile Analysis was conducted in order to identify different personality pathology severity profiles. Then, moderator effects were tested with mixed ANOVA statistics.

**Results:** Findings from the pilot studies pointed out to statistically and clinically significant differences between the treatment group and the control group for the majority of the outcome measures (adaptive and maladaptive thinking, EMSs, anger, shame and paranoia). At post-

treatment, while treatment participants showed significant improvement, participants from the control group presented a worsening or no change in those same variables.
In the studies with larger samples, Latent Growth Curve Models showed that condition was a significant predictor of change over time in all outcome measures. Participants from the treatment group showed significant improvements at a cognitive level (increasing in adaptative thinking and decreasing in cognitive distortions and in the prominence of EMSs), as well as in anger and shame feelings, paranoia, emotion regulation strategies, number of disciplinary infractions and number of days in punishment, while controls presented a worsening or no change in those same variables. Results also showed that treatment effects were maintained over time (12 months after GPS completion). Additional analyses showed that completers presented higher improvements in all outcome measures, when compared with noncompleters.
In the study of the moderator effects, four personality pathology severity profiles were found: (1) without personality disorders; (2) with only Antisocial Personality Disorder (ASPD); (3) with ASPD and one additional diagnosis; and (4) with ASPD and two or more additional diagnoses. Mixed ANOVA reveled that time x condition x personality pathology profiles effects were non-significant, showing that changes in the cognitive, emotional and behavioral functioning of inmates were not affected by personality pathology severity.

**Conclusions:** Findings offer evidence of the program's ability to change behavioral, emotional and cognitive correlates of antisocial behavior in male prison inmates. These improvements may contribute to the inmate's interpersonal adjustment, even during imprisonment, and also to a more efficient management of the prison system. Results also showed that severely disturbed inmates were responsive to cognitive-behavioral intervention programs, such as the GPS, which stresses the need to provide appropriate treatment to offenders.

**Keywords:** antisocial behavior; Growing Pro-Social program; latent profile analysis; latent growth curve models; male prison inmates; personality disorders; randomized controlled trial; reliable change index.

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II. Brazão, N., da Motta, C., Rijo, D., Salvador, M. C., Pinto-Gouveia, J., & Ramos, J. (2015). Clinical change in anger, shame and paranoia after a structured cognitive-behavioral group program: Early findings from a randomized trial with male prison inmates. *Journal of Experimental Criminology, 11*, 217–236. doi: 10.1007/s11292-01 4-9224-5

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## Em anexo:

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# Nota introdutória

Gerar Percursos Sociais (GPS; Rijo et al., 2007) é um programa de intervenção cognitivo-comportamental destinado à reabilitação de agressores juvenis e adultos. Trata-se de um programa estruturado e manualizado que se desenrola ao longo de 40 sessões que, por sua vez, se distribuem por cinco módulos sequenciados: (1) Comunicação Humana; (2) Relacionamento Interpessoal; (3) Distorções Cognitivas; (4) Significado e Função das Emoções; e (5) Esquemas Mal-Adaptativos Precoces (EMP). O objetivo último do GPS é promover mudanças ao nível do funcionamento cognitivo dos participantes, não só ao nível das distorções cognitivas, mas também, e sobretudo, ao nível dos EMP subjacentes ao comportamento antissocial.

O GPS foi desenvolvido numa tentativa de ultrapassar as limitações dos programas cognitivo-comportamentais tradicionais, nomeadamente o facto de os mesmos não procurarem promover a mudança de uma forma integrada - muitos programas trabalham numa perspetiva de aquisição de competências totalmente independentes umas das outras e não relacionadas entre si. Estes programas baseiam-se apenas em estudos que revelaram défices no processamento de informação social, ignorando que os enviesamentos no processamento de informação constituem apenas um dos níveis do funcionamento cognitivo dos agressores (Beck, 1999, 2011; Beck, Freeman, & Davis, 2004; Beck et al., 2015; Rafaeli, Bernstein, & Young, 2011; Young, Klosko & Weishaar, 2003). Não procuram, portanto, alcançar mudança ao nível de variáveis estruturais responsáveis pelos défices ou distorções subjacentes à forma como estes indivíduos processam informação social (Brazão, da Motta, & Rijo, 2013; Rijo, Brazão, & Capinha, 2015; Rijo, Brazão, Ribeiro da Silva, & Vagos, 2017). Para além disso, as metodologias de intervenção utilizadas por estes programas são, na maior parte das vezes, incapazes de suscitar uma boa adesão por parte dos participantes, por incluírem tarefas monótonas ou que se assemelham demasiado a tarefas escolares (Brazão et al., 2013; Rijo et al., 2007). Assim, na construção do GPS, os autores tiveram em conta não só a necessidade de utilizar um modelo teórico mais complexo, como procuraram desenvolver uma metodologia de trabalho capaz de suscitar o interesse e a curiosidade dos participantes, tornando as sessões do programa tão apelativas quanto possível.

Atendendo ao caráter inovador do GPS, o mesmo tem sido amplamente implementado com menores agressores que cumprem medidas tutelares educativas de internamento e com adultos agressores que cumprem penas de reclusão. Nos últimos anos, o GPS foi adotado pela Direção-Geral de Reinserção e Serviços Prisionais como um programa de entrega universal, nomeadamente com agressores adultos. No entanto, esta decisão não foi baseada em estudos de eficácia que sustentassem o recurso ao GPS como um programa de intervenção eficaz na reabilitação de reclusos. Importa referir que, segundo os princípios das intervenções eficazes, um programa que esteja em uso no sistema de justiça deve possuir evidência empírica da sua eficácia (Hollin & Palmer, 2005; Hollin, Palmer, & Hatcher, 2013; Lipsey, 2009). Na presente dissertação, procurou-se responder à necessidade de validar empiricamente o programa GPS,

especificamente com agressores adultos que cumprem pena de reclusão. Deste modo, procurou-se fundamentar os modelos e as práticas de intervenção dos técnicos que atuam em contexto prisional.

Nos estudos de validação do GPS incluídos nesta dissertação, procurou-se responder às lacunas metodológicas encontradas em investigação prévia. A maior parte dos estudos que procuraram estabelecer a eficácia dos programas de intervenção com agressores consiste em ensaios clínicos não aleatorizados que, apesar da sua elevada qualidade metodológica, revelam um conjunto de limitações que diminuem a clareza dos resultados e, consequentemente, dificultam a sua interpretação (Smith, Gendreau, & Swartz, 2009; McGuire et al., 2008; Moher et al., 2010). Numa tentativa de ultrapassar estas limitações, alguns investigadores (Cullen et al., 2011, 2012; Kingston, Olver, McDonald, & Cameron, 2018; McDougall, Perry, Clarbour, Bowles, & Worthy, 2009; Rees-Jones, Gudjonsson & Young, 2012) têm realizado ensaios clínicos aleatorizados em contextos forenses. Não obstante, estes mesmos estudos continuam a apresentar um número significativo de limitações, nomeadamente a utilização de amostras de reduzida dimensão e de períodos de *follow-up* curtos. Ainda que estas investigações tenham testado a eficácia de programas cognitivo-comportamentais, não foram analisados os efeitos dos programas ao nível das distorções cognitivas e/ou dos EMP que a investigação tem demonstrado estarem associados ao comportamento antissocial (Bernstein, Arntz, & de Vos, 2007; Calvete, 2008; Chakhssi, Bernstein, & de Ruiter, 2012; Gilbert & Daffern, 2013; Keulen-de Vos, Bernstein, & Arntz, 2013; Shorey, Anderson, & Stuart, 2014; Specht, Chapman, & Cellucci, 2009). Para além disso, os indicadores de eficácia utilizados têm sido exclusivamente baseados em questionários de autorresposta, sendo ausente o recurso a indicadores de mudança que não dependam do autorrelato. Acresce ainda que estes estudos não contemplam possíveis variáveis moderadoras dos efeitos do tratamento.

Com o objetivo de ultrapassar as limitações supramencionadas, a presente dissertação consistiu num ensaio clínico aleatorizado que teve como objetivo estudar a eficácia do GPS numa amostra alargada de reclusos. Procurou-se avaliar a eficácia do programa em diferentes tipos de indicadores do funcionamento psicológico dos participantes (cognitivo, emocional e comportamental). Testou-se ainda se os ganhos observados se mantinham estáveis durante um período de *follow-up* consideravelmente longo (12 meses). A avaliação dos diferentes tipos de indicadores foi realizada por avaliadores que recorreram a diversos métodos de recolha de informação (questionários de autorresposta, entrevista clínica, observação do comportamento). Este projeto procurou também identificar possíveis variáveis moderadoras (severidade da patologia da personalidade dos reclusos) dos efeitos do GPS.

A dissertação é apresentada sob a forma de compilação de um conjunto de seis artigos empíricos, que foram planificados para dar resposta a questões e objetivos específicos. Dos seis estudos empíricos, cinco encontram-se publicados em revistas internacionais de reconhecido mérito (**Estudos I, II, III, IV e V**) e um encontra-se em processo de revisão (**Estudo VI**). Em anexo, está também disponível um artigo de revisão teórica acerca da eficácia dos programas cognitivo-comportamentais em agressores (**Anexo A**), a partir do qual foi elaborado e

desenvolvido o texto do Enquadramento Teórico desta dissertação, e um estudo empírico com dados da prevalência da patologia da personalidade em reclusos de Estabelecimentos Prisionais Portugueses (**Anexo B**), fundamental à concretização do Estudo Empírico VI.

A tese encontra-se organizada em quatro capítulos. O **Capítulo I | Enquadramento teórico**, consiste numa revisão atualizada do estado da arte sobre a eficácia das intervenções cognitivo-comportamentais em reclusos do sexo masculino, incluindo também a descrição detalhada do Programa GPS. Este enquadramento encontra-se dividido em três secções. Na **Secção I | A eficácia das intervenções na redução da reincidência criminal: O contributo dos estudos de meta-análise**, apresenta-se uma síntese dos resultados dos estudos de meta-análise acerca da eficácia das intervenções com agressores, destacando as investigações realizadas com adultos que cumprem pena de reclusão. Na **Secção II | Ensaios clínicos aleatorizados em contextos forenses: Desafios, alcances e limites**, são apresentados os principais ensaios clínicos aleatorizados realizados com amostras forenses, com especial destaque para os estudos que avaliaram a eficácia de programas de intervenção cognitivo-comportamental com reclusos do sexo masculino. Na **Secção III | O Programa Gerar Percursos Sociais**, são apresentados os fundamentos para o desenvolvimento do GPS, bem como o modelo conceptual, a estrutura, os conteúdos e as metodologias de intervenção do programa. São ainda apresentados os estudos de eficácia do GPS que foram realizados com menores agressores a cumprir medidas tutelares educativas de internamento.

O **Capítulo II | Metodologia Geral e Objetivos de Investigação**, incide sobre a caracterização geral do projeto de investigação, os seus objetivos e as opções metodológicas subjacentes à sua concretização (participantes e desenho de investigação, instrumentos, procedimentos, análise estatística dos dados). Por fim, são apresentados os princípios éticos e deontológicos que foram respeitados ao longo de todo o processo de investigação.

O **Capítulo III | Estudos Empíricos**, é composto por seis secções que englobam os seis estudos empíricos que compõem este trabalho. Os Estudos Empíricos I | *Clinical change in cognitive distortions and core schemas after a cognitive-behavioral group intervention: Preliminary findings from a randomized trial with male prison inmates* e II | *Clinical change in anger, shame and paranoia after a structured cognitive-behavioral group program: Early findings from a randomized trial with male prison inmates*, consistiram em trabalhos prévios que tiveram como principal objetivo estudar a adequação do GPS a reclusos do sexo masculino, bem como estabelecer a sua eficácia inicial em modificar correlatos cognitivos e emocionais associados ao comportamento antissocial, através de um desenho pré-teste/pós-teste com grupo de controlo. Nestes estudos iniciais, para além da significância estatística, foi também avaliada a significância clínica (*Reliable Change Index;* Jacobson & Truax, 1991). Em seguida, foram realizados estudos com amostras de maior dimensão e com procedimentos de investigação e de análise mais robustos, através de um desenho longitudinal com várias medidas repetidas e com grupo de controlo. Assim, no Estudo Empírico III | *The effects of the Growing Pro-Social Program on cognitive distortions and early maladaptive schemas over time in male prison inmates: A randomized controlled trial*, procurou-se testar os efeitos do GPS no

funcionamento cognitivo dos participantes (recurso a pensamentos adaptativos/distorções cognitivas e endosso de EMP). No Estudo Empírico IV | *The efficacy of the Growing Pro-Social Program in reducing anger, shame and paranoia over time in male prison inmates: A randomized controlled trial*, avaliou-se a capacidade do programa em reduzir sentimentos de raiva e vergonha, bem como a ideação paranoide. O Estudo Empírico V | *Promoting emotion and behavior regulation in male prison inmates: A secondary data analysis from a randomized controlled trial testing the efficacy of the Growing Pro-Social Program*, procurou investigar a capacidade do GPS em promover a regulação emocional e em reduzir o número de infrações disciplinares cometidas pelos reclusos e a duração dos respetivos procedimentos disciplinares (comportamento observável). Finalmente, o Estudo Empírico VI | *Personality pathology profiles as moderators of the Growing Pro-Social Program: Outcomes on cognitive, emotion and behavior regulation in male prison inmates*, testou o efeito moderador da severidade da patologia da personalidade dos reclusos sobre os resultados do programa ao nível cognitivo, emocional e comportamental.

O **Capítulo IV |Discussão Geral**, inicia-se com uma síntese e discussão dos principais resultados dos seis estudos empíricos, procurando discuti-los à luz dos resultados de investigação publicada. Em seguida, refletimos sobre as potencialidades e as limitações do presente projeto de investigação e dos estudos incluídos na dissertação. É ainda apresentada uma reflexão sobre as implicações do presente trabalho para a intervenção clínica-forense com agressores e para a gestão do sistema prisional.

Por fim, todas as obras citadas ao longo do texto são apresentadas na lista final de **Referências Bibliográficas**, exceção feita às obras citadas ao longo de cada estudo, que são tratadas de forma independente e, por isso, apresentadas na lista das referências específicas de cada artigo do Capítulo III.

# CAPÍTULO I

## ENQUADRAMENTO TEÓRICO

## Secção I |

## A eficácia das intervenções na redução da reincidência criminal: O contributo dos estudos de meta-análise

## 1. Introdução

O estudo da eficácia de programas de reabilitação destinados a agressores tem sido, no decorrer das últimas três décadas, significativamente influenciado pelo surgimento de numerosos estudos baseados nos métodos de meta-análise ou de revisão estatística. Uma meta-análise permite a conjugação e a análise coletiva dos resultados estatísticos de um conjunto de estudos numa única base de dados. Esta abordagem foi utilizada pela primeira vez em 1904, pelo estatístico Karl Pearson, no estudo do efeito da vacinação na prevalência da febre. No entanto, o método da meta-análise apenas começou a ser utilizado no âmbito das ciências sociais no início da década de 1980, nomeadamente no estudo da associação entre a dimensão da turma e o sucesso académico (Glass, McGaw, & Smith, 1981) e na avaliação dos efeitos da psicoterapia em problemas de saúde mental (Smith, Glass, & Miller, 1980). Desde então, a meta-análise tem sido amplamente utilizada em diversas áreas, nomeadamente na Psicologia (Lipsey & Wilson, 1993).

Quando a meta-análise é utilizada no estudo da eficácia de um tratamento, o principal resultado é conhecido como magnitude do efeito (*effect size*), cuja função é fornecer uma medida para a extensão de quaisquer diferenças encontradas entre as condições experimental e controlo, após a intervenção. Existem três métodos principais para o cálculo da magnitude do efeito: (1) a diferença média estandardizada (*Cohen's d*); (2) coeficientes de correlação (*phi* estatístico - Φ); e (3) *odds* ratio ou estimativa do risco relativo (Borenstein, Hedges, Higgins, & Rothstein, 2009; Cooper, Hedges, & Valentine, 2009).

Desde a sua utilização inicial na área da justiça criminal por Garret (1985), na avaliação do tratamento residencial com agressores juvenis, o método da meta-análise tem sido utilizado em várias revisões de estudos de eficácia dos programas de reabilitação com agressores (McGuire, 2013). Os primeiros estudos desta natureza surgiram em resposta à polémica afirmação de Martinson (1974) de que "nada funciona" (*nothing works*) na reabilitação de agressores, e procuraram identificar programas de intervenção eficazes. A publicação das primeiras meta-análises dá início ao movimento que ficou conhecido na literatura e na comunidade científica como "o que funciona na reabilitação de agressores?" (*what works*?).

Até à data, foram publicadas mais de 100 meta-análises sobre os efeitos dos programas de intervenção em agressores juvenis e adultos, quer em contexto de prevenção, quer em contexto de reabilitação. O objetivo desta secção[1] é apresentar uma síntese dos resultados e sumariar as principais conclusões que emergiram destes estudos, sobretudo com agressores adultos a cumprir pena de reclusão.

[1]Esta secção consiste numa versão aprofundada e atualizada do artigo de Brazão, da Motta, e Rijo (2013), que se encontra disponível no Anexo A.

## 2. Impacto geral das intervenções

A maior parte dos estudos de revisão sobre a eficácia das intervenções com agressores tem origem na América do Norte, apesar de incluírem dados provenientes de muitos países e de vários estudos terem sido realizados na Europa. A maioria é publicada em língua inglesa, mas numa das maiores revisões realizadas até hoje (Lipton, Pearson, Cleland, & Yee, 2002a), foram contactados 14 países não anglófonos e os autores receberam mais de 300 relatórios noutras línguas que não o inglês. A título de exemplo, existem dois estudos de meta-análise sobre programas de reabilitação na Alemanha (Egg, Pearson, Cleland & Lipton, 2000; Lösel & Koferl, 1989) e quatro revisões que sintetizaram os resultados de estudos realizados em 32 países europeus com delinquentes juvenis (Koehler, Lösel, Akoensi, & Humphreys, 2013; Redondo, Garrido, Sánchez-Meca, 1997; Redondo, Sánchez-Meca, & Garrido, 1999, 2002).

A maioria dos estudos tem sido realizada com agressores do sexo masculino, tendo em conta que a maior parte dos crimes são cometidos por indivíduos deste sexo. Numa das maiores meta-análises publicadas até ao momento (Lipsey, 1992, 1995), apenas 3% dos estudos foram realizados com agressoras. No que concerne à idade, aproximadamente dois terços das revisões referem-se a intervenções realizadas com agressores juvenis, com idades que variam entre os 14 e os 21 anos. Importa referir que este intervalo inclui o pico de idade para a incidência da delinquência juvenil na maior parte dos países. Os restantes estudos reportam-se, exclusivamente, a adultos ou incluem agressores com um leque de idades muito variado. No que se refere à etnia, embora muitos estudos forneçam dados respeitantes à proporção de agressores de diferentes grupos étnicos, o padrão ou o critério utilizado é variável e não é codificado de forma consistente nos diversos trabalhos. No entanto, dado que em muitos países existe uma grande representação de comunidades minoritárias intervencionadas pelo sistema de justiça, os resultados baseiam-se em populações que contém um *background* étnico bastante abrangente (McGuire, 2006a, 2013).

No que se refere ao tipo de crime ou à tipologia de agressores, foram publicadas revisões sobre intervenções com agressores sexuais, incluindo tanto adolescentes como adultos (Alexander, 1999; Hall, 1995; Hanson et al., 2002; Lösel & Schumcker, 2005; Polizzi, MacKenzie, & Hickman, 1999; Reitzel & Carbonell, 2006; Schmucker & Lösel, 2015; Soldino & Carbonell-Vayá, 2017; Walker, McGovern, Poey, & Otis, 2004). Existem três meta-análises com indivíduos que cometeram crimes violentos (Dowden & Andrews 2000; Gobeil, Blanchette, & Stewart, 2016; Jollife & Farrignton, 2007) e uma outra com agressores conjugais (Feder & Wilson, 2005). Existe também uma revisão que se debruçou sobre a modificabilidade de traços psicopáticos em agressores juvenis e adultos (Salekin, 2002). Estudos mais recentes incluem também revisões sobre as intervenções com agressores com perturbações mentais (Hockenhull et al., 2012; Martin, Dorken, Wamboldt, & Wootten, 2012; Morgan et al., 2012; Yoon, Slade, & Fazel, 2017).

No que diz respeito à natureza e ao tipo de programas, várias revisões (Gendreau & Goggin, 1996; Gendreau, Goggin, Cullen, & Andrews, 2001; MacKenzie, 2006; Petrosino, Turpin-Petrosino, & Finckenauer, 2000; Petrosino, Turpin-Petrosino, Hollis-Peel, & Lavenberg, 2012)

têm abordado diferentes tipos de estratégias punitivas com agressores juvenis, tais como a supervisão intensiva na comunidade (i.e., "punição intermédia") ou as intervenções destinadas a confrontar o agressor com as consequências do seu comportamento (i.e., "programas de intimidação"). Várias outras meta-análises (e.g., Lowenkamp, Flores, Holsinger, Makarios, & Latessa, 2010) incluíram também estudos que avaliaram a punição ou procedimentos baseados na dissuasão.

A maioria dos estudos avaliou a eficácia de programas cognitivo-comportamentais estruturados e manualizados, sendo que uma das meta-análises analisou os resultados obtidos com o *Reasoning and Rehabilitation* (R&R; Tong & Farrington, 2006), um dos programas mais utilizados na reabilitação de agressores juvenis e adultos. Há ainda estudos que testaram o impacto de programas educativos e vocacionais com agressores adultos (Wilson, Gallagher, & MacKensie, 2000; Visher, Winterfield, & Coggeshall, 2005). O método da meta-análise também foi utilizado para sintetizar os resultados da justiça restaurativa (Andrews & Bonta, 2010a; Latimer, Dowden, & Muise, 2005) e da mediação vítima-agressor (Bradshaw, Roseborough, & Umbreit, 2006; Nugent, Williams, & Umbreit, 2004). Outras revisões (Cleland, Pearson, Lipton, & Yee, 1997; Lipsey, 1992, 1995; Redondo et al., 1997, 1999, 2002) analisaram o impacto de variáveis moderadoras (e.g., idade, tipo de crime cometido pelos agressores) nos efeitos do tratamento. Finalmente, vários autores debruçaram-se sobre a qualidade da implementação das intervenções (Andrews & Dowden, 2005, 2010a; Dowden & Andrews, 2004; Lowenkamp, Latessa, & Smith, 2006a).

O Quadro 1 sintetiza os principais resultados obtidos nas meta-análises supramencionadas. Na primeira coluna do quadro, estão listados, por ordem cronológica, os estudos de meta-análise realizados entre 1985[2] e 2017. Na segunda coluna, apresenta-se o foco de cada estudo, isto é, o tipo de tratamento (e.g., intervenções familiares, intervenções cognitivo-comportamentais), o *setting* (contexto comunitário vs. contexto institucional) e a amostra (e.g., agressores juvenis ou adultos) que foram analisados. Na terceira coluna, disponibiliza-se o número de estudos incluídos em cada meta-análise e na quarta coluna, apresenta-se a magnitude média do efeito nas taxas de reincidência criminal. A diferença média estandardizada (*Cohen's d*)[3] é reportada na maioria das meta-análises, embora alguns estudos reportem a estimativa do risco relativo (OR)[4]. Quando a magnitude média do efeito é representada pelo sinal +, significa que a taxa de reincidência no grupo de tratamento (i.e., participantes que frequentaram o programa) é inferior à do grupo de controlo (i.e., indivíduos que não participaram no tratamento). Pelo contrário, se o efeito é representado pelo sinal -, indica que a taxa de reincidência no grupo de tratamento é superior à do grupo de controlo. Se

[2]Conforme já foi mencionado, o método da meta-análise começou a ser utilizado no âmbito da justiça criminal em 1985.

[3]De acordo com Cohen (1988), 0.2 é considerado um efeito pequeno, 0.5 um efeito médio e 0.8 um efeito elevado.

[4]O OR estima a magnitude da associação entre a condição experimental (grupo de tratamento vs. grupo de controlo) e a medida de resultado (i.e., reincidência criminal). Quando o OR é superior a 1, significa que a taxa de reincidência no grupo de tratamento é inferior à do grupo de controlo. Pelo contrário, se o OR é inferior a 1, a taxa de reincidência no grupo de tratamento é superior à do grupo de controlo. Se o OR for igual a 1, não existe associação entre a condição experimental e a medida de resultado.

o efeito for igual a 0, significa que o impacto do tratamento é nulo. Finalmente, nos casos em que é reportado N/A (não aplicável), o estudo não apresentou um efeito médio ou o mesmo não resulta de uma comparação entre o grupo de tratamento e o grupo de controlo.

Quadro 1 | Meta-análises ou revisões sistemáticas acerca da eficácia das intervenções na redução da reincidência criminal

| Fonte | Foco da revisão | Nr. º de estudos | Magnitude do efeito |
|---|---|---|---|
| Garrett (1985) | Intervenções com agressores juvenis em internamento residencial | 111 | +0.18 |
| Mayer e colaboradores (1986) | Programas baseados no paradigma da aprendizagem social em adolescentes da comunidade | 17 | +0.33 |
| Gottschalk e colaboradores (1987a) | Intervenções comunitárias com adolescentes | 61 | +0.22 |
| Gottschalk e colaboradores (1987b) | Intervenções comportamentais com agressores juvenis | 14 | +0.25 |
| Lösel e Koferl (1989) | Programas terapêuticos com agressores adultos | 16 | +0.12 |
| Whitehead e Lab (1989) | Intervenções com agressores juvenis | 50 | +0.13 |
| Andrews e colaboradores (1990) | Programas baseados nos "princípios do serviço humano" com agressores juvenis e adultos | 54 | +0.30 |
| Izzo e Ross (1990) | Programas com componente cognitiva vs. programas sem componente cognitiva com agressores juvenis | 46 | Rácio da magnitude média do efeito (cognitivas: não-cognitivas) = 2.5:1 |
| Lipsey (1992, 1995) | Intervenções com agressores juvenis | 397 | +0.10 |
| Hall (1995) | Intervenções com agressores sexuais juvenis e adultos | 12 | +0.12 |
| Gendreau e Goggin (1996) | "Punição intermédia" ou procedimentos baseados na dissuasão com agressores juvenis | 138 | 0.00 |
| Cleland e colaboradores (1997) | Intervenção com agressores juvenis e adultos | 659 | N/A, mas efeitos superiores em agressores juvenis |

| | | | |
|---|---|---|---|
| Redondo e colaboradores (1997) | Programas estruturados com agressores juvenis | 57 | +0.12 |
| Lipsey e Wilson (1998) | Intervenções comunitárias vs. intervenções institucionais com agressores juvenis violentos | 83 estudos na comunidade<br>117 estudos em instituições | +0.14<br>+0.10 |
| Alexander (1999) | Intervenções com agressores sexuais adultos | 79 | +0.10 |
| Dowden e Andrews (1999) | Intervenções com agressores juvenis | 229 | +0.09 |
| Redondo e colaboradores (1999) | Programas estruturados com agressores juvenis | 32 | +0.12 |
| Dowden e Andrews (2000) | Intervenções com agressores juvenis violentos | 52 | +0.07 |
| Egg e colaboradores (2000) | Programas de intervenção com agressores adultos | 25 | +0.12 |
| Petrosino e colaboradores (2000) | "Programas de intimidação" com agressores juvenis | 9 | -0.01 |
| Wilson e colaboradores (2000) | Programas educacionais e vocacionais com agressores adultos | 53 | OR = 1.25 |
| Gendreau e colaboradores (2001) | "Punição intermédia" com agressores juvenis | 140 | 0.00 |
| Latimer (2001) | Intervenção familiar com agressores juvenis | 50 | +0.15 |
| Lipsey, Chapman e Landenberger (2001) | Programas cognitivo-comportamentais com agressores juvenis e adultos | 14 | OR = 1.66 |
| Wilson, Gottfredson e Najaka (2001) | Intervenções em contexto escolar | 40 | +0.04 |
| Hanson e colaboradores (2002) | Intervenções com agressores sexuais | 43 | OR = 1.18 |
| Lipton e colaboradores (2002a) | Intervenções terapêuticas com reclusos | 35 | +0.14 |
| Lipton e colaboradores (2002b) | Intervenções comportamentais e intervenções cognitivo-comportamentais com reclusos | 68 | +0.12 |
| Redondo e colaboradores (2002) | Programas estruturados com agressores juvenis | 23 | +0.21 |

| | | | |
|---|---|---|---|
| Salekin (2002) | Modificabilidade de traços psicopáticos em agressores juvenis e adultos | 42 | N/A |
| Dowden e Andrews (2003) | Intervenções familiares com agressores juvenis | 53 | +0.21 |
| Wilson, Lipsey e Derzon (2003) | Intervenções em contexto escolar | 522 | +0.25 |
| Dowden e Andrews (2004) | Qualidade da implementação das intervenções (competências dos técnicos) | 273 | N/A |
| Nugent e colaboradores (2004) | Mediação vítima-agressor (delinquência juvenil) | 15 | OR = 1.07 |
| Walker e colaboradores (2004) | Tratamento de agressores sexuais juvenis | 10 | +0.26 |
| Andrews e Dowden (2005) | Tipo de programa e qualidade da implementação como moderadores dos efeitos | 273 | N/A |
| Feder e Wilson (2005) | Intervenção com agressores conjugais | RCT – 7 | +0.26 |
| | | QEs - 4 | -0.14 |
| Latimer e colaboradores (2005) | Justiça restaurativa (agressores juvenis e adultos) | 32 | +0.07 |
| Lösel e Schumucker (2005) | Intervenções com agressores sexuais juvenis e adultos | 80 | +0.29 |
| Visher e colaboradores (2005) | Programas vocacionais na comunidade com ex-reclusos | 10 | +0.03 |
| Bradshaw e colaboradores (2006) | Mediação vítima-agressor (delinquência juvenil) | 15 | +0.34 |
| French e Gendreau (2006) | Intervenção comportamental na redução das infrações disciplinares em contexto prisional | 104 | +0.14 |
| Lowenkamp e colaboradores (2006a) | Qualidade da implementação do tratamento (agressores adultos) | 38 | +0.35 a +.042 |

| | | | |
|---|---|---|---|
| MacKenzie (2006) | "Punição intermédia" (programas de supervisão intensiva) | 31 (16 RCT) | N/A, mas sem uma redução significativa na reincidência |
| McCart, Priester, Davies e Azen (2006) | Treino de pais vs. terapia cognitivo-comportamental (delinquência juvenil) | Treino de pais - 32<br>TCC - 45 | +0.47<br>+0.35 |
| Reitzel e Carbonell (2006) | Tratamento de agressores sexuais juvenis | 9 | OR = 1.34 |
| Tong e Farrington (2006) | A eficácia do programa R&R com agressores juvenis e adultos | 25 | OR = 1.16 |
| Jolliffe e Farrington (2007) | Programas de intervenção com agressores adultos violentos | 11 | +0.21 |
| Lipsey, Landenberger e Wilson (2007) | Programas cognitivo-comportamentais com agressores juvenis e adultos | 58 | OR = 1.53 a 2.86 |
| Tolan, Henry, Schoeny e Bass (2008) | Intervenções com agressores juvenis | 22 RCT | +0.25 |
| Lipsey (2009) | Tratamento de agressores juvenis | 548 | +0.06 |
| Andrews e Bonta (2010a) | Justiça restaurativa (agressores juvenis e adultos) | 67 | +0.07 |
| Lowenkamp e colaboradores (2010) | Procedimentos baseados na dissuasão vs. programas baseados no modelo RNR (agressores adultos) | 58 | -0.16 para dissuasão<br>+0.17 para RNR |
| Olver, Stockdale e Wormith (2011) | Preditores das taxas de *dropout* em programas estruturados | 96 | Preditores significativos: história criminal e personalidade antissocial (rw = .14); inteligência (rw = -.14); motivação (rw = -.13); e idade (rw = -.10) |

| | | | |
|---|---|---|---|
| Hockenhull e colaboradores (2012) | Eficácia das intervenções psicológicas na redução do comportamento violento em agressores em internamento psiquiátrico | 51 RCT | OR = 1.35 |
| Martin e colaboradores (2012) | Intervenções com agressores com perturbações mentais crónicas | 37 | +0.19 |
| Morgan e colaboradores (2012) | Tratamento de agressores com perturbações mentais | 26 | N/A |
| Petrosino e colaboradores (2012) | "Programas de intimidação" com agressores juvenis | 9 RCT | -0.14 |
| Ferguson e Wormith (2013) | Terapia cognitivo-comportamental com agressores juvenis e adultos | 33 | +0.16 |
| James, Stams, Asscher, De Roo e der Laan (2013) | Programas de intervenção com agressores juvenis e adultos | 22 | +0.12 |
| Koeler e colaboradores (2013) | Programas de intervenção com agressores juvenis | 25 | OR = 1.34 |
| Schmucker e Lösel (2015) | Programas cognitivo-comportamentais com agressores sexuais | 29 | OR = 1.41 |
| Gobeil e colaboradores (2016) | Intervenções psicológicas com agressoras violentas | 37 | OR = 1.35 |
| Yoon e colaboradores (2017) | Intervenções cognitivo-comportamentais com reclusos com perturbações mentais | 37 | +0.50 |
| Soldino e Carbonell-Vayá (2017) | Tratamento de agressores sexuais juvenis e adultos | 17 | OR = 1.69 |

*Nota*. Adaptado de "What works to reduce re-offending: 18 years on", J. McGuire, 2013, Chichester: Wiley-Blackwell.
OR = *odds ratio*/estimativa do risco relativo; N/A = não aplicável; RCT = *randomized controlled trial*/ensaio clínico aleatorizado; QEs = *quasi-experimental design*/desenho quase experimental); TCC = terapia cognitivo-comportamental; RNR = *Risk-Need-Responsivity*/Risco-Necessidade-Responsividade.

A partir da análise do Quadro 1, podemos concluir que a maioria dos programas de intervenção são capazes de reduzir as taxas de reincidência criminal em agressores juvenis e adultos, independentemente do tipo de crime e/ou do grau de severidade do comportamento antissocial. Agressores difíceis e resistentes à mudança (e.g., agressores sexuais) ou indivíduos com traços psicopáticos (muitas vezes considerados não tratáveis) respondem positivamente ao tratamento (Alexander, 1999; Hall, 1995; Hanson et al., 2002; Lösel & Schumcker, 2005; Polizzi et al., 1999; Reitzel & Carbonell, 2006; Salekin, 2002; Schmucker & Lösel, 2015; Soldino & Carbonell-Vayá, 2017; Walker et al., 2004).

Globalmente, podemos afirmar que os efeitos dos programas são positivos, exceção feita aos programas de intervenção baseados na dissuasão ou na punição. Estas intervenções têm efeitos nulos (Gendreau & Goggin, 1996; Gendreau et al., 2001; MacKenzie, 2006) ou, em alguns casos, contribuem para o aumento das taxas de reincidência criminal (Lowenkamp et al., 2010; Petrosino et al., 2001, 2012). Estes resultados reforçam a ineficácia ou o efeito contraproducente que as estratégias punitivas e corretivas podem ter na reabilitação de agressores. Não obstante, o recurso a este tipo de estratégias continua a ser recorrente em diversos sistemas de justiça criminal (McGuire, 2013).

No que diz respeito aos programas de intervenção psicológica (i.e., que não recorrem a estratégias punitivas), a magnitude média do efeito é de .10 (McGuire, 2013). Ou seja, estas intervenções contribuem para uma redução de 10% nas taxas de reincidência. Embora este efeito possa parecer modesto, o mesmo continua a ser significativo e comparável a efeitos encontrados noutras áreas. Algumas intervenções no âmbito da saúde têm efeitos similares e, por vezes, inferiores. A título de exemplo, a magnitude média do efeito da aspirina na redução de enfartes de miocárdio é de .04; o da quimioterapia varia entre .08 e .11; e o da cirurgia de *bypass* do coração na redução da trombose coronária é de .15 (McGuire, 2002a). Assim, um efeito médio de .10 não pode ser considerado um efeito marginal. Para além disso, uma redução de 10% nas taxas de reincidência tem um impacto prático, atendendo aos custos consideráveis que o comportamento criminal acarreta para a sociedade (McGuire, 2013).

Adentro dos tratamentos eficazes, destacam-se os programas de natureza cognitivo-comportamental, os quais estão associados a maiores índices de eficácia (Andrews & Bonta, 2010a; Andrews & Dowden, 2005; Bonta et al., 2011; Koehler et al., 2013; Lipsey, 1992, 1995; Lipsey et al., 2001, 2007; Lipton et al., 2002b; Raynor, Ugwudike, & Vanstone, 2014; Schmucker & Lösel, 2015; Tong & Farrignton, 2006; Trotter, 2013; Yoon et al., 2017). De acordo com Lösel (2001), o efeito médio resultante deste tipo de abordagens é de .20. Uma meta-análise (Izzo & Ross, 1990) de 46 estudos acerca de programas de intervenção para agressores juvenis mostra que os programas que incluem uma componente cognitiva são duas vezes mais eficazes do que aqueles que não incluem. Estudos mais recentes (Antonio & Crosset, 2017; Bogestad, Kettler, & Hagan, 2009; Ferguson & Wormith, 2013; Golden, Gatchel, & Cahill, 2006; Lowenkamp, Hubbard, Makarios, & Latessa, 2009; Wilson, Bouffard, & MacKenzie, 2005) têm reforçado a eficácia dos programas cognitivos, não só na redução das taxas de reincidência criminal, mas

também na correção das distorções cognitivas ou erros de pensamento subjacentes ao comportamento antissocial (i.e., estilos de pensamento criminal).

O que também parece influenciar resultados positivos é a duração do tratamento, que, de acordo com Lipsey (2009), deve ser superior a 26 semanas, de forma a permitir dois ou mais contactos por semana e/ou mais de 100 horas de contacto total. Um estudo de revisão sobre o tratamento de agressores com traços psicopáticos (Salekin, 2002) mostra que as intervenções com duração inferior a seis meses apresentam efeitos menores quando comparados com intervenções mais longas. Programas de intervenção mais longos e intensos podem ser mais benéficos para a maioria dos agressores, atendendo aos seus níveis elevados de resistência à mudança (Abrunhosa, 2007). Para além disso, intervenções prolongadas no tempo aumentam a probabilidade de os participantes assimilarem e generalizarem as competências desenvolvidas a contextos reais de vida (Brazão et al., 2013).

Também as características dos participantes, como por exemplo a idade e a história de detenções anteriores parecem estar relacionadas com os efeitos positivos da intervenção. Cleland e colaboradores (1997) analisaram os resultados de 659 estudos e verificaram que os efeitos do tratamento eram superiores em adolescentes, quando comparados com adultos. Numa meta-análise com agressores juvenis, Lipsey (1992, 1995) verificou que jovens em maior risco (mais velhos e com mais antecedentes criminais) evidenciaram uma redução mais significativa na delinquência, quando comparados com aqueles considerados em menor risco. Isto poderá dever-se ao facto de casos de baixo risco apresentarem uma reduzida margem de melhoria, dado que o seu envolvimento na delinquência é, à partida, pouco significativo (Lipsey, 1995).

Já no que diz respeito ao tipo de transgressão, estudos de meta-análise realizados na Europa (Redondo et al., 1997, 1999, 2002) encontraram efeitos mais baixos para os crimes contra a propriedade (furto, arrombamento ou invasão de propriedade) ou relacionados com o tráfico de substâncias, comparativamente aos crimes contra pessoas (violência física e/ou agressão sexual). No entanto, os estudos que procuraram testar esta relação são escassos, pelo que as conclusões de Redondo e colaboradores (1997, 1999, 2002) devem ser analisadas com cuidado.

O resultado mais saliente das meta-análises supramencionadas contrapõe, claramente, a afirmação comummente repetida de que "nada funciona" na reabilitação de agressores juvenis e adultos (McGuire, 2013). A publicação e respetiva divulgação das meta-análises, tem gerado uma mudança de foco na discussão científica em torno do tema da reabilitação de agressores. Ao invés de ser questionada a capacidade dos programas em reduzir as taxas de reincidência, passou a discutir-se de que forma podem ser maximizados os efeitos positivos. Apoiando-nos em evidências empíricas, procuramos responder a essa questão no ponto seguinte.

## 3. Princípios das intervenções eficazes

Existe um consenso alargado de que é possível maximizar a magnitude do efeito, combinando um determinado número de elementos nos programas para agressores (McGuire, 2002b, 2006a, 2011, 2013). Por outras palavras, pensa-se que as intervenções eficazes possuam certas características em comum, que Andrews e colaboradores (1990), numa revisão antiga mas muito influente, denominaram de "princípios do serviço humano" (*principles of human service*). Quando os autores identificaram essas caraterísticas em 39 estudos, constataram que a combinação das mesmas produzia um efeito complementar, correspondente a uma redução de 53% nas taxas de reincidência. Desta forma, ainda que a magnitude média do efeito em todos os estudos não seja necessariamente grande, quando as intervenções são adequadamente concebidas e realizadas, é possível assegurar efeitos superiores (McGuire, 2002b, 2006a, 2011, 2013). Os "princípios do serviço humano" têm sido continuamente testados em diversos estudos, tendo progressivamente evoluído para o modelo do Risco-Necessidade-Responsividade (*Risk-Need-Responsivity;* RNR) (Andrews & Bonta, 2010a; Andrews, Bonta, & Wormith, 2006). O RNR reúne considerável evidência empírica (e.g., Andrews et al., 2006; Lowenkamp, Latessa, & Holsinger, 2006b), sendo internacionalmente recomendado para a intervenção com agressores juvenis e adultos.

Os investigadores, que se têm ocupado com a revisão destes trabalhos, concordam que existem determinadas características nas intervenções em justiça criminal que maximizam a probabilidade de garantir um impacto prático e significativo em termos de uma redução clara da reincidência. Os principais resultados a que chegaram são resumidos em seguida.

### 3.1. Teoria e base empírica

Os esforços de intervenção têm maior probabilidade de serem bem-sucedidos se forem baseados num modelo conceptual sólido e com evidência empírica demonstrada (Andrews & Bonta, 2010a; Andrews et al., 2006; Skeem, Manchak, & Peterson, 2011). O modelo teórico permite definir as metodologias e as estratégias de intervenção, bem como dirigir o processo de mudança que se espera que ocorra nos participantes (McGuire, 2002, 2006a, 2011, 2013). A maioria dos programas, aplicados no sistema de justiça criminal, utiliza estratégias de intervenção derivadas do modelo cognitivo-comportamental. Apesar de este modelo não ser a única opção disponível, tem sido, até ao presente, o que mais consistentemente tem revelado efeitos positivos na reincidência criminal em menores e adultos agressores (Andrews & Bonta, 2010a; Antonio & Crossett, 2017; Bonta et al., 2011; Koehler et al., 2013; Raynor, Ugwudike, & Vanstone, 2014; Trotter, 2013; Yoon et al., 2017).

### 3.2. Nível de risco

Antes da seleção dos participantes para os programas de intervenção disponíveis, é fundamental avaliar os níveis de risco para posterior distribuição dos indivíduos por diferentes níveis de intervenção (Andrews & Bonta, 2010a, 2010b; Andrews et al., 2006). A avaliação do risco é, geralmente, baseada em informação disponível sobre os fatores de risco para o

comportamento criminal, nomeadamente: história e padrão de comportamento antissocial; atitudes, crenças e valores antissociais; pares desviantes; fatores familiares; fatores escolares/profissionais; ausência de *hobbies* e atividades recreativas; e abuso de substâncias (para uma revisão sobre o tema, consultar Andrews & Bonta, 2010a). Os programas de intervenção mais intensivos e prolongados no tempo devem ser reservados para os delinquentes considerados, na avaliação, em maior risco de reincidirem. Este princípio tem sido denominado de princípio do risco (Andrews & Bonta, 2010a, 2010b; Andrews et al., 2006) e parece aplicar-se quer a agressores juvenis, quer a adultos. Lowenkamp e colaboradores (2006b) analisaram o impacto de 97 programas numa amostra total de 13.776 indivíduos e encontraram efeitos mais elevados para os programas que obedeciam ao princípio do risco, comparativamente àqueles que não seguiam esse mesmo princípio.

Para além desta avaliação tradicional dos fatores de risco, parece ser fundamental realizar uma avaliação das necessidades de intervenção em saúde mental (Brazão, 2016), tendo em conta a elevada prevalência de perturbações mentais em agressores (e.g., Brazão, da Motta, Rijo, & Pinto-Gouveia, 2015; Rijo et al., 2016). Embora a psicopatologia possa não ser *per se* uma necessidade criminógena é, de acordo com Andrews e Bonta (2010a), um fator de responsividade, pelo que deve ser tida em conta na avaliação e na intervenção com agressores (Brazão, 2016). Por outras palavras, é recomendável que os programas de intervenção tenham em conta não só a patologia comportamental dos participantes, mas também os quadros psicopatológicos comórbidos.

### 3.3. Fatores de risco como alvo de mudança

A investigação sobre a etiologia do comportamento antissocial sugere que, para além de determinados padrões interpessoais e emocionais, variáveis de natureza cognitiva (e.g., estilos de pensamento criminal ou distorções cognitivas) vulnerabilizam o indivíduo para o comportamento antissocial (Antonio & Crosset, 2017; Clark, 2011; Landenberger & Lipsey, 2005; Lipsey et al., 2007; Walters, 2007). Se o trabalho com delinquentes pretende fazer a diferença relativamente à possibilidade de estes sujeitos reincidirem, estes fatores devem ser o "alvo" desse trabalho (Evans-Chase & Zhou, 2012; Skeem, Manchak, & Peterson, 2011). São os chamados fatores de risco dinâmicos ou necessidades criminógenas, e existem razões claras para lhes ser dada prioridade nos esforços de prevenção e reabilitação (Andrews & Bonta 2010a, 2010b, Andrews et al., 2006).

### 3.4. Alvos múltiplos

Dada a multiplicidade de fatores que contribuem para o comportamento desviante, os investigadores são quase unânimes em defender que as intervenções mais eficazes devem incluir vários elementos dirigidos à modificação dos fatores predisponentes e de manutenção do comportamento antissocial (McGuire, 2002b, 2006a, 2011, 2013). As intervenções que o fazem com sucesso são designadas como multimodais.

Os programas multimodais incluem várias sessões, distribuídas por vários módulos, onde se procura trabalhar um conjunto de competências que se consideram deficitárias em indivíduos com comportamento antissocial (e.g., competências de comunicação, de relacionamento interpessoal, de regulação emocional). No entanto, é fundamental que o programa defina e estabeleça a relação entre as variáveis comportamentais, emocionais e cognitivas que procura modificar, ao invés de as trabalhar como competências independentes (Rijo et al., 2007). Por exemplo, será pouco útil recorrer a estratégias de controlo e manejo da raiva, se não se procurar também provocar mudança no processamento de informação social e na atribuição de significado subjacente à experiência e expressão da raiva. Por outras palavras, o comportamento de ataque e a ativação emocional disruptiva estão intimamente relacionados com o modo como o indivíduo processa informação social (Beck, 1999, 2011; Jones, 2014; Shanahan, Jones, & Thomas-Peter, 2014). Os programas de intervenção eficazes devem, pois, ter em conta estas inter-relações, procurando promover mudança de uma maneira integrada (Brazão et al., 2013).

### 3.5. Sensibilidade

Existem certos métodos ou abordagens que são capazes de suscitar um maior envolvimento e motivação dos indivíduos para aderirem e permanecerem em programas de reabilitação (Andrews & Bonta, 2010a, 2010b). Conforme já foi referido, os programas de intervenção cognitivo-comportamental parecem ser os mais eficazes não só na redução das taxas de reincidência criminal, mas também na modificação de correlatos cognitivos associados ao comportamento antissocial (e.g., Antonio & Crossett, 2017).

Para além do modelo teórico subjacente a um dado programa e das estratégias de intervenção que são utilizadas, a qualificação dos técnicos é outro aspeto que deve ser tido em conta. Os técnicos envolvidos na aplicação dos programas devem possuir, para além de competências técnicas, boas competências interpessoais, devendo ser capazes de fornecer apoio e desenvolver relações afiliativas com os participantes, enquanto estabelecem de forma adequada limites claramente definidos (sensibilidade geral). Devem também ser capazes de adaptar as estratégias de intervenção, de modo a torná-las adequadas às características da população-alvo, nomeadamente à idade, género, etnia, sexualidade, linguagem e estilos de aprendizagem (sensibilidade específica) (McGuire 2006a, 2011, 2013).

### 3.6. Integridade

De acordo com Lipsey (2009), as estratégias de intervenção parecem funcionar melhor quando são supervisionadas e avaliadas por um investigador. A recolha regular de dados acerca do modo como uma intervenção é realizada, mantém clara a sua finalidade e potencia a adesão dos participantes às estratégias de intervenção que são implementadas. Esta característica é chamada de integridade ou fidelidade de uma intervenção (Hollin & Palmer, 2005; Hollin et al., 2013), a qual deve ser sistematicamente verificada e monitorizada (McGuire, 2002, 2006a, 2011, 2013).

A investigação demonstra que é possível obter maiores índices de eficácia quando a qualidade da implementação dos programas de intervenção é garantida (Andrews & Dowden, 2005, 2010a; Dowden & Andrews, 2004; Lowenkamp et al., 2006a). Esta questão é particularmente importante, já que diversos estudos apontam para efeitos reduzidos ou até nulos da intervenção (mesmo que esteja bem concebida e desenhada), se não for garantida a qualidade da sua implementação (Evans-Chase & Zhou, 2012; Lipsey, Howell, Kelly, Chapman, & Carver, 2010; McGuire, 2013).

### 3.7. Contexto comunitário

Atendendo ao início precoce do comportamento antissocial, a intervenção deve ser realizada o mais cedo possível, de preferência antes da evolução para padrões graves de comportamento agressivo e antissocial. Dados da investigação sugerem que os programas aplicados em contexto comunitário são capazes de alcançar maior eficácia do que as intervenções implementadas em contexto institucional (e.g., Lipsey & Cullen, 2007; McGuire, 2006a, 2013; Redondo et al., 2002). Por este motivo, recomenda-se, sempre que possível, o uso de serviços na comunidade, de preferência em contextos reais de vida, como o contexto familiar ou escolar. Deste modo, deverá apostar-se na prevenção primária ou desenvolvimental, a qual inclui os serviços prestados a famílias e a crianças/adolescentes, com o objetivo de minorar, a longo prazo, problemas como a delinquência, o abuso de substâncias e as perturbações mentais (McGuire, 2002, 2006a, 2011, 2013).

Em síntese, todas as avaliações realizadas, bem como os procedimentos para integrar os resultados das mesmas, devem ser fundamentados em metodologias empiricamente validadas (Lipsey, 2009). Esta questão aplica-se igualmente aos processos de registo da integridade/fidelidade e de avaliação dos resultados (Hollin & Palmer, 2005; Hollin et al., 2013). Tem também implicações a um nível estratégico, nomeadamente no que diz respeito à gestão e coordenação do conjunto de programas e serviços disponíveis no sistema de justiça criminal (Andrews, 1995, 2001).

Com o objetivo de avaliar/monitorizar a implementação de programas de intervenção com agressores, alguns países desenvolveram sistemas para a acreditação desses mesmos programas, tendo em conta os princípios acima referidos. Apenas os programas que cumprem os princípios das intervenções eficazes são então aprovados para implementação (McGuire, 2013), de forma a aumentar a probabilidade de sucesso das intervenções na redução das taxas de reincidência criminal.

Em Inglaterra e no País de Gales, uma iniciativa política de grande dimensão, o *Crime Reduction Programme*, é implementada desde 2000 e tem como objetivo acreditar e selecionar os programas mais adequados à reabilitação de agressores, quer em contexto de reclusão, quer em contexto de liberdade condicional. O relatório anual mais recente do *Correctional Services Accreditation Panel*, aprovou e selecionou um total de 42 programas (a maior parte de natureza cognitivo-comportamental, tendo em conta a sua eficácia comprovada). Destes, 18 são

implementados em estabelecimentos prisionais, 14 são aplicados com indivíduos em liberdade condicional e 10 são utilizados em ambos os contextos (Correctional Services Accreditation Panel, 2009).

Apesar de esta iniciativa ter sido implementada com sucesso, os seus resultados têm sido variáveis. Existem estudos empíricos que apontam para a eficácia destes programas na redução das taxas de reincidência criminal (e.g., Friendship, Blud, Erikson, & Travers, 2002); mas também existem dados que apontam para efeitos marginais ou muito reduzidos deste tipo de programas na reincidência (e.g., Cann, Falshaw, Nugent, & Friendship, 2003). Os resultados das intervenções realizadas em contexto comunitário são, geralmente, mais positivos, embora as taxas de *dropout* sejam consideravelmente elevadas (McGuire, 2013). Esta pode ser uma questão crítica, tendo em conta que os indivíduos que desistem dos programas apresentam taxas de reincidência mais elevadas, comparativamente aos indivíduos que completam os programas (Bennett, Stoops, Call, & Flett, 2007; Hollin et al., 2008; Kronner & Takahashi, 2012; Palmer et al., 2007; Prendergast, Hall, Wexler, Melnick, & Cao, 2004). Estes dados contraditórios podem ser explicados pelo facto de a maior parte dos estudos não consistirem em ensaios clínicos aleatorizados (i.e., planos experimentais com amostras aleatórias). Importa referir que um ensaio clínico aleatorizado é internacionalmente reconhecido como o método mais adequado e robusto na avaliação de resultados de um programa de intervenção (MacKenzie & Farrignton, 2015; Moher et al., 2010; Perry, Weisburd, Hewitt, 2010; Pettus-Davis, Howard, Dunnigan, Scheyett, & Roberts-Lewis, 2016). Assim, estudos baseados em ensaios clínicos não-aleatorizados ou planos quasi-experimentais podem comprometer a clareza dos resultados e, consequentemente, dificultar a sua interpretação. Os resultados mistos podem ainda ser explicados por dificuldades de implementação, devido a alterações políticas que ocorreram em paralelo e das quais resultaram pressões organizacionais (Raynor, 2004; McGuire, 2013).

## 4. Efeitos positivos com agressores adultos

No que se refere aos agressores adultos, a magnitude do efeito é geralmente menor, por comparação com os resultados obtidos com agressores juvenis. Não obstante, as meta-análises realizadas com adultos apontam para efeitos positivos e deles emergem padrões idênticos aos observados nos estudos com menores. Os programas cognitivo-comportamentais têm-se mostrado eficazes na redução das taxas de reincidência (McGuire, 2006b, 2007, 2011, 2013), quer em reclusos que cometeram crimes contra a propriedade, quer em indivíduos que cometeram crimes violentos e relacionados com o abuso de substâncias (Hollin, 2001; McMurran & McGuire, 2005; Motiuk & Serin, 2001). Uma das revisões mais detalhadas destas intervenções (Lipsey et al., 2007) identificou 58 estudos publicados entre 1980 e 2004, sendo que a maioria das investigações apresentava um plano quase experimental e um período médio de *follow-up* de 12 meses. No entanto, apenas 33% dos estudos utilizaram amostras aleatórias. Os autores observaram efeitos positivos em 84% dos estudos incluídos, correspondente a uma redução de 25% nas taxas de reincidência. Ao analisarem apenas os estudos com desenhos de investigação sólidos (i.e., ensaios clínicos aleatorizados), nos quais foi controlada a qualidade da

implementação das intervenções, os autores encontraram uma redução média de 52% nas taxas de reincidência.

Conforme já foi referido, o *Reasoning and Rehabilitation*[5] (R&R; Ross, Fabiano, & Ross, 1989) é um dos programas mais utilizados na reabilitação de agressores adultos, atendendo à sua eficácia demonstrada. Um estudo de meta-análise (Tong & Farrington, 2006) analisou os efeitos do programa em três países: Canadá, Estudos Unidos e Reino Unido. Os resultados mostraram que o programa foi capaz de reduzir as taxas de reincidência criminal em qualquer um dos países envolvidos. Os autores encontraram uma redução média de 14% nas taxas de reincidência nos agressores que frequentaram o programa, comparativamente aos grupos de controlo. Tong e Farrignton (2006) analisaram ainda os efeitos do R&R por contexto de aplicação (comunidade vs. instituição) e por nível de risco dos participantes (baixo risco vs. risco elevado). Quando aplicado em contexto comunitário, o R&R contribuiu para uma redução média de 14% nas taxas de reincidência. Já em contexto de reclusão, os autores observaram uma redução média de 12% na reincidência. Apesar desta diferença, os efeitos do programa em contexto comunitário não foram significativamente superiores aos efeitos observados em *setting* institucional ($z = 0.80$; $p > .05$). No que se refere ao nível de risco, foi observada uma redução média de 12% na reincidência em agressores com baixo risco e uma redução de 11% em indivíduos com elevado risco. Apesar do R&R apresentar efeitos maiores em agressores com baixo risco comparativamente aos indivíduos com elevado risco, esta diferença não alcançou a significância estatística ($z = 1.33$; $p > .05$). Com base nestes dados, os autores concluíram que o programa é eficaz, independentemente do contexto de implementação e/ou do nível de risco dos participantes.

Também têm sido testados programas especificamente desenvolvidos para agressores violentos. Geralmente, estes programas incluem componentes dirigidos ao controlo da raiva, modulação do comportamento, identificação e autogestão do risco (e.g., Bush, 1995; Henning & Fureh, 1996). Num estudo sobre um programa dirigido ao controlo da raiva com 220 reclusos (110 no grupo de tratamento e 110 no grupo de controlo), Dowden, Blanchette e Serin (1999) observaram reduções de 69% na reincidência geral (i.e., não violenta) e de 83% na reincidência violenta. No entanto, estes efeitos apenas foram encontrados em reclusos que na avaliação foram considerados em elevado risco de reincidirem. Nos reclusos com baixo risco não foram encontrados efeitos positivos em termos de reincidência. Importa referir que nem todas as avaliações deste tipo de programas (orientados para a raiva) têm encontrado resultados positivos, sendo que em alguns casos os ganhos do tratamento são marginais (McGuire, 2013).

Relativamente a adultos que cometeram crimes relacionados com o uso de substâncias, há dados que sugerem que as intervenções realizadas no âmbito das comunidades terapêuticas (quer em contexto institucional, quer em contexto comunitário) são eficazes na redução das taxas de reincidência (Lipton et al., 2002a; Perry et al., 2009). Contudo, a qualidade do desenho experimental da maior parte dos estudos é fraca (McGuire, 2013), pelo que os resultados dos

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[5]Para uma descrição do programa, consultar Secção II.

mesmos devem ser interpretados com cautela. Já no que diz respeito a reclusos que cometeram crimes contra a propriedade, a investigação é ainda limitada, sendo que os estudos publicados nesta área são, maioritariamente, com jovens agressores (McGuire, 2013).

Estudos mais recentes têm-se debruçado sobre os efeitos dos programas de intervenção em agressores com perturbações mentais, considerando outros indicadores de eficácia para além da reincidência criminal. Numa revisão que incluiu 26 estudos realizados com uma amostra total de 1.649 agressores, Morgan e colaboradores (2012) encontraram efeitos positivos de abordagens psicoterapêuticas, não só na redução de sintomas psiquiátricos, mas também na promoção de maior ajustamento interpessoal em reclusos, o que se traduziu num menor envolvimento dos mesmos em comportamentos agressivos durante a pena de reclusão. Estas intervenções foram ainda capazes de reduzir em cerca de 11% as taxas de reincidência criminal. Numa outra revisão de 25 estudos que incluíram 15.678 agressores, Martin e colaboradores (2012) observaram a mesma tendência de resultados, embora tenham encontrado uma redução superior na reincidência (cerca de 19%). Finalmente, Yoon e colaboradores (2017) analisaram 37 ensaios clínicos aleatorizados realizados com 2.761 reclusos e concluíram que as intervenções cognitivo-comportamentais em grupo eram as mais eficazes, quer na diminuição de sintomas psiquiátricos (e.g., depressão, ansiedade), quer na redução da reincidência.

Em suma, podemos concluir que as intervenções cognitivo-comportamentais são eficazes na redução das taxas de reincidência criminal, independentemente do contexto de implementação (comunidade vs. instituição), do tipo de crime (e.g., crimes violentos, crimes contra a propriedade) e do nível de risco dos agressores (baixo risco vs. risco elevado). Acresce que este tipo de programas tem eficácia demonstrada em vários países, como o Reino Unido, os Estados Unidos e o Canadá.

## 5. Estudos de meta-análise: Uma perspetiva crítica

Apesar do seu importante contributo para o conhecimento científico sobre a eficácia dos programas de prevenção e/ou reabilitação com agressores juvenis e adultos, os estudos de meta-análise têm sido alvo de várias críticas. Tendo em conta que as meta-análises englobam um conjunto diversificado de estudos, a qualidade do desenho metodológico nem sempre é aceitável. Várias meta-análises incluem investigações cuja qualidade original é fraca, o que compromete a robustez das conclusões (McGuire, 2013; Pratt, 2012). Para além disso, estes estudos incluem programas de diversa natureza, duração variável e modelo conceptual de base distinto. Várias meta-análises podem incluir estudos de intervenções que apresentam efeitos nulos ou negativos que, por sua vez, diminuem a magnitude média do efeito. Acresce que, mesmo quando os programas são apresentados como cognitivo-comportamentais e/ou desenhados de acordo com o modelo RNR, os modelos teóricos subjacentes a esses mesmos programas são, por vezes, imprecisos e pouco claros (Polascheck, 2011).

Ainda que as meta-análises possam incluir desenhos quasi-experimentais de elevada qualidade, a não aleatorização dos participantes pelas condições experimentais (i.e., grupo de tratamento e grupo de controlo) conduz a enviesamentos na seleção dos participantes (Smith

et al., 2009). Em ensaios clínicos não-aleatorizados, é provável que o *staff* selecione indivíduos menos resistentes e/ou mais disponíveis para um determinado programa de intervenção. Esta seleção enviesada compromete os resultados, uma vez que os efeitos positivos podem resultar das caraterísticas dos participantes (e.g., motivação para mudar) e não do tratamento propriamente dito (McGuire et al., 2008). Para além disso, vários estudos utilizam grupos de controlo que não são equivalentes aos grupos de tratamento (Smith et al., 2009). Ensaios clínicos não-aleatorizados comprometem, portanto, a validade interna das investigações (Moher et al., 2010).

Outra limitação dos estudos de meta-análise prende-se com a reduzida dimensão da maioria das amostras utilizadas, o que dificulta a generalização dos resultados obtidos (Koehler et al., 2013). Em muitos estudos, o período de *follow-up* é considerado reduzido (seis a nove meses), o que dificulta a avaliação da manutenção dos ganhos ao longo do tempo e/ou da generalização das competências aprendidas a outros contextos de vida (McGuire, 2013).

No que diz respeito à medida de resultado, os estudos de meta-análise têm analisado, sobretudo, a redução das taxas de reincidência criminal. Contudo, parece não haver consenso na operacionalização do conceito (Landenberger & Lipsey, 2005; Pratt, 2012). Enquanto alguns estudos definem reincidência como uma nova condenação/nova pena de reclusão, outras investigações consideram reincidentes os indivíduos que tiveram contactos/problemas posteriores com a justiça (mesmo quando esses contactos não resultam em novas condenações) e/ou que violaram uma medida de liberdade condicional. Tendo em conta que a maioria dos estudos tem analisado exclusivamente a reincidência, o conhecimento científico acerca das mudanças que ocorrem no funcionamento psicológico dos agressores e que os leva a desistir do crime é ainda reduzido (Antonio & Crosset, 2017; Skeem, Polaschek, & Manchak, 2009; Tong & Farrignton, 2008). Embora a capacidade de um programa em diminuir a reincidência seja de extrema importância, é igualmente relevante identificar mudanças a nível cognitivo, emocional e comportamental que ocorrem nos agressores após uma intervenção e que podem estar subjacentes à desistência de uma carreira criminal. Tendo em conta as limitações dos estudos quase experimentais, esta nova tendência de investigação deve privilegiar o recurso a planos experimentais aleatórios (i.e., ensaio clínico aleatorizado).

## 6. Síntese

Atualmente, estão disponíveis mais de 100 estudos de meta-análise (realizados entre 1985 e 2017) que apontam para a eficácia dos programas de prevenção e/ou reabilitação na redução das taxas de reincidência criminal em agressores juvenis e adultos, independentemente do contexto de implementação (instituição vs. comunidade) ou das caraterísticas dos indivíduos (e.g., agressores violentos vs. não-violentos). Existe um consenso alargado de que os programas de intervenção cognitivo-comportamental são capazes de atingir maiores índices de eficácia, quando comparados com outro tipo de programas (Andrews & Bonta, 2010a; Antonio & Crossett, 2017; Bonta et al., 2011; Koehler et al., 2013; Raynor, Ugwudike, & Vanstone, 2014; Trotter, 2013; Yoon et al., 2017). A investigação tem ainda

demonstrado que é possível maximizar os efeitos até então encontrados, se os programas obedecerem aos princípios das intervenções eficazes (Andrews & Bonta, 2010a; Andrews, Bonta, & Wormith, 2006; Lowenkamp, Latessa, & Holsinger, 2006b). Estes resultados reforçam a importância do desenvolvimento de sistemas de acreditação dos programas de prevenção/reabilitação (tendo em conta os princípios das intervenções eficazes), bem como de métodos de avaliação/monitorização dos mesmos. Para o efeito, é fundamental que a investigação informe a prática e vice-versa (McGuire, 2013).

Apesar dos dados promissores, a maior parte dos estudos de meta-análise utilizam planos quasi-experimentais (i.e., ensaios clínicos não-aleatorizados), pelo que os resultados dos mesmos devem ser interpretados com cautela (atendendo às limitações metodológicas destes planos). De forma a reunir evidência empírica robusta acerca da eficácia dos programas de intervenção com agressores, a implementação de ensaios clínicos aleatorizados em contextos forenses parece ser fundamental.

## Secção II |

## Ensaios clínicos aleatorizados em contextos forenses: Desafios, alcances e limites

## 1. Introdução

Um ensaio clínico aleatorizado (*randomized controlled trial*/RCT) consiste num estudo experimental que tem por objetivo testar os efeitos de um programa de intervenção. Num RCT, os participantes são distribuídos aleatoriamente pelas condições experimentais (grupo de tratamento e grupo de controlo), minimizando assim o enviesamento na seleção dos participantes. Por este motivo, um RCT é reconhecido como o método mais adequado e robusto na avaliação de resultados de um programa de intervenção (MacKenzie & Farrignton, 2015; Moher et al., 2010; Perry et al., 2010; Pettus-Davis et al., 2016). Não obstante, ensaios clínicos não aleatorizados continuam a ser frequentemente utilizados nos estudos de eficácia dos programas de reabilitação, quer com agressores juvenis, quer com agressores adultos (Pettus-Davis et al., 2016; Weisburd, 2010). A predominância deste tipo de estudos parece ser mais bem explicada por dificuldades na implementação de RCT em contextos forenses (Weisburd, 2010). Geralmente, a implementação de um RCT implica vários recursos humanos e económicos que, na ausência de financiamento apropriado, são difíceis de garantir (Lum & Yang, 2005). Outra dificuldade pode estar relacionada com a fraca articulação entre investigadores e profissionais, sendo que estes últimos podem não compreender totalmente a importância dos RCT (Farrington, 2003; Palmer & Petrosino, 2003; Shepherd, 2003; Weisburd, 2010). Apesar destes desafios, o número de RCT realizados em contextos forenses tem aumentado exponencialmente na última década (MacKenzie & Farrignton, 2015; Perry et al., 2010; Weisburd, 2010).

Esta secção começa por descrever detalhadamente em que consiste um RCT, bem como as normas do Grupo *Consolidated Standards of Reporting Trials* (CONSORT; Moher et al., 2010). De seguida, são apresentados os principais RCT realizados com amostras forenses, com especial destaque para os estudos que avaliaram a eficácia de programas de intervenção cognitivo-comportamental com reclusos do sexo masculino.

## 2. Ensaio clínico aleatorizado: Conceito e normas CONSORT

Um RCT pode ser definido como um estudo experimental que tem como principal objetivo testar a eficácia de um tratamento ou de um programa de intervenção numa amostra aleatória de participantes (Altman, 2001; Moher, Jones, & Lepage, 2001a; Moher, Schulz, & Altman, 2001b; Moher et al., 2010). Esta amostra deve ser selecionada aleatoriamente a partir da população ou do universo (e.g., selecionar uma amostra aleatória de reclusos do universo total de reclusos a cumprir pena de reclusão num dado estabelecimento prisional) por um investigador cego (i.e., sem acesso a informação pessoal sobre os participantes). Os participantes são então convidados a participar voluntariamente no estudo. Os indivíduos que concordam em participar são inicialmente avaliados para elegibilidade (de acordo com os critérios de inclusão/exclusão do estudo), após assinarem um formulário de consentimento informado. Os participantes elegíveis são então avaliados em diferentes tipos de indicadores de funcionamento (idealmente através de diferentes métodos de recolha de informação) antes do início do tratamento ou do programa de intervenção. Após esta avaliação, os participantes

são distribuídos aleatoriamente pelas condições experimentais (grupo de tratamento e grupo de controlo) por um investigador que, mais uma vez, não deve ter acesso a informação pessoal sobre os participantes. A aleatorização é particularmente importante porque reduz possíveis enviesamentos na seleção dos participantes. A inexistência de aleatorização pelas condições experimentais coloca em causa as comparações entre os grupos e, consequentemente, os resultados obtidos (Kleijnen, Gøtzsche, Kunz, Oxman, & Chalmers, 1996; Schulz, 1998). Por exemplo, em ensaios clínicos não aleatorizados é possível que sejam selecionados para o tratamento os participantes mais motivados ou aqueles que, à partida, se espera que beneficiem do tratamento. Esta seleção enviesada compromete, grandemente, a validade interna de um estudo (Moher et al., 2001a, 2001b, 2010).

No que diz respeito à avaliação dos participantes, é recomendável que os mesmos sejam avaliados antes, durante e após o tratamento. De forma a avaliar a manutenção dos ganhos ou das melhorias observadas ao longo do tempo, os RCT devem incluir um ou mais períodos de *follow-up*, devendo ser evitados períodos curtos (e.g., três ou seis meses). Estas avaliações devem ser realizadas por técnicos com treino e experiência nos diferentes métodos de recolha de informação. Os avaliadores devem desconhecer a condição experimental dos participantes (tratamento ou controlo), de modo a diminuir a probabilidade de indução de respostas nos mesmos. Assim, os avaliadores não podem ser responsáveis pela implementação do tratamento e vice-versa. A qualidade da implementação do tratamento deve ser continuamente avaliada e monitorizada por uma equipa de peritos, de modo a garantir que não há desvios ao protocolo de intervenção previamente estabelecido (Moher et al., 2010).

Antes da implementação do RCT, uma análise do poder estatístico deve ser realizada de modo a determinar um número adequado de participantes. Os dados devem ser analisados de acordo com o princípio do *intention-to-treat analysis*, segundo o qual todos os participantes, mesmo os que não completaram o protocolo, são incluídos nas análises. Se os investigadores incluírem nas análises apenas os participantes que completaram o protocolo podem estar a introduzir enviesamentos significativos nos resultados. A investigação tem vindo a demonstrar que os participantes que completam o tratamento são aqueles que estão mais motivados para o mesmo (Evans, Li, & Hser, 2009; McMurran & Theodosi, 2007; Olver, Stockdale, & Wormith, 2011). Deste modo, os ganhos observados são mais bem explicados pelas caraterísticas dos participantes (e.g., motivação para frequentar o tratamento), podendo não existir um efeito real do tratamento (Moher et al., 2010).

Numa tentativa de uniformizar os procedimentos metodológicos inerentes à implementação de um RCT, um grupo de investigadores e de editores de revistas científicas desenvolveram um conjunto de recomendações para a elaboração de RCT, dando início ao Grupo CONSORT (*Consolidated Standards of Reporting Trials)*. O CONSORT consiste num conjunto de *guidelines* para a elaboração de RCT, apresentadas sob a forma de uma *checklist* de 22 itens, inicialmente publicada em 1996 e posteriormente revista em 2001 e 2010 (Altman, 2001; Moher et al., 2001a, 2001b, 2010). Essa *checklist* inclui a informação que deve constar nas diferentes secções de um artigo que descreve um RCT: título e resumo, enquadramento

conceptual, métodos, resultados e conclusões[6]. Desde a sua publicação inicial em 1996, as normas do CONSORT têm sido incorporadas nas *guidelines* para os autores de manuscritos em mais de 400 revistas científicas, tendo contribuído para um aumento significativo da qualidade dos RCT publicados nas mais diversas áreas (Hopewell, Altman, Moher, & Schulz, 2008; Plint et al., 2010). O CONSORT tem também sido apoiado por reconhecidas associações científicas, nomeadamente a Associação Americana de Psicologia. Nos últimos anos, as normas do CONSORT têm vindo a ser utilizadas nos RCT realizados em contextos forenses (MacKenzie & Farrington, 2015; Perry et al., 2010). Esses estudos são apresentados nos pontos seguintes desta secção.

## 3. RCT em contextos forenses: Validade descritiva

A maior parte dos estudos disponíveis sobre a eficácia dos programas de prevenção e de reabilitação com agressores juvenis e adultos utilizaram métodos quasi-experimentais (i.e., ensaios clínicos não-aleatorizados). Num estudo de revisão, Sherman e colaboradores (1997) verificaram que apenas 15% dos estudos publicados nesta área utilizaram métodos experimentais (i.e., RCT). Outros estudos (e.g., Petrosino, Boruch, Farrington, Sherman, & Weisburd, 2003) identificaram a mesma proporção de RCT realizados em contextos forenses. Adicionalmente, os autores verificaram que a dimensão da amostra utilizada na maior parte dos estudos era reduzida. No entanto, estes números têm vindo a aumentar, sendo que Farrignton e Welsh (2005) identificaram 82 RCT realizados na área da criminologia. A maior parte dos estudos incluiu cerca de 100 participantes (50 no grupo de tratamento e 50 no grupo de controlo). Por sua vez, MacKenzie (2006) identificou 284 RCT, embora uma percentagem significativa dos estudos não descrevesse os procedimentos de seleção e/ou os métodos de avaliação dos participantes. Ainda que o número de RCT realizados em contextos forenses tenha aumentado, a validade descritiva (i.e., o detalhe com que os procedimentos metodológicos e os resultados são descritos) dos mesmos parece ser inadequada na maior parte dos casos. Estudos com validade descritiva reduzida diminuem a clareza e a robustez dos procedimentos e dos resultados (Moher et al., 2010; Perry et al., 2010).

Numa primeira tentativa de avaliar a validade descritiva de RCT em contextos forenses de acordo com as normas do Grupo CONSORT (Moher et al., 2010), Perry e Johnson (2008) analisaram 17 estudos realizados no âmbito da justiça juvenil. De uma forma geral, os autores encontraram uma validade descritiva reduzida, sobretudo no que se refere aos procedimentos de aleatorização, ao cálculo do poder da análise e à estimativa da magnitude do efeito. Para além disso, a maior parte dos estudos apresentou uma validade externa baixa, tendo em conta o tamanho reduzido das amostras utilizadas (Perry & Johnson, 2008). Por sua vez, Perry e colaboradores (2010) analisaram a validade descritiva de 83 RCT realizados entre 1982 e 2004, que foram previamente identificados no estudo de revisão de Farrignton e Welsh (2005). Os autores verificaram que 54% dos estudos apresentavam uma validade descritiva reduzida. Especificamente, os estudos apresentavam informação insuficiente em relação aos seguintes

[6]Disponível em www.consort-statement.org.

itens: (a) formato, duração e intensidade das intervenções realizadas, quer com o grupo de tratamento, quer com o grupo de controlo; (b) procedimentos de aleatorização e de avaliação dos participantes; (c) variáveis em estudo e/ou instrumentos de avaliação; (d) procedimentos de análise de dados; (e) taxas de *dropout*; (f) magnitude média do efeito. Tendo em conta a baixa validade descritiva apresentada pela maioria dos estudos, a validade interna e externa dos mesmos foi considerada também reduzida (Perry et al., 2010). Os autores concluíram ainda que os RCT realizados em contextos forenses apresentam, geralmente, uma validade descritiva mais baixa comparativamente aos estudos realizados na área da saúde, cuja validade tende a ser elevada.

Numa publicação mais recente, MacKenzie e Farrignton (2015) analisaram apenas os RCT com validade descritiva moderada ou elevada. Estes estudos testaram a eficácia de diferentes tipos de programas de intervenção com agressores juvenis e adultos, quer em contexto comunitário, quer em contexto institucional. Os principais resultados obtidos são sintetizados no Quadro 2.

Quadro 2 | RCT com validade descritiva moderada ou elevada realizados com amostras forenses

| Fonte | Foco do RCT | Nr. º de participantes | Resultados |
|---|---|---|---|
| Sexton e Alexander (2000) | Terapia familiar funcional com agressores juvenis | 60 famílias | Sem impacto na reincidência criminal, exceto quando a adesão do terapeuta ao protocolo era elevada. |
| Chamberlain, Leve e DeGarmo (2007) | Terapia multisistémica com agressoras violentas | 81 | Reduções significativas nas taxas de reincidência. |
| MacKenzie, Bierie e Mitchel (2007) | Tratamento usual penitenciário vs. *boot camp* com reclusos do sexo masculino | 234 | Tratamento usual penitenciário – sem impacto na reincidência. Deterioração do comportamento antissocial e aumento dos sentimentos de raiva ao longo do tempo.<br>*Boot camp* – reduções marginais nas taxas de reincidência. |
| Davidson e colaboradores (2009)* | Intervenção cognitivo-comportamental na comunidade com indivíduos violentos com Perturbação de Personalidade Antissocial | 52 | Redução do comportamento agressivo e do consumo de álcool. Maior ajustamento interpessoal. |
| Klevens e colaboradores (2009) | Intervenções comportamentais com pais e professores (prevenção do comportamento antissocial em crianças) | 2491 | Diminuição dos comportamentos antissociais. Incremento nas competências interpessoais das crianças. |
| Barnes e colaboradores (2010) | Programa de "supervisão intensiva" com agressores adultos | 1.559 | Sem reduções significativas na reincidência criminal. |
| Killias, Gillieron, Kissling e Villetaz (2010) | Programa de "supervisão intensiva" vs. pulseira eletrónica com agressores adultos | 222 | Programas de "supervisão intensiva" – sem reduções significativas na reincidência criminal.<br>Pulseira eletrónica – reduções marginais nas taxas de reincidência. |

| | | | |
|---|---|---|---|
| Sawyer e Borduin (2011) | Terapia multisistémica vs. terapia sistémica individual com agressores juvenis violentos | 177 | Redução significativa das taxas de reincidência no grupo de tratamento (terapia multisistémica) comparativamente ao grupo de controlo (terapia sistémica individual). |
| Mills, Barocas e Ariel (2013) | Programa de intervenção com agressores conjugais | 152 | Redução significativa na reincidência criminal. |
| Pratt e colaboradores (2015)* | Prevenção do suicídio (intervenção cognitivo-comportamental) com reclusos do sexo masculino | 62 | Diminuição dos comportamentos suicidas, de sintomas psiquiátricos e de traços de personalidade disfuncionais. |

*Nota*. Elaborado a partir de "Preventing future offending of delinquents and offenders: What we have learned from experiments and meta-analysis?", D. L. MacKenzie & D. Farrington, 2015, *Journal of Experimental Criminology*, *11*, 231.

*RCT exploratório.

A partir da análise do Quadro 2, podemos concluir que o número de RCT com validade descritiva moderada ou elevada realizados com amostras forenses é ainda reduzido, sobretudo em comparação aos estudos de meta-análise publicados. No entanto, os resultados destes RCT reforçam os dados anteriormente obtidos nas meta-análises: os programas de intervenção psicológica são eficazes na redução das taxas de reincidência criminal (Chamberlain et al., 2007; Mills et al., 2013; Sawyer & Borduin, 2011) e na promoção de mudanças no funcionamento psicológico de agressores (Davidson et al., 2009; Klevens et al., 2009; Pratt et al., 2015). Os programas que parecem não funcionar na reabilitação de agressores são os que recorrem a estratégias punitivas e a procedimentos de dissuasão ou aqueles que se limitam a recorrer à "supervisão intensiva" dos agressores. Este tipo de intervenções tem efeitos nulos nas taxas de reincidência criminal e, em alguns casos, parecem contribuir para o incremento do comportamento agressivo e antissocial (Barnes et al., 2010; Killias et al., 2010; MacKenzie et al., 2007). Adicionalmente, MacKenzie e Farrington (2015) verificaram que os programas educacionais e vocacionais, quando não são combinados com outro tipo de intervenções (que procuram provocar mudanças no funcionamento psicológico dos agressores), são ineficazes na diminuição do comportamento antissocial e na redução das taxas de reincidência.

Importa referir que vários dos RCT supramencionados analisaram outro tipo de indicadores de eficácia, para além da reincidência criminal. Uma nova tendência de investigação tem procurado identificar as mudanças que ocorrem no funcionamento psicológico dos agressores e que os leva a desistir do comportamento agressivo e antissocial. Acresce que nos últimos anos, a reincidência criminal tem-se mostrado um indicador de eficácia pouco robusto, não só pela dificuldade na operacionalização do conceito (Landenberger & Lipsey, 2005; Pratt, 2012), mas também por depender de estatísticas oficiais que podem não representar de uma forma fidedigna o número de agressores que reincidem (Kingston et al., 2018). Assim, um maior volume de RCT que analisem a eficácia de programas de intervenção em diferentes tipos de indicadores no funcionamento (cognitivo, emocional, comportamental) dos agressores continua a ser necessário (MacKenzie & Farrington, 2015).

## 4. RCT com reclusos de sexo masculino: A eficácia dos programas cognitivo-comportamentais

Como tem vindo a ser referido, os programas de intervenção cognitivo-comportamental são os mais utilizados na reabilitação de agressores, atendendo à sua eficácia comprovada (Andrews & Bonta, 2010a; Antonio & Crossett, 2017; Bonta et al., 2011; Koehler et al., 2013; Raynor, Ugwudike, & Vanstone, 2014; Trotter, 2013; Yoon et al., 2017). No entanto, a maior parte dos estudos que sustenta o recurso a este tipo de programas em contextos forenses são baseados em estudos quasi-experimentais ou ensaios clínicos não aleatorizados. No entanto, existem alguns estudos publicados que consistem em RCT (cuja validade descritiva é adequada) e que procuraram avaliar a eficácia dos programas cognitivo-comportamentais mais frequentemente utilizados na reabilitação de agressores adultos em países Europeus e nos Estados Unidos: o *Reasoning and Rehabilitation* (R&R; Ross et al., 1989) e o *Enhanced Thinking*

*Skils* (ETS; Clark, 2000). O *Thinking for a Change* (Bush, Glick, Taymans, & Guevara, 1996) é outro programa de intervenção cognitivo-comportamental frequentemente utilizado na reabilitação de agressores. No entanto, e de acordo com a nossa pesquisa bibliográfica, não está disponível nenhum estudo de eficácia do programa que tenha consistido num RCT. No ponto seguinte, são descritos o R&R e o ETS, bem como os estudos que analisaram a sua eficácia.

### 4.1. *Reasoning and Rehabilitation* (Ross et al., 1989)

O R&R (Ross et al., 1989) é um dos programas de intervenção mais utilizados na reabilitação de agressores juvenis e adultos, atendendo à sua eficácia comprovada em vários países (Wilson et al., 2005). O R&R é um programa de natureza cognitivo-comportamental que parte da premissa que os agressores recorrem a distorções cognitivas quando processam informação social, de modo a manter o padrão de comportamento antissocial, através da negação/justificação do próprio comportamento ou da atribuição da culpa/responsabilidade a terceiros (Ross et al., 1989). Deste modo, o objetivo principal do R&R é diminuir o comportamento antissocial através de um trabalho focado na redução de processos cognitivos disfuncionais (i.e., distorções cognitivas). O R&R é constituído por 36 sessões, de duas horas cada, que se distribuem por oito módulos: (1) resolução de problemas; (2) assertividade; (3) competências sociais; (4) competências de negociação; (5) pensamento criativo; (6) regulação emocional; (7) valores morais; e (8) pensamento crítico. O programa deve ser implementado em grupo (cinco a oito elementos), sendo que as sessões devem ser aplicadas duas a três vezes por semana (Ross et al., 1989).

Conforme já foi mencionado, o R&R tem sido amplamente investigado e os resultados mostraram que o programa tem efeitos positivos num número diversificado de indicadores, nomeadamente: impulsividade, empatia, atitudes criminais, egocentrismo, competências sociais e pensamento crítico (Berman, 2005; Porporino, Fabiano, & Robinson, 1991; Pullen, 1996; Robinson, Grossman, & Porporino, 1991). Adicionalmente, um estudo de meta-análise mostrou que o R&R é capaz de reduzir em 14% as taxas de reincidência criminal (Tong & Farrignton, 2006). Não obstante, estes dados empíricos são baseados em ensaios clínicos não aleatorizados, aos quais estão associados um conjunto de limitações metodológicas (Moher et al., 2010; Polascheck, 2011; Pratt, 2012; Smith et al., 2009). Para além disso, estes estudos não testaram o impacto do R&R em amostras de agressores com psicopatologia, embora haja considerável evidência empírica de que as perturbações mentais são altamente prevalentes em contextos forenses (e.g., Brazão et al., 2015; Rijo et al., 2016).

Numa tentativa de colmatar estas lacunas, Cullen e colaboradores (2011) implementaram um RCT multicêntrico em seis hospitais psiquiátricos para doentes com comportamento criminal. Este estudo teve como objetivo testar a capacidade do R&R em, por um lado, reduzir as atitudes criminais e os sentimentos de raiva e, por outro lado, incrementar a capacidade de resolução de problemas sociais e a empatia. A amostra incluiu 84 doentes do sexo masculino que foram distribuídos aleatoriamente pelo grupo de tratamento ($n$ = 44) e pelo

grupo de controlo (*n* = 40). Os mesmos responderam a uma bateria de questionários de autorresposta em três momentos de avaliação: pré-tratamento, pós-tratamento e *follow-up* de 12 meses. Importa referir que as avaliações não foram cegas, pelo que os avaliadores conheciam a condição experimental a que pertenciam os participantes. Os resultados apontaram para diferenças significativas entre os grupos, no sentido de o grupo de tratamento apresentar uma redução nas atitudes criminais e um incremento na capacidade de resolução de problemas sociais, comparativamente ao grupo de controlo. Estas mudanças mantiveram-se estáveis nos 12 meses após a conclusão do R&R. Para os restantes indicadores, não foram encontradas diferenças significativas entre os grupos ao longo do tempo, sendo que ambos não apresentaram mudanças nos sentimentos de raiva nem na empatia (Cullen et al., 2011). Numa outra publicação, os mesmos autores (Cullen et al., 2012) analisaram os efeitos do R&R na violência física e verbal, bem como no consumo de substâncias na mesma amostra de doentes. Os autores encontraram diferenças significativas entre os grupos para todas as dimensões avaliadas: o grupo de tratamento apresentou uma redução significativa de comportamentos violentos e de consumo de substâncias, comparativamente ao grupo de controlo. Os efeitos do tratamento mantiveram-se estáveis ao longo do tempo (12 meses após a conclusão do R&R).

Apesar destes dados promissores, o R&R não foi desenvolvido para agressores com perturbações mentais, pelo que pode não responder de uma forma adequada às necessidades de intervenção em saúde mental destes indivíduos. Por este motivo, Young e Ross (2007) desenvolveram o programa *Reasoning and Rehabilitation for youths and adults with mental health problems* (R&R2 MHP). Esta versão revista do programa, que se destina a agressores juvenis e adultos com perturbações mentais, é constituída por 16 sessões, de 90 minutos cada, que se distribuem por cinco módulos: (1) capacidades neurocognitivas (e.g., atenção, memória); (2) resolução de problemas; (3) controlo emocional; (4) competências pró-sociais; e (5) pensamento crítico.

Num RCT implementado em 10 hospitais psiquiátricos para doentes violentos, Rees-Jones e colaboradores (2012) estudaram os efeitos do R&R2 MHP no comportamento violento e nos sentimentos de raiva, bem como no autocontrolo e na resolução de problemas numa amostra de 121 doentes do sexo masculino (67 doentes no grupo de tratamento e 54 doentes no grupo de controlo). Os participantes responderam a uma bateria de questionários de autorresposta no pré-tratamento, no pós-tratamento e no *follow-up* de três meses. No pós-tratamento, foram encontradas diferenças significativas entre os grupos, no sentido de os participantes do grupo de tratamento apresentarem melhorias em todos os indicadores, comparativamente aos controlos. Não obstante, os ganhos apenas se mantiveram ao nível do comportamento violento e do autocontrolo no *follow-up* de três meses.

Numa publicação mais recente, Kingston e colaboradores (2018) estudaram os efeitos do R&R2 MHP em atitudes antissociais e sintomas psicopatológicos, bem como na reincidência criminal (geral e violenta), numa amostra de 100 reclusos do sexo masculino (50 em cada condição experimental). Os participantes responderam a uma bateria de questionários de autorresposta antes do início do R&R2 MHP (pré-tratamento) e após o programa (pós-

tratamento). A reincidência (geral e violenta) foi avaliada cerca de 18 meses após a libertação dos participantes. Os resultados mostraram que os participantes do grupo de tratamento apresentaram uma redução de atitudes antissociais e de sintomas psicopatológicos no pós-tratamento, comparativamente ao grupo de controlo. No entanto, não foram encontradas diferenças significativas entre os grupos nas taxas de reincidência criminal geral e violenta nos 18 meses após a libertação dos reclusos (Kingston et al., 2018).

### 4.2. *Enhanced Thinking Skils* (Clark, 2000)

O programa *Enhanced Thinking Skills* (ETS; Clark, 2000) é uma adaptação do programa R&R (Ross et al., 1989) e tem como principal objetivo corrigir as distorções cognitivas subjacentes ao processamento de informação social dos agressores. O programa foi desenvolvido para agressores de ambos os sexos que apresentem um risco médio e/ou elevado de reincidência criminal. Especificamente, o ETS pretende treinar/desenvolver um conjunto de competências nos participantes, nomeadamente: (1) controlo dos impulsos; (2) pensamento flexível; (3) valores morais; (4) resolução de problemas interpessoais; (5) perspetiva social; e (6) pensamento crítico. O ETS é um programa manualizado de 20 sessões (cada sessão com uma duração média de duas horas) que devem ser aplicadas três a cinco vezes por semana durante quatro a seis semanas. O programa deve ser implementado por dois psicólogos em grupos não superiores a 10 elementos. As sessões são interativas e envolvem exercícios de *role-play,* seguidos de discussão/debate em grupo. É ainda pedido aos participantes que resolvam vários exercícios/tarefas entre as sessões do programa (Clark, 2000).

Um RCT foi implementado em 10 Estabelecimentos Prisionais na Inglaterra e no País de Gales entre abril de 2005 e novembro de 2006. O principal objetivo deste estudo (McDougall, Perry, Clarbour, Bowles, & Worthy, 2009) foi testar a capacidade do ETS em, por um lado, reduzir a impulsividade e a agressividade em contexto prisional e, por outro lado, incrementar o bem-estar e o autocontrolo. A amostra incluiu 408 reclusos do sexo masculino que foram distribuídos aleatoriamente pelo grupo de tratamento ($n$ = 299) e pelo grupo de controlo ($n$ = 179). Os mesmos foram avaliados em três momentos diferentes (pré-tratamento, pós-tratamento e *follow-up* de três meses), nos quais responderam a uma bateria de questionários de autorresposta. A qualidade da implementação do ETS foi também avaliada através da gravação das sessões do programa. Os resultados apontaram para uma diminuição significativa da impulsividade e agressividade no pós-tratamento e no *follow-up* de três meses nos reclusos que frequentaram o programa ETS, comparativamente aos reclusos do grupo de controlo. Os participantes do grupo de tratamento apresentaram também um incremento no bem-estar e no autocontrolo ao longo do tempo, comparativamente aos participantes do grupo de controlo. Relativamente à integridade do tratamento, análises qualitativas mostraram que a implementação não apresentou desvios ao protocolo. Estes resultados sugerem que o ETS não só é capaz de diminuir a impulsividade e a agressividade, como também é eficaz em incrementar o bem-estar e o autocontrolo em reclusos do sexo masculino (McDougall et al., 2009).

### 4.3. Limitações e pistas para investigações futuras

Apesar de apresentarem um plano metodológico robusto e uma validade descritiva adequada, os RCT descritos anteriormente apresentam também limitações que devem ser mencionadas. Em primeiro lugar, a maioria dos estudos utiliza amostras de reduzida dimensão (com a exceção do RCT realizado com o programa ETS) que, conforme já foi explicitado, limitam a generalização dos resultados obtidos (comprometendo, assim, a validade externa das investigações) (Koehler et al., 2013). O período de *follow-up* é também reduzido (a maior parte dos RCT supramencionados utiliza períodos de *follow-up* de três meses), o que dificulta a avaliação da manutenção dos ganhos ao longo do tempo (McGuire, 2013). Para além disso, a avaliação dos participantes foi realizada por investigadores que conheciam a condição experimental a que os mesmos pertenciam. De acordo com as normas do CONSORT (Moher et al., 2010), avaliações que não sejam cegas à condição experimental podem aumentar a probabilidade de os participantes responderem de acordo com o que consideram ser as expetativas dos avaliadores (e.g., um participante do grupo de tratamento responder no sentido de apresentar uma melhoria num dado indicador por considerar que essa é a expetativa do avaliador). Ainda em relação à avaliação, importa referir que as medidas de resultado foram recolhidas exclusivamente através do método de autorrelato. Existe um consenso alargado de que a recolha de informação exclusivamente através deste tipo de medidas introduz enviesamentos significativos nos dados (Antonio & Crosset, 2017; Moher et al., 2010).

Os estudos supramencionados não avaliaram nenhum indicador comportamental, como por exemplo as infrações disciplinares cometidas pelos reclusos. Conforme é defendido por vários autores (e.g., McGuire, 2011, 2013), o objetivo último de qualquer programa de reabilitação é modificar o comportamento atual, sendo que este indicador deve ser diretamente observável. A avaliação comportamental é extremamente relevante, tendo em conta que as infrações disciplinares são altamente prevalentes em contexto prisional. Comportamentos violentos por parte dos reclusos reduzem significativamente a ordem e a segurança do estabelecimento prisional e introduzem custos significativos para o sistema (Auty, Cope, & Liebling, 2017; Lahm, 2008; Memory, Guo, Parker, & Sutton, 1999; Tewksburry, Connor, & Denney, 2014; Toman, Cochran, Cochran, & Bales, 2015). As infrações disciplinares podem assumir muitas formas, desde comportamentos violentos (e.g., agressões violentas a outros reclusos ou elementos da equipa técnica) a comportamentos de desafio/oposição às normas e regras de funcionamento de um estabelecimento prisional. Geralmente, o método utilizado para lidar com este tipo de comportamentos consiste na segregação do recluso da população prisional. Investigação recente (e.g., Morgan et al., 2016) tem vindo a demonstrar que a segregação não tem um efeito tão aversivo como estudos anteriores sugeriram. Não obstante, a segregação pode continuar a ter um impacto negativo na saúde mental e no bem-estar dos reclusos (Dante, 2012; Marcum, Hilinski-Rosick, & Freiburger, 2014). Estão igualmente disponíveis dados empíricos que apontam para uma associação positiva entre as infrações disciplinares e as taxas de reincidência criminal (Dhami, Ayton, & Loewenstein, 2007; Duwe &

Clark, 2011). Por todos estes motivos, intervenções que sejam capazes de reduzir as infrações disciplinares em contexto prisional são necessárias.

Conforme já foi mencionado, o principal objetivo destes programas (i.e., R&R, R&R2 MHP, ETS) é modificar o processamento disfuncional de informação dos agressores. No entanto, nenhum dos RCT supramencionados analisou a capacidade dos programas para reduzirem as distorções cognitivas ou erros de pensamento nos participantes. Importa referir que distorções cognitivas associadas ao comportamento antissocial são conceptualizadas como necessidades criminógenas pelo Modelo do Risco-Necessidade-Responsividade (Andrews & Bonta, 2010a), pelo que devem ser identificados como alvos de mudança. Estes mesmos estudos também não testaram o efeito dos programas em Esquemas Mal-Adaptativos Precoces (EMP)[7] que, de acordo com o modelo cognitivo-comportamental, estão subjacentes ao processamento de informação disfuncional. EMP podem ser conceptualizados como temas negativos acerca do Eu e dos outros que são formados a partir de um conjunto de experiências precoces disfuncionais com figuras de vinculação (Rafaeli et al., 2011; Young et al., 2003). Assim que um EMP é formado, passa a orientar o processamento de informação social do indivíduo. O comportamento antissocial pode ser conceptualizado como uma visão distorcida do Eu e dos outros que induz leituras enviesadas (i.e., distorções cognitivas) e emoções desajustadas que, por sua vez, predispõem o indivíduo para comportamentos disfuncionais. A título de exemplo, um indivíduo com um EMP de Desconfiança/Abuso acredita que os outros vão humilhar ou rebaixar o *self*, interpretando situações inócuas como ameaçadoras. Consequentemente, exibe um comportamento de ataque numa tentativa de se proteger. De acordo com esta perspetiva, os EMP desempenham um papel importante na génese e na manutenção do comportamento antissocial, pelo que os mesmos devem ser selecionados como alvo terapêutico nos programas de intervenção para agressores. A Terapia Focada em Esquemas tem sido aplicada em contextos forenses (Farrell, Shaw, & Webber, 2009; Giesen-Bloo et al., 2006; Nadort et al., 2009; van Asselt et al., 2008) e os resultados apontam para a sua eficácia na diminuição da proeminência de EMP, de sintomas psiquiátricos e do comportamento agressivo e violento. Adicionalmente, Keulen-de Vos e colaboradores (2013) elaboraram um conjunto de recomendações para a adaptação da Terapia Focada em Esquemas a contextos forenses, sugerindo que o modelo conceptual é útil na conceptualização do comportamento antissocial. Os autores têm estudado a eficácia desta abordagem com doentes com Perturbação Antissocial da Personalidade e com traços psicopáticos, e resultados preliminares de um RCT multicêntrico apontam para a eficácia da intervenção na redução do risco de reincidência criminal, bem como na reintegração dos reclusos na sociedade. Apesar destes dados, são poucos os programas de reabilitação que procuram promover mudança ao nível das estruturas cognitivas (i.e., EMP) que estão subjacentes ao processamento de informação disfuncional em agressores.

[7]Para uma descrição detalhada do conceito e do *link* entre EMP e distorções cognitivas, consultar Seção III.

Por fim, estes estudos não testaram o efeito de variáveis moderadoras[8]. Num RCT, para além do estudo dos efeitos do tratamento, é relevante identificar variáveis que possam ter um efeito moderador nos resultados do programa (Hayes & Rockwood, 2017; Mascha, Dalton, Kurz, & Saager, 2013; Moldovan & Pintea, 2015). A identificação de variáveis moderadoras clarifica para que participantes e/ou em que circunstâncias um programa de intervenção funciona. São também úteis na definição de critérios de inclusão e de exclusão, assim como na identificação dos participantes que são mais ou menos responsivos ao tratamento. Por outras palavras, a identificação de moderadores orienta a seleção do tratamento mais adequado às necessidades de intervenção da população-alvo (Manders, Dekovié, Asscher, van der Lan, & Prins, 2013).

## 5. Síntese

Apesar de ainda ser reduzido o número de RCT com validade descritiva moderada ou elevada (de acordo com as normas do CONSORT) realizados em contextos forenses, os mesmos apontam para efeitos positivos dos programas de prevenção/reabilitação, não só na redução das taxas de reincidência criminal, mas também na melhoria do funcionamento psicológico e emocional dos agressores (Chamberlain et al., 2007; Davidson et al., 2009; Mills et al., 2013; Sawyer & Borduin, 2011). Dentro das abordagens eficazes, destacam-se os programas cognitivo-comportamentais, particularmente o R&R e o ETS (Cullen et al., 2011, 2012; McDougall et al., 2009; Rees-Jones et al., 2012). Não obstante, os RCT realizados com estes programas (apesar de metodologicamente adequados) apresentam um conjunto de limitações, nomeadamente: (a) a dimensão reduzida das amostras utilizadas; (b) o período curto de *follow-up*; (c) o uso exclusivo de medidas de autorresposta; (d) a ausência de indicadores comportamentais observáveis; (e) a exclusão das distorções cognitivas e dos EMP como indicadores de eficácia; (f) a ausência de variáveis moderadoras do tratamento (Antonio & Crossett, 2017; Koehler et al., 2013; McGuire, 2013; Moher et al., 2010). Numa tentativa de ultrapassar estas limitações dos RCT em contextos forenses, a presente dissertação teve como objetivo principal estudar a eficácia de um novo programa, o Gerar Percursos Sociais (GPS; Rijo et al., 2007), que será descrito na seção seguinte deste enquadramento.

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[8]Um moderador é uma variável que tem um impacto na associação entre duas variáveis, na medida em que altera a força ou a direção entre essas mesmas variáveis (Holmbeck, Zebracki, & Mcgoron, 2009). No âmbito de um RCT, um moderador será uma variável que pode afetar o impacto do tratamento num dado indicador.

## Secção III |
## O Programa Gerar Percursos Sociais

## 1. Introdução

Gerar Percursos Sociais (GPS; Rijo et al., 2007) é um programa de prevenção e reabilitação psicossocial para indivíduos considerados em risco ou que apresentem comportamentos desviantes. Foi concebido de forma a ser utilizado em contextos de prevenção do comportamento antissocial, assim como em contextos de reabilitação para jovens e adultos com comportamento desviante. O programa surgiu no âmbito de um projeto mais vasto, financiado pela Iniciativa Comunitária EQUAL, a qual financiou programas e intervenções destinadas a incrementar a igualdade entre cidadãos da Europa comunitária, e resultou do esforço e da cooperação entre várias instituições sediadas em Ponta Delgada, Açores: Instituto de Apoio à Criança, Instituto de Reinserção Social, Instituto de Ação Social e Cooperativa Kairós. Este projeto teve como objetivo principal desenvolver uma proposta inovadora no domínio da formação socioprofissional de jovens em situação de exclusão social e/ou abandono escolar, numa tentativa de promover a integração social dos mesmos. Abrangeu jovens entre os 15 e os 22 anos que, vítimas de maus-tratos e/ou em situação de delinquência, não completaram a escolaridade mínima obrigatória, nem frequentaram, em alternativa, qualquer esquema de formação profissional, colocando-os numa posição de elevada fragilidade no acesso ao mercado de trabalho. Estes motivos revelaram-se determinantes para que estes indivíduos não acedessem a um estatuto ou a uma identidade social saudável (Rijo & Sousa, 2004; Rijo et al., 2007).

Nesta secção, são apresentados os fundamentos para o desenvolvimento do GPS, bem como o modelo conceptual, a estrutura, os conteúdos e as metodologias de intervenção do programa. São ainda apresentados os estudos de eficácia do GPS que foram realizados com menores agressores que cumpriam medidas tutelares educativas de internamento.

## 2. Fundamentos para a elaboração do programa

A decisão de construir o GPS surgiu por razões de diversa ordem. Em primeiro lugar, vários dos autores tinham já aplicado os programas disponíveis ou adaptações dos mesmos, quer em contextos de prevenção, quer em contextos de reabilitação. O conhecimento aprofundado deste tipo de programas e a experiência acumulada gerou um debate que, juntamente com uma reflexão baseada em trabalhos teóricos e de investigação, revelou a necessidade de adaptar um programa de intervenção às características particulares da população-alvo. Para além disso, os autores procuraram superar algumas das limitações com que se depararam na sua experiência com os programas ou adaptações já conhecidas.

Muitos programas de prevenção e/ou reabilitação psicossocial mostram-se lacunares e inadequados para utilizar com adolescentes e jovens adultos, na medida em que trabalham diversas competências que se consideram deficitárias nos indivíduos com algum grau de comportamento antissocial, numa perspetiva de aquisição de competências (e.g., sociais, cognitivas, de regulação emocional) totalmente independentes umas das outras e não relacionadas entre si. Geralmente, as bases teóricas desses programas não contemplam uma visão holística do ser humano, baseando-se apenas em estudos que revelaram défices no

processamento da informação social, ignorando que as distorções no processamento de informação social constituem apenas um dos níveis do funcionamento cognitivo do sujeito (Beck, 1999, 2011; Beck et al., 2004, 2015; Rafaeli et al., 2011; Young et al., 2003). Não procuram, portanto, alcançar a mudança ao nível de variáveis estruturais responsáveis pelos défices ou distorções subjacentes à forma como estes indivíduos processam informação social (Brazão et al., 2013; Rijo et al., 2015, 2017). Para além disso, as metodologias de trabalho que estes programas utilizam, são, regra geral, incapazes de suscitar uma boa adesão por parte dos participantes, pois incluem tarefas que são monótonas ou que se assemelham demasiado a tarefas escolares (Brazão et al., 2013; Rijo et al., 2007). Assim, na construção do GPS, os autores tiveram em conta não só a necessidade de utilizar um modelo teórico mais complexo, como procuraram desenvolver uma metodologia de trabalho capaz de suscitar o entusiasmo e a curiosidade dos participantes, tornando as sessões do programa tão apelativas quanto possível.

Outro motivo que levou ao desenvolvimento do GPS prendeu-se com a tentativa de sublinhar que o desvio comportamental não se compreende nem se combate unicamente com formação profissional ou qualificação académica. De acordo com Rijo e colaboradores (2007), "qualquer trabalho de reinserção socioprofissional está condenado a elevados níveis de fracasso se não tentar provocar mudança a outros níveis de funcionamento do indivíduo que não só o da sua qualificação ou experiência profissional" (p. 6). Segundo os autores, muitos indivíduos com problemas de comportamento possuem as capacidades cognitivas necessárias à aprendizagem bem-sucedida, quer no domínio escolar quer no domínio profissional. Não obstante, e apesar de vários indivíduos beneficiarem com programas de formação profissional, muitos deles não utilizam *a posteriori* as competências aprendidas ou não permanecem num emprego devido a outro tipo de dificuldades no seu funcionamento (e.g., dificuldades ao nível da regulação emocional). Adicionalmente, a investigação tem demonstrado que os programas educacionais e vocacionais (quando não são combinados com outro tipo de intervenções) têm efeitos nulos nas taxas de reincidência criminal (e.g., Bloom et al., 1994; MacKenzie & Farrington, 2015).

Outra perspetiva dominante na área da reinserção social pode ser designada como o modelo das competências sociais, que parte do princípio que os indivíduos mais desajustados apresentam défices a este nível, o que os prejudica no seu funcionamento e adaptação social ou no estabelecimento de relações saudáveis. Com base neste pressuposto, vários programas de prevenção/reabilitação procuram promover e desenvolver as aptidões sociais deficitárias. Contudo, existe evidência empírica que mostra que muitos dos indivíduos socialmente desajustados não possuem défices significativos a esse nível e, portanto, um modelo tão simplista não é capaz de explicar satisfatoriamente o desvio social (e.g., Beelmann & Lösel, 2006; Bullis, Walker, & Sprague, 2001). Também tem vindo a ser demonstrado que muitos dos indivíduos com comportamento desviante possuem boas competências interpessoais, embora as utilizem para atingir fins socialmente menos aceitáveis (Beelmann & Lösel, 2006). Neste sentido, e conforme sublinham Rijo e Sousa (2004), "a qualquer tentativa de prevenção ou reabilitação deve, pois, interessar mais a questão de quando se utilizam determinadas

competências e da frequência, contexto e finalidade com que se utilizam e não tanto se o indivíduo possui ou não essas mesmas competências" (p. 40).

Na área do comportamento antissocial, os desafios mais promissores na atualidade são os programas de intervenção baseados nos modelos cognitivo-comportamentais. A maior parte destas intervenções assenta na hipótese de que as variáveis cognitivas desempenham um papel importante no comportamento antissocial (Antonio & Crosset, 2017; Clark, 2011; Landenberger & Lipsey, 2005; Lipsey et al., 2007; Walters, 2007). Vários autores têm enfatizado a necessidade de se realizarem programas que incluam diversas componentes, uma vez que o comportamento agressivo ocorre em função de uma escalada de processos e não em função de uma única variável (Andrews & Bonta, 2010a; McGuire, 2002b, 2006a, 2011, 2013). No entanto, ainda que estas propostas possuam uma base teórica que remete para o paradigma do processamento da informação e para os modelos cognitivos desenvolvidos em psicologia clínica e forense, não assumem a perspetiva cognitiva sobre o funcionamento humano na sua plenitude. Por outras palavras, não definem qual a relação entre as diversas variáveis que se procuram modificar durante a aplicação do programa (Brazão et al., 2013). Assim, o modelo teórico subjacente ao GPS procurou ultrapassar algumas destas limitações, apresentando um modelo explicativo da génese e manutenção do comportamento desviante. Na medida em que pretende provocar mudança não apenas nos fatores de manutenção do comportamento antissocial, mas também nos fatores que terão predisposto o indivíduo para o desvio, o GPS pode ser utilizado quer em contextos de prevenção quer em contextos de reabilitação (Rijo & Sousa, 2004; Rijo et al., 2007).

## 3. Bases conceptuais

O GPS surge a partir de uma leitura do comportamento desviante baseada no paradigma do processamento da informação e, mais concretamente, em desenvolvimentos do modelo cognitivo, tal como foi formulado por Beck (e.g., Beck et al., 2004) e, posteriormente, inovado por Young (e.g., Rafaeli et al., 2011; Young et al., 2003) para melhor compreensão e tratamento da patologia da personalidade.

De seguida, são apresentados os cinco pressupostos teóricos do GPS que, em última análise, refletem o modelo conceptual subjacente à conceção e desenvolvimento do programa. A explicação de cada um destes pressupostos permitirá, ao longo desta secção, expor detalhadamente o modelo conceptual do GPS, que os terapeutas devem conhecer detalhadamente para poderem aplicar o programa de forma adequada. A complexidade dos fundamentos teóricos do GPS, aliada à exigência da dinâmica das sessões, implica que o referido modelo seja sistematicamente utilizado pelos terapeutas como ferramenta de trabalho (e.g., na leitura que fazem das reações dos participantes às atividades propostas, na compreensão da resistência à mudança e da rigidez no processamento de informação, bem como na definição de estratégias interpessoais adequadas para lidar com ruturas na relação).

### 3.1. Multicausalidade do comportamento desviante

O comportamento desviante é multideterminado, no sentido em que resulta de uma espiral de fatores que terão influenciado o indivíduo ao longo dos diversos períodos do seu desenvolvimento (Andrews & Bonta, 2010a; McGuire, 2002b, 2006a, 2011, 2013). Na infância, existiram habitualmente pais emocionalmente distantes ou inconstantes, que não forneceram o devido apoio emocional, não foram eficazes em fornecer orientação ao longo do desenvolvimento, nem orientaram a criança ou definiram limites e regras de uma forma clara. Em casos mais graves, um ou ambos os pais estiveram ausentes ou abandonaram a criança e as funções parentais ficaram muitas vezes diluídas por outros adultos (um irmão mais velho, por exemplo), provocando experiências de abandono real e definitivo. As experiências de abuso (físico, emocional e/ou sexual) são também frequentes nos percursos desenvolvimentais de agressores (Abram et al., 2004; Thimm, 2010). Sintomas psicopatológicos (e.g., traços de personalidade antissocial) estão, muitas vezes, associados aos défices nas práticas parentais. Existe evidência empírica que aponta para a estabilidade do comportamento antissocial ao longo de gerações, sendo que é frequente os pais de crianças com comportamento antissocial preencherem critérios para uma Perturbação Antissocial da Personalidade (Auty, Farrington, & Coid, 2015; Farrington, Ttofi, Crago, & Coid, 2015). A adoção de condutas desviantes e o consumo abusivo de substâncias (por vezes combinado com o tráfico) parece ser mais frequente em meios socioeconómicos desfavorecidos e degradados, conotados com problemas de delinquência e exclusão social graves, com repercussões negativas no desenvolvimento da criança (Andrews & Bonta, 2010a; Andrews et al., 2006; Fonseca, 2010). Desde muito cedo, o indivíduo tem contacto com uma cultura desviante, na qual obtém vantagens ao exibir um padrão de comportamento antissocial. O comportamento antissocial pode, portanto, ser funcional e adaptativo em contextos desenvolvimentais hostis (Ribeiro da Silva, Rijo, & Salekin, 2015).

Quando várias destas vivências estão presentes na primeira infância, é expectável que a criança generalize o seu padrão de funcionamento interpessoal (tendo em conta o seu caráter adaptativo e funcional no meio de origem) ao contexto escolar. Para além disso, a criança chega à idade escolar com défices desenvolvimentais que a distinguem da maioria dos pares da sua idade (Rijo et al., 2007, 2017). Encontra-se, por exemplo, em desvantagem perante os inúmeros desafios que a frequência escolar coloca, pois não possui as competências de regulação cognitiva, emocional e comportamental que os seus colegas de turma já adquiriram. Frequentemente, a escola não consegue promover a adaptação destas crianças às tarefas próprias do sistema de ensino (muitas vezes porque a família também não colabora no sentido de promover a adesão à escola), o que aumenta a probabilidade de a criança experimentar fracasso escolar. É comum estas crianças serem alvo de tratamento diferencial e discriminatório por parte da escola, pelo que experienciam sentimentos de rejeição e de humilhação. O absentismo, o desinvestimento nas tarefas escolares e a alienação escolar são comuns em indivíduos que vêm a tornar-se antissociais (Drapela, 2005; Taborda-Simões, Fonseca, & Lopes, 2011). Trata-se apenas do início de um percurso desviante que, se não for alterado, seguirá o

rumo do insucesso e do abandono escolar, da inclusão em grupos marginais na adolescência, com um desvio cada vez mais grave em relação às normas sociais e legais, com tendência a persistir na idade adulta (Auty et al., 2015; Farrington et al., 2015).

Em suma, o comportamento antissocial pode ser conceptualizado como uma consequência a médio/longo prazo de um conjunto de fatores interrelacionados que, estando presentes desde muito cedo na vida, influenciam globalmente o desenvolvimento do indivíduo (Rijo et al., 2007). Por este motivo, o trabalho de reabilitação (ou de prevenção), para obter garantia de sucesso, deve visar a intervenção consertada a vários níveis. Neste sentido, o GPS pode e deve ser implementado juntamente com outras intervenções (e.g., com formação e supervisão de professores/tutores ou intervenção com familiares/cuidadores).

### 3.2. Mediação cognitiva

Se existem fatores de ordem social, interacional, institucional e familiar que contribuem para a génese, o desenvolvimento e a manutenção do comportamento antissocial, as variáveis de natureza cognitiva parecem desempenhar um papel nuclear como mediadoras entre a experiência prévia e o desenvolvimento de um padrão de comportamento antissocial (Brazão et al., 2013; Rijo et al., 2007, 2015, 2017). A investigação e a prática clínica com agressores têm mostrado a importância que as distorções no processamento da informação social (erros de pensamento) possuem na manutenção do comportamento antissocial (Andrews & Bonta, 2010a; Antonio & Crossett, 2017; Beck, 1999; Calvete, 2008; Clark, 2000; Ross et al., 1989; Walters, 1990, 2007). Contudo, nos últimos anos, tem vindo a ser dada maior importância ao papel que as estruturas cognitivas desempenham na predisposição dos indivíduos para o desenvolvimento de psicopatologia e de padrões de comportamento disfuncional (e.g., Chakhssi et al., 2012; Gilbert & Daffern, 2013). Neste sentido, o conceito de Esquema Mal-Adaptativo Precoce (EMP), tal como tem sido definido dentro dos modelos cognitivo-comportamentais, revela-se útil para a conceptualização do comportamento antissocial, fornecendo importantes implicações para a intervenção clínica-forense com agressores (Bernstein et al., 2007, 2012; Keulen-de Vos et al., 2013). Os programas de intervenção não só devem corrigir as distorções cognitivas ou erros de pensamento (que resultam do processamento distorcido de informação por esquemas preexistentes), como devem também, e em última análise, ser capazes de flexibilizar EMP tipicamente presentes em agressores (Brazão et al., 2013; Rijo et al., 2007, 2015, 2017).

De acordo com a perspetiva cognitivo-comportamental, experiências precoces disfuncionais (e.g., abandono, privação emocional, abuso, rejeição) com figuras de vinculação levam à formação de determinados EMP (Rafaeli et al., 2011; Rijo et al., 2007, 2015, 2017; Thimm, 2010; Young et al., 2003). EMP referem-se a temas extremamente estáveis e duradoiros que se desenvolvem durante a infância e que são elaborados e mantidos ao longo da vida do indivíduo. Servem como padrões para o processamento de experiência posterior e podem ser caracterizados da seguinte forma: (a) originam-se muito cedo a partir de um conjunto de experiências precoces com figuras significativas e permanecem por toda a vida, a não ser que

sejam alvo de intervenção terapêutica; (b) são estruturas capazes de gerar níveis elevados de afeto disruptivo, comportamentos autodestrutivos e/ou dano significativo para os outros; (c) são capazes de interferir de forma significativa com necessidades básicas associadas à auto-expressão, desenvolvimento da autonomia, ligação aos outros, validação social ou integração na sociedade; e (d) são padrões profundamente embrenhados, centrais para o sentido do Eu (Rafaeli et al., 2011; Young et al., 2003).

Os EMP revelam-se disfuncionais quando, ao gerarem distorções no processamento de informação, conduzem a leituras também elas distorcidas dos acontecimentos. Consequentemente, gera-se a experiência de emoções negativas ou desajustadas (na sua natureza e intensidade), e tendências para a ação e comportamentos que, embora coerentes com a leitura que o indivíduo fez dos acontecimentos, vêm a revelar-se prejudiciais para o próprio e/ou para terceiros. Assim, os esforços de mudança não devem apenas focar-se na modificação de comportamentos, mas também, e sobretudo, na modificação da atribuição de significado que está subjacente a esses mesmos comportamentos (Beck, 1999, 2011; Beck et al., 2004, 2015; Rafaeli et al., 2011; Young et al., 2003). Essa atribuição de significado resulta do processamento distorcido da informação que, por sua vez, deve ser imputado não só aos EMP, mas também aos processos através dos quais os EMP se mantêm inalterados, como veremos adiante nesta secção.

### 3.3. Esquemas Mal-Adaptativos Precoces subjacentes ao processamento de informação social de agressores

Os EMP resultam, maioritariamente, de necessidades desenvolvimentais não satisfeitas ou não plenamente alcançadas pelo sujeito, em diversos domínios do desenvolvimento (Rafaeli et al., 2011; Young et al., 2003). Dados da investigação mostram que, nas trajetórias desenvolvimentais de agressores, as áreas mais afetadas parecem ser os domínios de aceitação e ligação aos outros (i.e., sentimento de aceitação incondicional por parte de outros significativos; ligação segura e estável com terceiros), desempenho e autonomia (i.e., confiança nas próprias capacidades e desempenho escolar, profissional e social) e aquisição de regras e limites (i.e., capacidade de se disciplinar, de controlar os impulsos e de ter em conta as necessidades dos outros). Nos indivíduos com comportamento antissocial (Perturbação Desafiante de Oposição, Perturbação de Comportamento, Perturbação Antissocial da Personalidade), os EMP centram-se em conteúdos tais como: o abandono e a privação emocional, a desconfiança e o abuso, o defeito/inferioridade, a indesejabilidade/exclusão social, o fracasso, a grandiosidade e o autocontrolo insuficiente (Calvete, 2008; Chakhssi et al., 2012; Gilbert & Daffern, 2013; Shorey et al., 2014; Specht et al., 2009). As experiências de vida típicas de indivíduos antissociais, que descrevemos anteriormente, oferecem muitas vezes os contextos necessários à emergência dos EMP que são apresentados no Quadro 3.

Quadro 3 | Esquemas Mal-Adaptativos Precoces subjacentes ao comportamento antissocial

Abandono: Perceção de instabilidade ou de indisponibilidade das pessoas que poderiam ser fonte de suporte e de ligação/afiliação. Sensação de que os outros significativos não fornecem suporte emocional, afiliação, força e proteção, devido a serem emocionalmente instáveis e imprevisíveis ou a não estarem presentes.

Privação Emocional: Expectativa de que os outros não irão satisfazer adequadamente as suas necessidades emocionais. Os três principais tipos de privação são: (a) privação de apoio e cuidados: ausência de atenção, afeto, carinho ou companheirismo; (b) privação de empatia: ausência de compreensão, escuta, abertura ou partilha mútua de sentimentos; e (c) privação de proteção: ausência de força, direção e orientação por parte dos outros.

Desconfiança/Abuso: Expectativa de que os outros irão magoar, abusar, humilhar, trair, mentir, manipular ou aproveitar-se do indivíduo. Geralmente, envolve a perceção de que o mal é intencional. Pode incluir a sensação de que o indivíduo acabará sempre por ser traído.

Defeito/Inferioridade: Sentimento de que o *self* é defeituoso, mau, indesejado, inferior ou sem valor; ou sentimento de não ser amado por outros significativos. Pode envolver uma hipersensibilidade à crítica, à rejeição e à culpa, ou ainda uma sensação de vergonha relativamente aos defeitos percecionados. É frequente o indivíduo fazer comparações sociais desfavoráveis e sentir-se inseguro quando está com os outros.

Indesejabilidade Social: Sentimento de que o indivíduo está isolado do resto do mundo, de que é diferente das outras pessoas, de que não faz parte de qualquer grupo ou comunidade.

Fracasso: Crença que o indivíduo fracassou, irá inevitavelmente fracassar ou é fundamentalmente inadequado face aos pares em áreas de realização pessoal (e.g., escola, carreira, desporto). Geralmente, envolve a crença de que o *self* é estúpido, inábil, sem talento, ignorante ou menos bem-sucedido do que os outros.

Grandiosidade: Crença de que o indivíduo é superior aos outros, de que tem direito a regalias e privilégios especiais, ou de que não está sujeito às regras de reciprocidade que governam a interação social normal. Frequentemente, envolve a insistência de que o indivíduo deve ser capaz de fazer ou de ter aquilo que quer, independentemente daquilo que é realista ou do que os outros consideram razoável; ou um foco exagerado na superioridade (e.g., estar entre os mais bem-sucedidos, famosos e ricos) de maneira a atingir poder ou controlo. Pode incluir uma excessiva competitividade ou dominação dos outros: afirmando o seu próprio poder, impondo o seu próprio ponto de vista ou controlando o comportamento dos outros de acordo com os seus próprios desejos; sem empatia ou preocupação para com as necessidades ou sentimentos dos outros.

O EMP de Grandiosidade pode surgir como uma tentativa de compensar o EMP primário de Defeito/Vergonha. Em vez de se ver a si próprio como inferior ou diferente dos outros (com o sofrimento que advém deste tipo de representação do Eu), o sujeito parece desenvolver ideais de grandiosidade e de superioridade como forma de camuflar a crença primária e de evitar o sofrimento que experimenta quando a mesma é ativada (i.e., quando se vê como defeituoso, indiferente e indesejado).

| |
|---|
| Autocontrolo Insuficiente: Dificuldade intensa ou recusa em exercer um autocontrolo e tolerância à frustração ou para moderar a expressão excessiva das suas próprias emoções e impulsos. |

*Nota*. Adaptado de "Schema therapy: Distinctive features", E. Rafaeli, D. P. Bernstein, & J. Young, 2011, New York: Routledge.

### 3.4. Processos disfuncionais

A forma como as estruturas cognitivas (os EMP) processam informação social (através de processos disfuncionais) conduz a leituras enviesadas dos acontecimentos e a emoções desajustadas que, por sua vez, predispõem o indivíduo para comportamentos disfuncionais. De acordo com o modelo da Terapia Focada nos Esquemas (e.g., Rafaeli et al., 2011; Young et al., 2003), os processos esquemáticos, através dos quais os EMP exercem a sua influência no comportamento e se autoperpetuam, podem ser de três tipos: processos de manutenção, processos de evitamento e processos de compensação. A sua função consiste em manter os EMP válidos e intactos, procurando invalidar ou evitar experiências que os infirmem. Estes processos explicam a resistência à mudança, o evitamento e a fuga de situações ativadoras (desde o evitamento de certas tarefas ou atividades ao evitamento de determinados contextos interpessoais), bem como o desenvolvimento de estratégias compensatórias, difíceis de modificar tendo em conta a sua função protetora.

#### 3.4.1. Processos de manutenção

Young e colaboradores (2003) explicam a rigidez dos EMP a partir do que denominaram processos de manutenção cognitiva e comportamental. A nível cognitivo, a manutenção dos EMP resulta das distorções cognitivas descritas por Beck (e.g., Beck et al., 2004) e que incluem a Abstração Seletiva, a Sobregeneralização, a Maximização/Minimização, a Personalização e o Pensamento Dicotómico. Outras distorções cognitivas, como a Leitura da Mente, a Bola de Cristal, a Desqualificação de Experiências Positivas e a Rotulação são também comuns em indivíduos com comportamento antissocial (cf. Quadro 4). A investigação tem vindo a demonstrar que os agressores tendem a recorrer a distorções cognitivas quando processam informação social, numa tentativa de justificarem o seu comportamento criminal e/ou de minimizarem o dano causado a terceiros (Andrews & Bonta, 2010a; Antonio & Crossett, 2017; Beck, 1999; Calvete, 2008; Clark, 2000; Ross et al., 1989; Walters, 1990, 2007). Assim, no GPS procura-se corrigir o processamento de informação disfuncional dos participantes, numa tentativa de promover interpretações mais realistas e funcionais dos acontecimentos. A mudança ao nível dos processos cognitivos é conceptualizada como uma condição necessária ao objetivo último do programa: a flexibilização de EMP.

**Quadro 4** | Distorções cognitivas associadas ao comportamento antissocial

| |
|---|
| Abstração Seletiva: consiste em focar a atenção num detalhe de uma situação complexa, ignorando outros aspetos relevantes da situação e conceptualizando a mesma com base apenas nesse detalhe. |
| Sobregeneralização: entender um evento particular como característico da vida em geral, mais do que como um simples evento entre muitos outros. |
| Leitura da Mente: consiste em assumir que se sabe o que os outros estão a pensar ou como os outros vão reagir, apesar de ter poucos ou nenhuns indícios que sustentem essa assunção. |
| Bola de Cristal: reagir como se as expetativas em relação a acontecimentos futuros fossem dados adquiridos, em vez de as reconhecer como medos, esperanças ou previsões. |
| Minimização e Desqualificação de Experiências Positivas: tratar alguns aspetos da situação como triviais (características pessoais ou experiências) independentemente do seu significado real. Desqualificar experiências positivas que entrariam em conflito com a visão negativa do indivíduo. |
| Pensamento Dicotómico: manifesta-se na tendência para colocar todas as experiências em uma de duas categorias opostas, sem qualquer tipo de «meio termo». |
| Rotulação: atribuir um rótulo global a si próprio, em vez de se referir a acontecimentos ou ações específicas. |
| Personalização: assumir que se é a causa de um determinado acontecimento externo apesar de, na realidade, outros fatores serem os responsáveis. |

*Nota*. Adaptado de "Intervenção psicológica com jovens agressores", D. Rijo, N. Brazão, D. Ribeiro da Silva, & P. Vagos, 2017, Lisboa: PACTOR.

Quanto à manutenção comportamental, a escolha disfuncional de parceiros pode funcionar como um processo de manutenção dos EMP (Young et al., 2003). Por exemplo, os agressores com um EMP de Desconfiança/Abuso tendem a envolver-se com pessoas abusivas e maltratantes, reforçando assim o próprio EMP. Ainda a nível comportamental, a manutenção dos EMP pode também resultar numa tendência para o desenvolvimento de ciclos cognitivo-interpessoais disfuncionais. Muitos dos EMP que temos vindo a referir correspondem ao que Safran e Segal (1990) designaram como esquemas interpessoais, salientando a natureza, a formação e a manutenção destas estruturas cognitivas como fortemente ligadas à relação com outros significativos. Um esquema interpessoal pode ser definido como uma representação generalizada das interações Eu-outros, contendo também informação acerca das estratégias a implementar para manter a ligação ao outro (Safran & Seagal, 1990).

Uma vez que o Eu se desenvolve num contexto relacional, parece razoável assumir que o desenvolvimento do autoconhecimento envolve a representação cognitiva de eventos interpessoais. Os indivíduos com esquemas interpessoais disfuncionais tendem a gerar ciclos cognitivo-interpessoais igualmente disfuncionais, ou seja, tendem a comportar-se de formas rígidas e estereotipadas que, por sua vez, tendem a gerar nos outros determinadas respostas (ou tendências para a ação). Quando o outro reage de acordo com essas tendências para a ação, emite respostas que reforçam o esquema interpessoal do primeiro. É o que acontece quando

um agressor com um EMP de Desconfiança/Abuso interpreta mal uma intervenção de outra pessoa e reage de forma agressiva. Esta agressividade aparentemente "gratuita" gera uma escalada de agressividade, pela forma como o outro reage à comunicação agressiva do primeiro. Ou seja, o segundo indivíduo emite um comportamento complementar (i.e., agressivo), o que reforça o EMP que originou o ciclo cognitivo-interpessoal disfuncional (i.e., visão dos outros como abusadores e maltratantes). No GPS, os terapeutas devem estar atentos à tendência dos participantes para iniciarem ciclos cognitivo-interpessoais disfuncionais, procurando não reagir de forma complementar.

### 3.4.2. Processos de evitamento

Para além dos processos de manutenção, existem também processos de evitamento dos EMP, que impedem que os mesmos sejam desafiados a partir da experiência de situações que os infirmem. O evitamento pode ser de três tipos: cognitivo, emocional e/ou comportamental. Falamos de evitamento cognitivo quando o indivíduo evita (voluntária ou involuntariamente) pensar em temas relacionados com os EMP, incluindo a dificuldade de recordar memórias associadas à formação dos mesmos; de evitamento emocional quando tenta não experienciar as emoções ligadas ao EMP; e de evitamento comportamental quando evita situações nas quais seria ativado um dos seus EMP. Muitas vezes, estes diferentes tipos de evitamento ocorrem em simultâneo (Rafaeli et al., 2011; Young et al., 2003).

No GPS, procura-se que os participantes se confrontem com os seus EMP de modo gradual, promovendo a ativação dos mesmos. De acordo com os modelos cognitivo-comportamentais, a ativação dos EMP, a tomada de consciência sobre a sua existência e a compreensão do seu funcionamento, assim como da sua interferência no processamento de informação, são estratégias fundamentais para que a flexibilização cognitiva ocorra (Beck, 1999, 2011; Beck et al., 2004, 2015; Rafaeli et al., 2011; Young et al., 2003).

### 3.4.3. Processos de compensação

Um terceiro tipo de processos esquemáticos foi designado por compensação de esquema. Este mecanismo surgiu da observação de que certos doentes adotam estilos cognitivos ou comportamentais que parecem ser o oposto do que se poderia predizer, a partir da identificação dos seus EMP. Tais estilos sobrecompensam esses mesmos EMP. Apesar de funcional em certa medida, a compensação do EMP pode ser, em última análise, contraproducente (Rafaeli et al., 2011; Young et al., 2003). Geralmente, a compensação falha no reconhecimento da própria vulnerabilidade, e por isso o indivíduo não fica preparado para o sofrimento que experiencia quando a compensação falha e o EMP primário é ativado. No GPS, os terapeutas procuram "desmontar" os processos de compensação, antes do trabalho de flexibilização dos EMP primários dos participantes.

Em suma, os processos de manutenção cognitiva podem ajudar a compreender a resistência do indivíduo em formular leituras e interpretações alternativas para um mesmo

acontecimento (descentrando-se dos seus próprios pensamentos e da sua perspetiva). Os processos de evitamento e de compensação são igualmente responsáveis pela resistência à mudança. Neste sentido, no GPS procura-se identificar processos disfuncionais nos participantes, no sentido de diminuir a sua influência no comportamento dos mesmos.

### 3.5. Finalidade da intervenção e natureza dos fatores de mudança

O objetivo do GPS é a prevenção do comportamento antissocial e a reabilitação de indivíduos com comportamento desviante. No entanto, em coerência com a perspetiva teórica adotada, tal mudança só pode ser alcançada se existir flexibilização das estruturas cognitivas — EMP — subjacentes a esse mesmo estilo comportamental. Como expomos adiante, o programa é constituído por diferentes módulos. No entanto, em cada módulo não são trabalhadas competências diferentes. Procura-se antes modificar os EMP a partir de diversas estratégias e a vários níveis: (a) análise e modificação de padrões comunicacionais; (b) promoção de estilos interpessoais mais adaptativos; (c) identificação e correção de distorções no processamento de informação; (d) conhecimento da natureza e função das emoções; (e) identificação e modificação de EMP. A finalidade última do GPS é a flexibilização dos EMP associados ao comportamento antissocial (Rijo & Sousa, 2004; Rijo et al., 2007).

A forma de provocar a mudança esquemática é diversa (podendo ser utilizadas estratégias cognitivas, emocionais e comportamentais) mas o estabelecimento de relações que infirmem os EMP é encarado como condição necessária para que a flexibilização cognitiva ocorra. O uso adequado de estratégias interpessoais é fundamental, uma vez que a natureza dos EMP postulados como subjacentes ao comportamento antissocial é maioritariamente relacional e a sua manutenção resulta grandemente do estabelecimento de ciclos cognitivo-interpessoais disfuncionais (Bernstein et al., 2007, 2012; Keulen-de Vos et al., 2013).

De acordo com o modelo conceptual do GPS, tão importante como o conteúdo das sessões é a qualidade das relações que os participantes estabelecem entre si e com a equipa de terapeutas. Mais do que um programa onde se aprendem competências, no GPS infirmam-se ideias disfuncionais acerca do Eu e dos outros e promovem-se experiências alternativas e saudáveis, contrárias às que estiveram na base da formação dos EMP dos participantes. O estilo relacional dos terapeutas é essencial e não deve ser visto como algo secundário às atividades estruturadas propostas para cada sessão. A forma como os terapeutas reagem aos comportamentos e às intervenções dos participantes é um elemento ativo do programa, sendo uma estratégia privilegiada para promover a mudança esquemática (Rijo et al., 2007).

## 4. Estrutura, conteúdos e metodologia

O GPS inclui 40 sessões no total (cada sessão com uma duração média de 90 minutos) que, a serem realizadas uma vez por semana, resultam num tempo total de aplicação de aproximadamente 12 meses. As sessões devem ser aplicadas por dois terapeutas, com formação nos modelos e nas terapias cognitivo-comportamentais. As sessões estão agrupadas em cinco

módulos estruturados e sequenciais (cf. Quadro 5). Estão ainda previstas sessões de *follow-up*, que podem ser realizadas opcionalmente.

Um programa de intervenção que comece por um trabalho focado na mudança dos processos e das estruturas cognitivas disfuncionais seria demasiado ameaçador para a organização cognitiva dos participantes, podendo aumentar a sua resistência bem como dificultar a adesão ao programa. Por este motivo, as primeiras sessões do GPS são dedicadas aos temas da comunicação e do relacionamento interpessoal. Numa primeira análise, poderá parecer que o objetivo destas sessões é o treino de competências sociais. No entanto, o seu principal objetivo é promover *insight* nos participantes sobre a forma como a sua mente funciona quando comunicam e se relacionam com os outros, e como a visão que os participantes têm de si e/ou dos outros interfere com o processo de comunicação e com as relações interpessoais. Deste modo, introduz-se a ideia central do programa: nem sempre os indivíduos interpretam corretamente a informação disponível, sendo que as suas interpretações estão intimamente relacionadas com a visão que têm de si próprios e/ou dos outros.

Conforme já foi referido, os indivíduos antissociais tendem a recorrer a processos de evitamento (voluntária ou involuntariamente) face à potencial ativação de EMP, numa tentativa de bloquearem estados emocionais que estariam associados à ativação esquemática (Brazão et al., 2013). Numa tentativa de contornar estes processos de evitamento, o GPS recorre a estratégias e exercícios experienciais. As dinâmicas e exercícios experienciais, realizados ao longo do programa, têm como objetivo ativar EMP para que os participantes experimentem estados emocionais associados a cada um deles (combatendo, assim, o evitamento emocional), e ganhem também conhecimento acerca da forma como a sua própria mente funciona e das respetivas tendências para a ação, quando determinado EMP é ativado. Os sujeitos são convidados a sentir e a pensar sobre os seus próprios EMP e são desafiados a modificá-los, isto é, a colocá-los à prova e a testar a sua veracidade.

Tendo em conta a interdependência entre cognições, emoções e comportamentos, foram desenhadas várias sessões focadas na função e no significado das emoções, de forma a promover a regulação emocional dos participantes. Ao longo destas sessões, os sujeitos são convidados a descobrir a riqueza e a diversidade da experiência emocional. Todas as emoções são consideradas adaptativas e úteis para a sobrevivência e adaptação de qualquer ser humano ao meio envolvente. Neste sentido, não existem emoções negativas ou erradas, mas antes respostas emocionais que devem ser ajustadas a situações específicas. Estas sessões assumem particular relevância atendendo à restrição da experiência emocional e à tendência que indivíduos antissociais têm para bloquear estados emocionais (como a tristeza ou a culpa, por exemplo). Procura-se ativar as diferentes emoções nas próprias sessões, com o objetivo duplo de potenciar a diversidade da experiência emocional e de promover uma maior regulação emocional nos participantes.

Quadro 5 | Módulos e conteúdos do GPS – Visão geral

| Módulo | Nº. de sessões | Conteúdos |
|---|---|---|
| Sessão inicial | 1 | Apresentação dos participantes, da estrutura e da metodologia do programa. |
| 1. Comunicação Humana | 5 | O processo de comunicação e os seus obstáculos, linguagem verbal e não verbal, ambiguidades na comunicação e necessidade de congruência entre os dois tipos de linguagem. |
| 2. Relacionamento Interpessoal | 10 | Estilos de comportamento (assertivo, agressivo, passivo ou manipulador); contextos interpessoais específicos (não se sentir aceite, dizer não, saber lidar com críticas, pedir ajuda, pedir desculpa) e negociação. |
| 3. Distorções Cognitivas | 6 | Modelo cognitivo do processamento da informação e principais distorções cognitivas: Abstração Seletiva, Sobregeneralização, Leitura da Mente, Bola de Cristal, Minimização, Desqualificação de Experiências Positivas, Pensamento Dicotómico, Rotulação e Personalização. |
| 4. Significado e Função das Emoções | 7 | Natureza e função das emoções: tristeza, vergonha, medo, raiva, culpa e alegria. |
| 5. Esquemas Mal-Adaptativos Precoces ("Armadilhas do Passado") | 10 | Conceito de esquema.<br>Esquemas de Fracasso, Indesejabilidade Social, Desconfiança/Abuso, Defeito/Vergonha, Privação Emocional, Abandono e Grandiosidade. |
| Sessão final | 1 | Reflexão e consolidação da aprendizagem. Generalização dos ganhos a contextos reais de vida. |

*Nota*. Adaptado de "Gerar Percursos Sociais (GPS), um programa de prevenção e reabilitação para indivíduos com comportamento social desviante", D. Rijo e colaboradores, 2007, Ponta Delgada: EQUAL.

De forma a suscitar o interesse dos participantes, o **Módulo I** do GPS é dedicado ao tema da **Comunicação Humana** (cf. Quadro 6). Neste módulo, não se pretende treinar competências de comunicação nos participantes, mas antes desenvolver nos mesmos uma postura de análise crítica sobre diversos fenómenos comunicacionais (e.g., a ambiguidade da comunicação humana, os diferentes níveis e tipos de comunicação, as distorções na interpretação das mensagens). O tema da comunicação, porque não é demasiado ameaçador para a organização cognitiva dos participantes (na medida em que não ativa diretamente os EMP), permite familiarizar os indivíduos com a natureza das atividades do GPS e com a

metodologia de trabalho nas sessões, que vai manter-se ao longo de todo o programa. Permite também começar a conhecer os indivíduos através da forma como participam nas sessões e dos comportamentos que exibem nas diversas dinâmicas. O principal objetivo deste módulo é promover *insight* nos participantes sobre a complexidade do processo de comunicação, de modo a que os mesmos compreendam que, por vezes, são mal-entendidos ou entendem mal os outros (introduz-se, assim, uma das ideias centrais do programa: nem sempre os indivíduos fazem interpretações corretas da informação que está disponível). Ao iniciar por este módulo, o GPS pretende começar o trabalho de reestruturação cognitiva de uma forma que desencadeie menos processos defensivos nos participantes, que potencie a adesão às atividades propostas e que facilite a identificação com o GPS pelo caráter "lúdico" destas sessões.

Quadro 6 | Conteúdos e objetivos do Módulo I – Comunicação Humana

| Conteúdos | Objetivos |
|---|---|
| 1. Processos de comunicação e seus obstáculos | ✓ Reconhecer o processo de comunicação como uma aprendizagem;<br>✓ Identificar as limitações da comunicação. |
| 2. Ambiguidade da linguagem verbal | ✓ Reconhecer a importância dos significados dados às palavras;<br>✓ Compreender a necessidade de nos expressarmos com clareza. |
| 3. Linguagem não verbal (gestos, olhar, tom de voz, postura e expressão facial) | ✓ Compreender que é impossível não comunicar;<br>✓ Identificar a presença de linguagem não verbal;<br>✓ Reconhecer a ambiguidade da linguagem não verbal. |
| 4. Linguagem não verbal (roupas, acessórios, gestos e postura) | ✓ Reconhecer a importância da imagem;<br>✓ Praticar o uso dos sinais não verbais, identificando os significados de determinadas roupas e acessórios;<br>✓ Compreender a importância da congruência entre a linguagem verbal e a linguagem não verbal;<br>✓ Promover a expressão adequada de emoções. |
| 5. Congruência entre a linguagem verbal e não verbal na expressão de elogios | ✓ Reconhecer a importância da congruência entre a linguagem verbal e a linguagem não verbal;<br>✓ Promover a identificação de qualidades nos outros;<br>✓ Praticar o comportamento de elogiar, tendo em conta o nível verbal e não verbal. |

*Nota.* Adaptado de "Gerar Percursos Sociais (GPS), um programa de prevenção e reabilitação para indivíduos com comportamento social desviante", D. Rijo e colaboradores, 2007, Ponta Delgada: EQUAL.

No **Módulo II – Relacionamento Interpessoal** – são trabalhados diferentes estilos de comportamento interpessoal, bem como contextos interpessoais específicos nos quais os indivíduos com comportamento antissocial apresentam dificuldades (cf. Quadro 7). No que se

refere aos estilos comportamentais, incentiva-se os participantes a flexibilizarem o seu estilo interpessoal e a experimentarem diversas formas de estar nas relações interpessoais, tentando promover a assertividade e o comportamento pró-social como garantia de bem-estar e de saúde relacional. Procura-se que os participantes entendam as vantagens do comportamento assertivo, tentando que adiram a este estilo interpessoal. Ao serem trabalhados diversos contextos interpessoais específicos procura-se, sobretudo, corrigir ideias distorcidas acerca da forma como os participantes veem os outros e se veem a si próprios na relação com os outros. O objetivo deste módulo não é, pois, o desenvolvimento de competências sociais, mas antes a construção de uma visão mais saudável das relações interpessoais, dos outros e do Eu na relação com os outros.

Quadro 7 | Conteúdos e objetivos do Módulo II – Relacionamento Interpessoal

| Conteúdos | Objetivos |
|---|---|
| 1. Autoconceito e estilos de comportamento interpessoal | ✓ Dar a conhecer os elementos do autoconceito;<br>✓ Consciencializar sobre a influência dos elementos do autoconceito na escolha do estilo de comportamento utilizado nas relações interpessoais;<br>✓ Tornar claro que as crenças que cada um constrói acerca de si poderão impedir a completa expressão de emoções, impondo limites ao desenvolvimento pleno do indivíduo. |
| 2. Visão dos outros e estilos de comportamento interpessoal | ✓ Mostrar que, para além do autoconceito, também construímos um conceito acerca dos outros;<br>✓ Tornar consciente que aquilo que pensamos acerca dos outros também influencia o estilo de comportamento utilizado nas relações interpessoais. |
| 3. O que pensamos que os outros pensam de nós e os estilos de comportamento interpessoal | ✓ Tornar consciente que cada um constrói uma imagem de si próprio em função daquilo que pensa que os outros pensam de si;<br>✓ Tornar claro que o nosso comportamento tende a confirmar aquilo que, *a priori*, pensamos que os outros pensam de nós. |
| 4. Estilos de comportamento | ✓ Mostrar a existência de estilos disfuncionais de comportamento;<br>✓ Evidenciar vantagens inerentes à utilização do estilo de comportamento assertivo;<br>✓ Tornar consciente que a utilização da assertividade é tanto mais fácil quanto menor for a rigidez do pensamento acerca de si e dos outros. |

| | |
|---|---|
| 5. Lidar com o não se sentir aceite | ✓ Tomar consciência de que as situações em que sentimos que não somos aceites fazem parte da vida e são inevitáveis;<br>✓ Aprender formas adaptativas de lidar com as situações em que não nos sentimos aceites (nem no extremo da passividade ou afastamento nem no extremo da agressividade). |
| 6. Saber dizer não | ✓ Reconhecer os principais obstáculos à afirmação do não;<br>✓ Identificar estratégias que permitam saber dizer não de forma assertiva;<br>✓ Incentivar para a utilização da recusa assertiva em situações de coação. |
| 7. Saber lidar com as críticas | ✓ Distinguir críticas relativas a factos das referentes a opiniões;<br>✓ Identificar estratégias que permitam lidar com a crítica de forma assertiva;<br>✓ Ensaiar competências autoafirmativas para lidar com as críticas. |
| 8. Pedir ajuda | ✓ Reconhecer o pedido de ajuda como um direito;<br>✓ Identificar situações em que é necessário pedir ajuda;<br>✓ Refletir acerca da melhor forma de pedir ajuda;<br>✓ Refletir acerca da melhor forma de lidar com as respostas negativas aos nossos pedidos de ajuda. |
| 9. Pedir desculpa | ✓ Reconhecer situações em que é adequado um pedido de desculpa;<br>✓ Refletir acerca dos principais obstáculos aos pedidos de desculpa;<br>✓ Incentivar a pedir desculpa sempre que tal se revelar apropriado. |
| 10. Negociação | ✓ Potenciar o uso do comportamento assertivo tendo em conta o ponto de vista do outro – negociação;<br>✓ Aprender a aceitar e a negociar uma solução válida para a resolução de um conflito. |

*Nota*. Adaptado de "Gerar Percursos Sociais (GPS), um programa de prevenção e reabilitação para indivíduos com comportamento social desviante", D. Rijo e colaboradores, 2007, Ponta Delgada: EQUAL.

O **Módulo III – Distorções Cognitivas** – foca-se diretamente na identificação de erros de pensamento ou distorções cognitivas (cf. Quadro 8). Procura-se que os participantes compreendam o conceito de distorção cognitiva, mas também que se esforcem por processar a informação de uma forma mais fidedigna e realista, sempre que identificam uma ou mais distorções subjacentes à forma como interpretam determinado acontecimento (desafiando,

assim, os EMP subjacentes ao processamento disfuncional de informação social). Em cinco das seis sessões que compõem o módulo, trabalham-se uma ou duas distorções, entre as mais frequentemente utilizadas pela população-alvo. O módulo inicia-se com uma sessão introdutória focada na distinção entre factos e opiniões, que visa familiarizar os participantes com o conceito de distorção cognitiva.

Quadro 8 | Conteúdos e objetivos do Módulo III – Distorções Cognitivas

| Conteúdos | Objetivos |
|---|---|
| 1. Factos e opiniões | ✓ Distinguir factos de opiniões;<br>✓ Aceitar que podem ocorrer diferentes opiniões ou pontos de vista acerca da mesma situação;<br>✓ Compreender a possibilidade de ocorrerem leituras distorcidas;<br>✓ Conhecer o modelo cognitivo do processamento da informação. |
| 2. Abstração Seletiva/Sobregeneralização | ✓ Saber identificar a Abstração Seletiva e a Sobregeneralização como distorções cognitivas;<br>✓ Avaliar a forma como usamos estas distorções na nossa avaliação dos factos, confrontá-las e encontrar formas de interpretação mais realistas e adaptativas. |
| 3. Leitura da Mente/Bola de Cristal | ✓ Saber identificar a Leitura da Mente e a Bola de Cristal como distorções cognitivas;<br>✓ Avaliar a forma como usamos estas distorções na nossa avaliação dos factos, confrontá-las e encontrar formas de interpretação mais realistas e adaptativas. |
| 4. Minimização/Desqualificação de Experiências | ✓ Saber identificar a Minimização e a Desqualificação de Experiências Positivas como distorções cognitivas;<br>✓ Avaliar a forma como usamos estas distorções na nossa avaliação dos factos, confrontá-las e encontrar formas de interpretação mais realistas e adaptativas. |
| 5. Pensamento Dicotómico/Rotulação | ✓ Saber identificar o Pensamento Dicotómico e a Rotulação como distorções cognitivas;<br>✓ Avaliar a forma como usamos estas distorções na nossa avaliação dos factos, confrontá-las e encontrar formas de interpretação mais realistas e adaptativas. |
| 6. Personalização | ✓ Saber identificar a Personalização como distorção cognitiva;<br>✓ Avaliar a forma como usamos esta distorção na nossa avaliação dos factos, confrontá-las e encontrar formar de interpretação mais realistas e adaptativas. |

*Nota*. Adaptado de "Gerar Percursos Sociais (GPS), um programa de prevenção e reabilitação para indivíduos com comportamento social desviante", D. Rijo e colaboradores, 2007, Ponta Delgada: EQUAL.

No **Módulo IV – Significado e Função das Emoções** – pretende-se que os participantes sejam capazes de perceber a natureza e a função adaptativa de emoções (cf. Quadro 9), que as relacionem com situações reais da sua experiência de vida e que, perante as atividades desenvolvidas em cada uma das sessões do módulo, sejam capazes de experienciar, em algum grau, a emoção que está a ser trabalhada nessa sessão. Assim, o objetivo deste módulo é promover a diversidade da experiência e da expressão emocional. Os indivíduos antissociais tendem a possuir um leque reduzido de emoções e a intensidade com que experienciam determinada emoção é, muitas vezes, intensa e disruptiva (e.g., Ammerman et al., 2015; Veloti et al., 2016). Para além disso, uma forma privilegiada de ativação de EMP é a experiência das emoções associadas aos mesmos e, por isso, as dinâmicas e atividades destas sessões podem funcionar como estratégias ativadoras. Este módulo prepara, assim, o último módulo do GPS, diretamente focado na modificação de EMP.

Quadro 9 /Conteúdos e objetivos do Módulo IV – Significado e Função das Emoções

| Conteúdos | Objetivos |
|---|---|
| 1. Identificação das emoções | ✓ Reconhecer a diversidade da experiência emocional;<br>✓ Introduzir a noção de que cada emoção está associada a uma especificidade contextual e de atribuição de significado;<br>✓ Introduzir a noção de que todas as emoções têm uma função adaptativa e, portanto, são necessárias à vida. |
| 2. Tristeza | ✓ Explicitar a natureza e da função da tristeza;<br>✓ Tornar claro que a tristeza que cada um sente é vivida com diferente intensidade, de acordo com a situação e com a interpretação que fazemos da mesma;<br>✓ Clarificar a função adaptativa da tristeza. |
| 3. Vergonha | ✓ Explicitar a natureza e da função da vergonha;<br>✓ Identificar os correlatos fisiológicos associados à vergonha;<br>✓ Clarificar a função adaptativa da vergonha;<br>✓ Identificar situações/contextos em que a vergonha é ativada. |
| 4. Ansiedade/Medo | ✓ Explicitar a natureza e da função da ansiedade e do medo;<br>✓ Identificar os correlatos fisiológicos associados à ansiedade e ao medo;<br>✓ Clarificar a função adaptativa da ansiedade e do medo;<br>✓ Identificar situações ou contextos em que a ansiedade ou o medo é ativado. |

| | |
|---|---|
| 5. Raiva | ✓ Explicitar a natureza e da função da raiva;<br>✓ Tornar claro aos participantes que a raiva que cada um sente é vivida com diferente intensidade, de acordo com a situação e com a forma como se reage perante a mesma;<br>✓ Clarificar a função adaptativa da raiva, que se traduz na resposta a uma situação que é percecionada como injusta ou humilhante. |
| 6. Culpa | ✓ Explicitar a natureza e da função da culpa;<br>✓ Tornar claro aos participantes que a culpa que cada um sente é vivida com intensidade diferente, de acordo com a situação e com a forma como se reage perante a mesma;<br>✓ Clarificar a função adaptativa da culpa, encarada como protetora do indivíduo, na medida em que o protege das consequências sociais nefastas caso violasse os direitos dos outros. |
| 7. Alegria | ✓ Explicitar a natureza e da função da alegria;<br>✓ Tornar claro aos participantes que a alegria que cada um sente é vivida com intensidade diferente de acordo com a situação e com a interpretação que fazemos da mesma;<br>✓ Clarificar a função adaptativa da alegria, que se traduz na adaptação a uma situação em que estamos perante um ganho. |

*Nota*. Adaptado de "Gerar Percursos Sociais (GPS), um programa de prevenção e reabilitação para indivíduos com comportamento social desviante", D. Rijo e colaboradores, 2007, Ponta Delgada: EQUAL.

O principal objetivo do **Módulo V – Esquemas Mal-Adaptativos Precoces ("Armadilhas do Passado")** – é a identificação, pelo próprio participante, dos seus EMP e a aprendizagem de estratégias para os modificar, reduzindo o sofrimento e o dano causado pela proeminência desses mesmos EMP (cf. Quadro 10). Neste módulo, são trabalhados os EMP postulados como subjacentes ao comportamento antissocial, com exceção do EMP de Autocontrolo Insuficiente (considera-se que este EMP já foi trabalhado de forma indireta ao longo dos módulos anteriores, tendo em conta que um dos objetivos do programa é o desenvolvimento de competências de regulação comportamental e emocional). É adotada uma metodologia ativadora dos EMP, sendo que a autoavaliação é feita a "quente", após um exercício de ativação. O módulo inicia-se com uma sessão dedicada ao conceito de EMP. Após esta sessão inicial, segue-se uma série de sessões dedicadas aos vários EMP postulados como subjacentes ao comportamento antissocial. Nestas sessões, os participantes são encorajados a identificar se possuem ou não o EMP que está a ser trabalhado e a relacioná-lo com situações da sua vida (quer sejam situações que terão estado na origem do EMP, quer sejam situações atuais em que o EMP é ativado e gera sofrimento e dano). Em seguida, são debatidas formas adaptativas para lidar com o EMP que deverão ser

postas em prática e revistas na sessão seguinte. O Módulo V termina com uma sessão (que pode ser desdobrada em duas) que pretende reforçar o trabalho de reestruturação cognitiva realizado nas sessões anteriores.

Quadro 10 | Conteúdos e objetivos do Módulo V – Esquemas Mal-Adaptativos Precoces

| Conteúdos | Objetivos |
|---|---|
| 1. O que são as "armadilhas do passado" | ✓ Apresentar o conceito de EMP, por recurso à metáfora "armadilhas do passado";<br>✓ Introduzir o conceito de representação cognitiva, bem como a relação entre cognição, emoção e comportamento;<br>✓ Promover a metacognição e o autoconhecimento. |
| 2. EMP de Fracasso | ✓ Incrementar o autoconhecimento pela autoavaliação do EMP de Fracasso;<br>✓ Compreender a influência do EMP de Fracasso nos pensamentos, nas emoções e nos comportamentos;<br>✓ Promover a descoberta de estratégias para infirmar/flexibilizar o EMP de Fracasso. |
| 3. EMP de Indesejabilidade Social | ✓ Incrementar o autoconhecimento pela autoavaliação do EMP de Indesejabilidade Social;<br>✓ Compreender a influência do EMP de AutoIndesejabilidade Social nos pensamentos, nas emoções e nos comportamentos;<br>✓ Promover a descoberta de estratégias para infirmar/flexibilizar o EMP de Indesejabilidade Social. |
| 4. EMP de Desconfiança/Abuso | ✓ Incrementar o autoconhecimento pela autoavaliação do EMP de Desconfiança/Abuso;<br>✓ Compreender a influência do EMP de Desconfiança/Abuso nos pensamentos, nas emoções e nos comportamentos;<br>✓ Promover a descoberta de estratégias para infirmar/flexibilizar o EMP de Desconfiança/Abuso. |
| 5. EMP de Defeito/Vergonha | ✓ Incrementar o autoconhecimento pela autoavaliação do EMP de Defeito/Vergonha;<br>✓ Permitir compreender a influência do EMP de Defeito/Vergonha nos pensamentos, nas emoções e nos comportamentos;<br>✓ Promover a descoberta de estratégias para infirmar/flexibilizar o EMP de Defeito/Vergonha. |

| | |
|---|---|
| 6. EMP de Privação Emocional | ✓ Incrementar o autoconhecimento pela autoavaliação do EMP de Privação Emocional;<br>✓ Permitir compreender a influência do EMP de Privação Emocional nos pensamentos, nas emoções e nos comportamentos;<br>✓ Promover a descoberta de estratégias para infirmar/flexibilizar o EMP de Privação Emocional. |
| 7. EMP de Abandono | ✓ Incrementar o autoconhecimento pela autoavaliação do EMP de Abandono.<br>✓ Permitir compreender a influência do EMP de Abandono nos pensamentos, nas emoções e nos comportamentos;<br>✓ Promover a descoberta de estratégias para infirmar/flexibilizar o EMP de Abandono. |
| 8. EMP de Grandiosidade | ✓ Incrementar o autoconhecimento pela autoavaliação do EMP de Grandiosidade;<br>✓ Permitir compreender a influência do EMP de Grandiosidade nos pensamentos, nas emoções e nos comportamentos;<br>✓ Promover a descoberta de estratégias para infirmar/flexibilizar do EMP de Grandiosidade. |
| 9. Lutar contra as "armadilhas do passado" | ✓ Treinar na recolha de informação que infirme EMP;<br>✓ Sublinhar a necessidade de lutarmos continuamente contra "leituras" dos acontecimentos derivadas do processamento de informação pelos EMP;<br>✓ Preparar para o final do programa, promovendo a generalização dos ganhos obtidos. |

*Nota*. Adaptado de "Gerar Percursos Sociais (GPS), um programa de prevenção e reabilitação para indivíduos com comportamento social desviante", D. Rijo e colaboradores, 2007, Ponta Delgada: EQUAL.

Este último módulo procura sistematizar e sintetizar todo o trabalho desenvolvido nos módulos anteriores, incrementando ainda mais o autoconhecimento dos participantes, pelo domínio do conceito de EMP (por recurso à metáfora "armadilhas do passado") e pela identificação dos EMP que os mesmos possuem (através da realização de exercícios de autodiagnóstico). Procura-se que este autoconhecimento incremente a capacidade dos participantes para lutarem contra os seus EMP, na medida em que começam a compreender a forma como os EMP funcionam (e.g., os tipos de situação em que os EMP são ativados, bem como as emoções e os comportamentos associados). Trata-se da continuidade de um trabalho que já foi realizado nos módulos anteriores, mas de uma forma mais específica, estruturada e diretamente focada na identificação e modificação dos EMP. É importante salientar que este pode ser o módulo mais exigente do programa, quer para os participantes quer para os terapeutas. A ativação emocional intensa esperada nestas sessões (que foram planeadas para que tal aconteça) pode tornar necessário apoio adicional individualizado, sem menosprezar o

facto de que tal apoio também possa ter sido necessário em fases anteriores do programa. Se a participação no GPS, concretamente neste módulo, desencadear problemas emocionais nos participantes, a equipa técnica deve ser capaz de fornecer apoio psicoterapêutico especializado ou de encaminhar o indivíduo para um serviço competente.

## 5. Equipa terapêutica

A equipa terapêutica do GPS deve ser composta por dois elementos, ambos com formação nos modelos e nas terapias cognitivo-comportamentais. Para uma aplicação eficaz do programa é necessário um elevado grau de coordenação entre ambos, podendo os mesmos dividir as tarefas de modo igualitário ou um deles assumir um papel mais ativo na dinamização da sessão. É exigida a presença de dois elementos não só por se tratar de um programa que se destina a indivíduos com elevado grau de disfunção comportamental, mas essencialmente por se pretender induzir nos participantes algum grau de ativação emocional, devendo então garantir-se as condições necessárias ao suporte emocional dos mesmos.

Os terapeutas devem conhecer detalhadamente o programa e o seu referencial teórico de forma a alcançarem os objetivos definidos. Tais objetivos não se prendem com o cumprimento escrupuloso do proposto no manual, mas antes com a melhoria da qualidade do relacionamento interpessoal dos participantes. Para tal, a nossa experiência com o GPS tem revelado que é necessária uma cuidadosa preparação das sessões, no sentido de permitir aos terapeutas estarem disponíveis e atentos às atitudes e comentários dos participantes, procurando promover o envolvimento ativo e equitativo dos mesmos nas atividades do programa. Cabe aos terapeutas motivar os participantes quer para a mudança, quer para a adesão continuada ao programa, fornecendo experiências que infirmem os EMP dos participantes. Tal passa não só pelas atividades realizadas nas sessões, mas também pelo tipo e estilo de relação que os terapeutas desenvolvem com cada um dos participantes.

A adoção de uma postura de observador-participante é fundamental para atingir os objetivos do GPS. É igualmente importante que os terapeutas estejam treinados no uso da relação como fator de mudança. De acordo com os pressupostos teóricos do modelo cognitivo-comportamental, é dado especial relevo à qualidade da relação estabelecida entre os participantes e os terapeutas, já que o estabelecimento de relações potencialmente infirmatórias dos EMP dos participantes se torna uma condição necessária para que a flexibilização cognitiva ocorra. Por este motivo, a equipa terapêutica deve manter-se estável ao longo da aplicação do programa. A postura dos terapeutas deve ser de grande aceitação face às atitudes, comportamentos e propostas dos participantes, evitando-se juízos de valor sobre aspetos partilhados pelos mesmos. Por este motivo, para além da boa preparação das sessões, propõe-se a realização, pelos terapeutas, de uma avaliação de cada sessão e do seu próprio desempenho, com vista a uma melhoria contínua da sua prestação.

## 6. Contextos de aplicação e estudos de eficácia

Conforme já foi referido, o GPS surgiu no âmbito de um projeto mais vasto, ao abrigo da Iniciativa Comunitária EQUAL, concluído em 2007. Uma versão experimental do programa foi aplicada em quatro grupos na Região Autónoma dos Açores, dois grupos nas ilhas Canárias e um grupo na Bélgica. A experiência de aplicação permitiu ajustar alguns aspetos do programa, tal como foi inicialmente concebido, adequando os objetivos e as metodologias de intervenção às características dos destinatários, antes da publicação definitiva do manual.

Desde a sua edição definitiva, o GPS tem sido aplicado em Centros de Desenvolvimento e Inclusão Juvenil dos Açores. Em Portugal Continental, o programa é implementado no Centro Educativo dos Olivais (Coimbra) desde 2009 e atualmente é aplicado em todos os Centros Educativos do país. O GPS tem também sido aplicado em alguns Lares de Infância e Juventude e em algumas escolas com adolescentes considerados em risco de exclusão social, bem como em projetos de intervenção comunitária (e.g., Programa Escolhas). Durante o ano de 2011, o programa foi aplicado em turmas PIEF (Programa Integrado de Educação e Formação) da Região Centro do país.

Em parceria com a Direção-Geral de Reinserção e Serviços Prisionais (DGRSP)[9] do Ministério da Justiça, o CINEICC – Centro de Investigação em Neuropsicologia e Intervenção Cognitivo-Comportamental[10] da Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra estudou, no âmbito de um Projeto I&D[11] financiado pela Fundação para a Ciência e Tecnologia, o impacto do GPS em duas amostras forenses: menores agressores a cumprirem medidas tutelares educativas de internamento e adultos agressores a cumprirem pena de reclusão. Ambas as amostras foram constituídas apenas por indivíduos do sexo masculino, uma vez que as agressoras representavam na altura cerca de 6% da população, quer da população delinquente juvenil a cumprir medidas de internamento, quer da população prisional.

Os estudos realizados com menores agressores testaram o impacto de uma versão reduzida do GPS em 25 sessões (aplicadas duas vezes por semana). Esta redução do número de sessões foi efetuada por dois motivos. Em primeiro lugar, as aplicações iniciais (prévias ao estudo de eficácia) da versão original de 40 sessões não foram concluídas porque a medida de internamento da maior parte dos participantes terminou antes da conclusão do programa. Em segundo lugar, os técnicos responsáveis pela aplicação do GPS consideraram que não tinham disponibilidade para aplicar a versão original de 40 sessões, tendo em conta o número considerável e diversificado de funções que desempenhavam no centro. Assim, uma versão reduzida de 25 sessões foi desenvolvida de forma a garantir que um maior número de adolescentes participasse e concluísse o programa. Ao mesmo tempo, reduziu-se o tempo

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[9]Na altura, Direção-Geral de Reinserção Social e Direção-Geral dos Serviços Prisionais. Em 2012, as duas entidades fundiram-se numa única, a Direção-Geral de Reinserção e Serviços Prisionais.

[10]Na altura Centro de Investigação do Núcleo de Estudos e Intervenção Cognitivo-Comportamental.

[11]Projeto "GPS – Gerar Percursos Sociais, um programa de prevenção e reabilitação para indivíduos com comportamento social desviante: Estudos de eficácia em amostras forenses" (PTDC/PSI-PCL/102165/2008).

necessário à preparação/implementação das sessões por parte dos técnicos. Tendo em conta estes constrangimentos, não foi possível aleatorizar os participantes pelas condições experimentais, pelo que um ensaio clínico não aleatorizado (desenhado de acordo com as normas do grupo *TREND - Transparent Reporting of Evaluations with Nonrandomized Designs*) foi implementado nos oito Centros Educativos do país. O objetivo deste estudo (Rijo, Miguel, Paulo, & Brazão, 2018) foi testar os efeitos do GPS-25 nos EMP postulados como subjacentes ao comportamento antissocial, bem como na ativação emocional disruptiva associada a cada um dos EMP em menores agressores a cumprirem medidas tutelares educativas de internamento.

Os participantes do estudo foram 133 menores agressores do sexo masculino, entre os 14 e os 19 anos, que foram distribuídos pelo grupo de tratamento (n = 63) e pelo grupo de controlo (n = 60). A seleção dos participantes obedeceu aos seguintes critérios de exclusão: (1) incapacidades intelectuais (tendo em conta que a participação no GPS implica o recurso a competências metacognitivas), (2) sintomas psicóticos (as estratégias experienciais utilizadas no programa podem não ser adequadas para indivíduos com esta sintomatologia), (3) crimes sexuais (o GPS não foi desenvolvido para agressores sexuais, pelo que pode não ser adequado às necessidades específicas de intervenção que este grupo apresenta), (4) permanência no Centro Educativo inferior a três meses desde o início do programa (tendo em conta a duração do GPS-25, aplicado duas vezes por semana).

Os menores que concordaram participar neste estudo foram avaliados em dois momentos distintos: pré-tratamento (uma semana antes do início do GPS) e pós-tratamento (uma semana após o término do programa). Em ambos os momentos, os participantes responderam ao IAECA-CA – Inventário de Avaliação de Esquemas por Cenários Ativadores – Comportamento Antissocial (Capinha, da Motta, & Rijo, 2017), que avalia o endosso dos oito EMP associados ao comportamento antissocial, bem como o padrão e a intensidade da ativação emocional associado a cada um dos EMP. A avaliação foi realizada por investigadores que receberam treino na administração do instrumento. O GPS-25 foi realizado por dois psicólogos que receberam treino especializado no modelo conceptual e nas metodologias de intervenção do programa.

Uma ANOVA mista apontou para diferenças não significativas entre os dois grupos (i.e., grupo de tratamento e grupo de controlo) no endosso de EMP no pós-tratamento. Relativamente à ativação emocional disruptiva associada aos EMP, os resultados apontaram para um efeito de interação (tempo x grupo) significativo. Comparativamente ao grupo de controlo, o grupo de tratamento apresentou uma diminuição na intensidade da ativação emocional associada a cada um dos EMP. Análises adicionais, que procuraram avaliar a mudança clínica individual através do *Reliable Change Index* (RCI; Jacobson & Truax, 1991)[12], apontaram para diferenças não significativas entre os grupos na distribuição dos participantes por categoria de mudança clínica (melhoria, sem mudança, deterioração) ao nível da medida dos EMP. A maioria dos participantes dos dois grupos não apresentou mudança clínica no endosso de EMP no pós-

[12]Para uma descrição detalhada deste método, consultar Capítulo II.

tratamento. No entanto, foram encontradas diferenças significativas entre os grupos na distribuição dos participantes por categoria de mudança clínica na intensidade de ativação emocional associada a cada um dos EMP. Enquanto uma percentagem significativa dos participantes do grupo de tratamento apresentou melhoria clínica, uma percentagem igualmente significativa dos controlos apresentou deterioração clínica no pós-tratamento.

Embora estes resultados possam sugerir que o GPS-25 não é capaz de produzir mudança cognitiva ao nível dos EMP (tendo em conta que os participantes do grupo de tratamento não apresentaram uma menor proeminência de EMP no pós-tratamento), parece que o programa, neste formato, é capaz de promover a regulação emocional (tendo em conta que os menores que frequentaram o GPS-25 apresentaram uma diminuição na ativação emocional disruptiva associada aos EMP). De acordo com o modelo da Terapia Focada em Esquemas (Rafaeli et al., 2011; Young et al., 2003), um EMP é disfuncional não só pelo seu conteúdo cognitivo, mas também pelo afeto negativo que espoleta. Por outras palavras, o conteúdo cognitivo do esquema mantem-se estável, mas quando esse mesmo conteúdo é ativado não espoleta afeto negativo tão disruptivo. Este ganho é particularmente importante, tendo em conta que dificuldades de regulação emocional parecem estar subjacentes ao comportamento agressivo e antissocial (e.g., Ammerman et al., 2015; Veloti et al., 2016).

Relativamente aos estudos realizados com agressores adultos a cumprirem pena de reclusão, os mesmos foram realizados no âmbito desta dissertação, sendo que os objetivos, as opções metodológicas e os resultados obtidos são apresentados nos próximos capítulos (cf. Capítulos II, III e IV).

## 7. Síntese

O modelo teórico subjacente ao GPS procura ultrapassar algumas limitações dos programas cognitivo-comportamentais tradicionais, apresentando um modelo explicativo da génese e da manutenção do comportamento desviante. Este modelo inclui uma visão desenvolvimental do comportamento antissocial, mas propõe uma leitura cognitiva da manutenção de padrões disfuncionais de comportamento. Tal como é defendido pelo modelo cognitivo, a mudança alcançada no padrão comportamental desajustado é encarada como o resultado da flexibilização de EMP subjacentes ao processamento disfuncional de informação social (Beck, 1999, 2011; Beck et al., 2004, 2015; Rafaeli et al., 2011; Young et al., 2003).

Os programas eficazes são aqueles que identificam um alvo de mudança e definem uma estratégia de intervenção, capaz de modificar esse mesmo foco terapêutico (McGuire, 2002b, 2006a, 2011, 2013). O principal objetivo do GPS é reduzir a proeminência de EMP que parecem estar subjacentes ao processamento de informação social de agressores. Para atingir o seu objetivo, uma estratégia de mudança progressiva é definida e começa por: (a) incrementar o conhecimento sobre o fenómeno da comunicação humana (reconhecendo a ambiguidade das interações humanas); (b) modificar padrões disfuncionais de comportamento interpessoal; (c) conhecer o funcionamento da mente humana e os erros cognitivos que os indivíduos podem recorrer quando processam informação social; (d) experienciar e compreender o modo como

diferentes emoções funcionam e como influenciam os pensamentos e comportamentos; (e) incrementar o autoconhecimento a partir da identificação de EMP, e da compreensão da sua influência no processamento de informação, nos correlatos emocionais e nas tendências para a ação. Esta estratégia gradual de mudança implica que o programa seja aplicado na sequência predefinida de módulos e sessões (Rijo et al., 2007).

A eficácia do GPS tem sido testada numa versão reduzida de 25 sessões em adolescentes a cumprirem medidas tutelares educativas de internamento. Os resultados apontaram para os efeitos positivos do GPS-25 ao nível da regulação emocional, sendo que o programa foi capaz de reduzir a intensidade de emoções disruptivas associadas à ativação esquemática (Rijo et al., 2018). No entanto, é desconhecida a eficácia da versão original do programa (40 sessões), quer com agressores juvenis, quer com agressores adultos. Numa tentativa de colmatar esta lacuna, este projeto de investigação teve como objetivo principal estudar a eficácia do GPS em reclusos do sexo masculino (cf. Capítulos II, III e IV).

# CAPÍTULO II

## METODOLOGIA GERAL E OBJETIVOS DE INVESTIGAÇÃO

## 1. Apresentação do projeto de investigação

O presente trabalho foi desenvolvido no âmbito de um projeto de doutoramento "A eficácia do programa Gerar Percursos Sociais (GPS) em reclusos do sexo masculino: Um ensaio clínico aleatorizado" financiado pela Fundação para a Ciência e a Tecnologia (FCT) com uma Bolsa Individual de Doutoramento (SFRH/BD/89283/2012). Este projeto surge no seguimento do trabalho que foi iniciado pelo doutorando, na altura contratado como tarefeiro de investigação, no âmbito de um projeto plurianual de I&D "Gerar Percursos Sociais, um programa de prevenção e reabilitação para indivíduos com comportamento social desviante: Estudos de eficácia em amostras forenses", financiado pela FCT (PTDC/PSI-PCL/1021165/2008). Ambos os projetos foram integrados no grupo de investigação *Cognitive and Behavioural Processes and Change* do Centro de Investigação em Neuropsicologia e Intervenção Cognitivo-Comportamental (CINEICC, Unidade I&D) da Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra.

A componente empírica deste trabalho é apresentada em seis estudos, que foram desenhados para dar resposta a questões e objetivos específicos. Dos seis estudos empíricos apresentados, cinco encontram-se publicados em revistas internacionais (Estudos I, II, III, IV e V) e um encontra-se em processo de revisão (Estudo VI). Os estudos são apresentados nas várias secções que constituem o capítulo seguinte desta dissertação, no qual será feita uma exposição detalhada dos objetivos e da metodologia de cada estudo empírico (e.g., participantes e procedimentos, instrumentos e análise de dados), bem como dos resultados obtidos. Em anexo, estão ainda disponíveis dois estudos: um artigo de revisão teórica acerca da eficácia dos programas cognitivo-comportamentais em agressores (Anexo A), a partir do qual foi elaborado o Enquadramento Teórico desta dissertação; e um estudo empírico com dados de prevalência das perturbações da personalidade em Estabelecimentos Prisionais Portugueses (Anexo B), indispensável à concretização do Estudo Empírico VI.

Apesar de se tratar de estudos interdependentes, parece-nos fundamental apresentar a forma como este projeto foi, globalmente, conduzido. Assim, neste capítulo, apresentam-se os objetivos gerais e específicos do projeto de investigação e as opções metodológicas inerentes à sua concretização, de modo a proporcionar uma visão global do mesmo.

## 2. Objetivos

O objetivo geral desta dissertação foi estudar a eficácia do programa GPS na reabilitação psicossocial de reclusos do sexo masculino. Especificamente, analisou-se a capacidade do GPS em produzir mudanças a nível cognitivo, emocional e comportamental, bem como a estabilidade das mudanças alcançadas ao longo do tempo (um ano após a conclusão do programa). Foi também investigado o impacto da severidade da patologia da personalidade dos reclusos nos resultados do programa ao nível cognitivo, emocional e comportamental.

A maior parte dos programas de intervenção cognitivo-comportamental para agressores conceptualiza o comportamento antissocial como o resultado de um processamento distorcido da informação social (e.g., Antonio & Crossett, 2017). Estes programas identificam como alvos

de mudança as distorções cognitivas ou erros de pensamento a que os agressores tendem a recorrer quando processam informação social. Embora a mudança nos processos cognitivos disfuncionais seja relevante, a investigação tem demonstrado que esquemas mal-adaptativos precoces (EMP) estão subjacentes ao processamento distorcido da informação (cf. Capítulo I). O comportamento antissocial resulta, portanto, de uma visão distorcida do Eu e dos outros que conduz a leituras enviesadas dos acontecimentos (i.e., distorções cognitivas) e a emoções desajustadas que, por sua vez, predispõem o indivíduo para comportamentos disfuncionais.

Vários estudos têm sugerido que os EMP predispõem os indivíduos para o desenvolvimento de psicopatologia, incluindo padrões de comportamento agressivo e antissocial (e.g., Chakhssi et al., 2012; Gilbert & Daffern, 2013). Há evidência empírica de que os EMP subjacentes ao processamento de informação social de agressores se centram em conteúdos tais como: o abandono e a privação emocional, a desconfiança/abuso, o fracasso, o defeito/inferioridade, a indesejabilidade social, a grandiosidade e o autocontrolo insuficiente (e.g., Shorey et al., 2014; Specht et al., 2009). Estes resultados sugerem que EMP específicos desempenham um papel importante na origem e na manutenção do comportamento antissocial, pelo que devem ser selecionados como alvos de mudança nos programas de intervenção para agressores. Para além disso, a Terapia Focada em Esquemas, quando aplicada individualmente, tem-se mostrado uma abordagem eficaz na reabilitação de agressores adultos (Bernstein et al., 2007, 2012; Keulen-de Vos et al., 2013).

Tendo em conta estes dados, assim como o objetivo último do GPS (i.e., promover mudanças no aparelho cognitivo dos participantes), o primeiro foco dos estudos de validação do programa foi avaliar a capacidade do GPS em, por um lado, incrementar o recurso a pensamentos adaptativos e, por outro lado, diminuir o recurso a distorções cognitivas ou erros de pensamento. Testou-se, ainda, se o programa contribui para uma menor proeminência dos EMP associados ao comportamento antissocial.

Desenvolvimentos recentes nos modelos cognitivo-comportamentais têm enfatizado o contributo de outro tipo de variáveis, tais como a raiva, a vergonha e a paranoia, para o desenvolvimento e manutenção do comportamento agressivo e antissocial (Elison et al., 2014; Gilbert, 2017; Koltz & Gilbert, 2018; Velotti, Elison, & Garofalo, 2014). De acordo com a perspetiva evolucionária, comportamentos de dominância e de ameaça a terceiros podem ser conceptualizados como uma estratégia de *coping* com os sentimentos de vergonha (Castilho, Xavier, Pinto-Gouveia, & Costa, 2015; Gilbert, 2009, 2010, 2014, 2017; Koltz & Gilbert, 2018). Indivíduos antissociais recorrem, frequentemente, a comportamentos agressivos (externalização da raiva) numa tentativa de se protegerem dos sentimentos de vergonha, por oposição a comportamentos submissos (Gilbert, 2017; Koltz & Gilbert, 2018). A raiva pode também ser uma resposta aos comportamentos de rejeição e crítica por parte de terceiros (Castilho et al., 2015). Dados da investigação apontam para uma associação positiva entre os sentimentos de vergonha e as tendências para externalizar a raiva (e.g., Tangney, Stuewig, Mashek, & Hastings, 2011). Estudos com amostras forenses têm mostrado ainda que a vergonha

é um preditor significativo do comportamento violento e da reincidência criminal (Hosser, Windzio, & Greve, 2008; Tangney et al., 2011; Thomaes, Stegge, Bushman, & Olthof, 2008).

Adicionalmente, indivíduos com níveis elevados de vergonha tendem a fazer atribuições externas (culpar os outros), pelo que podem desenvolver ideação paranoide (Castilho et al., 2015). Indivíduos que se percecionam como inferiores e que, por isso, se sentem criticados e rejeitados pelos outros, tendem a desenvolver ideação paranoide face às intenções de terceiros, no sentido de se protegerem dos ataques que esperam que ocorram (Castilho et al., 2015; Freeman et al., 2005; Gilbert, Boxall, Cheung, & Irons, 2005). Esta externalização e comportamentos de ataque, muito frequentes em agressores (Joyce, Dillane, & Vasquez, 2013; Novaco, 2010), estão positivamente associados aos sentimentos de raiva e vergonha (Gilbert, 2009, 2010, 2014, 2017; Koltz & Gilbert, 2018).

Apesar destes dados, a maior parte dos estudos de eficácia dos programas de reabilitação tem-se focado, sobretudo, na diminuição das taxas de reincidência criminal e/ou na redução de distorções cognitivas subjacentes ao processamento de informação social em agressores (Antonio & Crosset, 2017). Deste modo, e atendendo ao papel que as variáveis supramencionadas podem ter na origem e na manutenção do comportamento antissocial, nos estudos de validação do GPS examinou-se a capacidade do programa em diminuir os sentimentos de raiva e, consequentemente, aumentar o controlo da mesma. Analisou-se ainda a eficácia do programa em reduzir os sentimentos de vergonha externa, bem como a ideação paranoide.

O objetivo último de um programa de reabilitação deve ser modificar o comportamento disfuncional, sendo que este indicador deve ser diretamente observável e quantificável (e.g., McGuire, 2011, 2013). A capacidade de um programa em reduzir o comportamento agressivo e antissocial é de extrema importância, tendo em conta que o comportamento violento em contexto prisional é altamente prevalente, o que, por sua vez, reduz a ordem e a segurança e introduz custos significativos para o sistema de justiça (Auty et al., 2017; Lahm, 2008; Memory et al., 1999; Tewksburry et al., 2014; Toman et al., 2015). Para além disso, há evidência empírica de que as infrações disciplinares em contexto prisional estão associadas ao aumento das taxas de reincidência (Dhami et al., 2007; Duwe & Clark, 2011). Por todos estes motivos, parece ser urgente identificar variáveis que possam estar subjacentes a um padrão de comportamento agressivo em contexto prisional (Tewksburry et al., 2014).

Desenvolvimentos teóricos recentes têm vindo a defender que as infrações disciplinares em contexto prisional podem ser explicadas por dificuldades ao nível da regulação emocional (Ammerman et al., 2015; Cohn, Jakupcak, Seibert, Hildebrandt, 2010; Fishbein et al., 2009; McLaughlin, Hatzenbuehler, Mennin, & Nolen-Hoeksema, 2011; Roberton, Daffern, & Bucks, 2014; Roll, Koglin, & Petermann, 2012; Tager et al., 2010; Velotti et al., 2016). Um número considerável de estudos tem apontado para uma associação positiva entre o comportamento agressivo e dificuldades na regulação emocional, nomeadamente em agressores adultos (e.g., Tager, Good, & Brammer, 2010), o que enfatiza a necessidade de incluir módulos dedicados à regulação emocional (para além de um trabalho focado no controlo da raiva) nos programas de

reabilitação para agressores (Fishbein et al., 2009; Roberton et al., 2014). No entanto, continuam a ser lacunares estudos que testem a eficácia dos programas de reabilitação na melhoria da regulação emocional e comportamental em agressores adultos. Assim, nos estudos de validação do GPS, procurou-se analisar a capacidade do programa em, por um lado, incrementar o recurso à reavaliação cognitiva (estratégia de regulação emocional adaptativa) e, por outro lado, diminuir o recurso à supressão emocional (estratégia de regulação emocional mal adaptativa). Procurou-se, ainda, testar a capacidade do programa em modificar o comportamento observável em contexto prisional, nomeadamente através da frequência das infrações disciplinares e da duração dos procedimentos disciplinares (i.e., punições aplicadas aos reclusos), que foram considerados como indicadores de (des)regulação comportamental.

Conforme é defendido por vários autores (e.g., Mascha et al., 2013; Moldovan & Pintea, 2015), os ensaios clínicos não se devem limitar à identificação dos efeitos positivos de um dado programa, sendo de igual importância identificar efeitos moderadores do tratamento. Os moderadores clarificam para que participantes e em que circunstâncias um tratamento funciona, sendo úteis na definição de critérios de inclusão e de exclusão, bem como na identificação dos participantes que são mais ou menos responsivos ao tratamento. A identificação de moderadores orienta, portanto, a seleção do tratamento mais adequado às caraterísticas da população-alvo (Manders et al., 2013).

A elevada prevalência das perturbações da personalidade em agressores adultos tem sido demonstrada em vários estudos empíricos. Em Portugal, numa amostra de 294 reclusos do sexo masculino, Brazão e colaboradores (2015)[13] encontraram uma taxa de prevalência global do diagnóstico de Perturbação da Personalidade de 79.9%, sendo que a Perturbação de Personalidade Antissocial foi o diagnóstico principal mais frequentemente identificado. Os autores encontraram ainda uma taxa de comorbilidade de 42.8%, sendo que as Perturbações de Personalidade Paranoide, Passivo-Agressiva, *Borderline* e Narcísica foram os diagnósticos comórbidos mais frequentemente associados à Perturbação de Personalidade Antissocial.

Dados da investigação mostram que indivíduos com patologia da personalidade severa são menos responsivos ao tratamento (Beck et al., 2015; Levenson, Wallace, Fournier, Rucci, & Frank, 2012; Moran & Crawford, 2013; Rafaeli et al., 2011) e têm maior probabilidade de reincidir (Kennealy et al., 2010; Walters & Heilbrun, 2010; Walters, Knight, Grann, & Dahle, 2008). Não obstante, continuam a ser inexistentes estudos que testem o efeito moderador da severidade da patologia da personalidade sobre os resultados dos programas de reabilitação para agressores. Esta investigação procurou colmatar esta lacuna, ao examinar o papel moderador da severidade da patologia da personalidade dos reclusos nos efeitos do GPS ao nível cognitivo (recurso a pensamentos adaptativos/distorções cognitivas e endosso de EMP), emocional (recurso às estratégias de reavaliação cognitiva e de supressão emocional) e comportamental (número de infrações disciplinares e duração dos procedimentos disciplinares).

[13]Artigo disponível no Anexo B.

Em suma, um **primeiro objetivo** desta dissertação foi estudar a adequação do GPS a reclusos do sexo masculino, bem como estabelecer a sua eficácia inicial em correlatos cognitivos e emocionais (pensamentos adaptativos, distorções cognitivas, EMP, raiva, vergonha e paranoia) subjacentes ao comportamento agressivo e antissocial, através de um desenho pré-teste/pós-teste com grupo de controlo (Estudos Empíricos I e II). Após estes dois estudos prévios, foram realizados estudos com amostras de maior dimensão e com procedimentos de investigação e de análise mais robustos, através de um desenho longitudinal com várias medidas repetidas e com grupo de controlo (cf. Opções metodológicas). Assim, um **segundo objetivo** foi testar os efeitos do GPS no funcionamento cognitivo (recurso a pensamentos adaptativos/distorções cognitivas e endosso de EMP) dos participantes (Estudo Empírico III), e um **terceiro objetivo** procurou avaliar a capacidade do GPS em reduzir sentimentos de raiva e vergonha, bem como a ideação paranoide (Estudo Empírico IV). Um **quarto objetivo** procurou investigar a capacidade do GPS em promover a regulação emocional e em reduzir o número de infrações disciplinares cometidas pelos reclusos e a duração dos respetivos procedimentos disciplinares (comportamento observável) (Estudo Empírico V). Finalmente, um **quinto objetivo** procurou testar o efeito moderador da severidade da patologia da personalidade dos reclusos sobre os resultados do programa ao nível cognitivo, emocional e comportamental (Estudo Empírico VI). Todos estes estudos (com a exceção dos Estudos Empíricos I e II) procuraram avaliar a estabilidade das mudanças um ano após a conclusão do programa. Os objetivos específicos de cada um dos estudos empíricos são apresentados no Quadro 1.

Quadro 1 | Objetivos específicos dos estudos empíricos

| Estudos empíricos | Objetivos específicos |
|---|---|
| Estudo I e II (Estudos Prévios) | Estudar a adequação do programa a reclusos do sexo masculino.<br>Estabelecer a eficácia inicial do GPS em correlatos cognitivos e emocionais (pensamentos adaptativos, distorções cognitivas, EMP, raiva, vergonha e paranoia) subjacentes ao comportamento agressivo e antissocial. |
| Estudo III | Avaliar a capacidade do programa em, por um lado, incrementar o recurso a pensamentos adaptativos e, por outro lado, diminuir o recurso a pensamentos mal adaptativos (i.e., distorções cognitivas).<br>Testar os efeitos do GPS na proeminência de EMP associados ao comportamento antissocial. |
| Estudo IV | Examinar a capacidade do programa em diminuir os sentimentos de raiva e, consequentemente, aumentar o controlo da mesma.<br>Analisar a eficácia do GPS em reduzir os sentimentos de vergonha externa, bem como a ideação paranoide. |
| Estudo V | Avaliar a capacidade do GPS em, por um lado, aumentar o recurso à reavaliação cognitiva (estratégia de regulação emocional adaptativa) e, por outro lado, diminuir o recurso à supressão emocional (estratégia de regulação emocional mal adaptativa).<br>Testar a eficácia do programa em reduzir o número de infrações disciplinares e a duração dos procedimentos disciplinares. |
| Estudo VI | Investigar o papel moderador da severidade da patologia da personalidade dos reclusos sobre os efeitos do GPS ao nível cognitivo (pensamentos adaptativos, distorções cognitivas e EMP), ao nível emocional (recurso às estratégias de reavaliação cognitiva e de supressão emocional) e ao nível comportamental (número de infrações disciplinares e duração dos procedimentos disciplinares). |

*Nota*. Nos Estudos III a VI, foi avaliada a estabilidade das mudanças um ano após a conclusão do GPS.

## 3. Opções metodológicas

### 3.1. Desenho do estudo e participantes

Este projeto consistiu num ensaio clínico aleatorizado (*randomized controlled trial* - RCT) com avaliações cegas (*blind assessments*) que decorreu em nove Estabelecimentos Prisionais de Portugal Continental e Região Autónoma da Madeira. Este ensaio clínico foi desenhado de acordo com as normas internacionais do Grupo JARS – APA's *Working Group on Journal Article Reporting Standards* (APA, 2008) e do Grupo CONSORT – *Consolidated Standards of Reporting Trials* (Moher et al., 2010), tendo sido registado como um RCT no ClinicalTrials.gov (ID: NCT03013738).

Os participantes do estudo foram reclusos do sexo masculino, entre os 18 e os 40 anos, que cumpriam pena efetiva de prisão. A seleção inicial dos participantes obedeceu aos seguintes critérios de exclusão: (1) incapacidades intelectuais (tendo em conta que a participação no GPS requer o recurso a competências metacognitivas), (2) sintomas psicóticos (as estratégias experienciais utilizadas no programa podem não ser adequadas para indivíduos com estes sintomas), (3) frequência de tratamento para a dependência de substâncias (a cessação ou a diminuição significativa de consumo de substâncias deve ocorrer antes do início das sessões do GPS), (4) crimes sexuais (o GPS não foi desenvolvido para agressores sexuais, pelo que pode não responder às necessidades específicas de intervenção que este grupo apresenta), (5) permanência na prisão inferior a 24 meses desde o início do programa (tendo em conta a duração de 12 meses do GPS e os 12 meses de *follow-up*). Os critérios (1) a (3) foram avaliados pelos psicólogos dos Estabelecimentos Prisionais e/ou recolhidos através das bases informáticas da Direção-Geral de Reinserção e Serviços Prisionais (DGRSP).

Agressores do sexo feminino foram excluídos do estudo porque, de acordo com dados oficiais da DGRSP, as agressoras representavam menos de 6% da população de reclusos em Portugal no momento em que foi desenhado o projeto de investigação, pelo que as possíveis idiossincrasias deste subgrupo de agressores não estariam devidamente representadas.

A equipa de investigação selecionou aleatoriamente 270 potenciais participantes (que não cumpriam os critérios de exclusão), sendo que os mesmos foram convidados a participar voluntariamente neste projeto. Destes 270 reclusos, 16 (5.9%) recusaram participar e 254 (94.1%) aceitaram participar neste estudo. Destes 254 reclusos, 121 (47.6%) integraram o grupo de tratamento (i.e., frequentaram o programa GPS) e 133 (52.3%) o grupo de controlo (i.e., não frequentaram as sessões do GPS).

Os participantes dos dois grupos foram avaliados em quatro momentos distintos: avaliação pré-tratamento (antes do início das sessões do GPS); avaliação intermédia (logo depois da 20ª sessão do programa e seis meses após o pré-tratamento); avaliação pós-tratamento (logo depois do término das sessões do GPS e seis meses após a avaliação intermédia); e avaliação *follow-up* (12 meses após a conclusão do programa/pós-tratamento). Dos 121 reclusos do grupo de tratamento que completaram a avaliação pré-tratamento, 108 (89.2%) completaram a avaliação intermédia, 97 (80.1%) completaram a avaliação pós-

tratamento e 69 (57.0%) completaram a avaliação *follow-up*. Apenas 17 reclusos (14.0%) desistiram do programa, sendo que as taxas de *dropout* se deveram, sobretudo, à transferência de Estabelecimento Prisional ou à concessão de Liberdade Condicional. Da amostra total de reclusos que frequentou as sessões do GPS, 79 (65.4%) frequentou mais do que 32 sessões, 19 (15.7%) frequentou entre 31 e 21 sessões, 12 (9.9%) frequentou entre 20 e 11 sessões, e 11 (9.0%) frequentou menos de 10 sessões. Os reclusos frequentaram, em média, 30 sessões (M = 30.18; DP = 11.45) do programa.

Dos 133 reclusos do grupo de controlo que completaram a avaliação pré-tratamento, 104 (85.9%) completaram a avaliação intermédia, 89 (66.9%) completaram a avaliação pós-tratamento e 67 (50.3%) completaram a avaliação *follow-up*. À semelhança do observado no grupo de tratamento, as taxas de *dropout* deveram-se à transferência de Estabelecimento Prisional ou à concessão de Liberdade Condicional. No entanto, um número significativo de controlos recusou preencher o protocolo, nomeadamente entre a avaliação intermédia e a avaliação *follow-up*.

A percentagem de valores omissos (*missings*) foi 16.9% na avaliação intermédia, 26.8% no pós-tratamento e 46.5% no *follow-up*. Com o objetivo de testar a aleatoriedade dos valores omissos (i.e., que a omissão não estava relacionada com as variáveis dependentes ou independentes), foi realizado o teste MCAR (*missing completely at random*) que mostrou que os valores omissos se deveram completamente ao acaso [$MCAR_{(30)} = 15.317$; $p = .988$]. Adicionalmente, um teste qui-quadrado mostrou que não havia diferenças significativas entre o grupo de tratamento e o grupo de controlo (**x2 = .997;** $p = .318$; *Cramer's V* = .06), relativamente à distribuição dos participantes pelas seguintes categorias: completou o protocolo (i.e., os quatro momentos de avaliação) vs. não completou o protocolo.

A Figura 1 apresenta uma representação gráfica da participação dos reclusos no estudo, ao longo dos quatro momentos de avaliação.

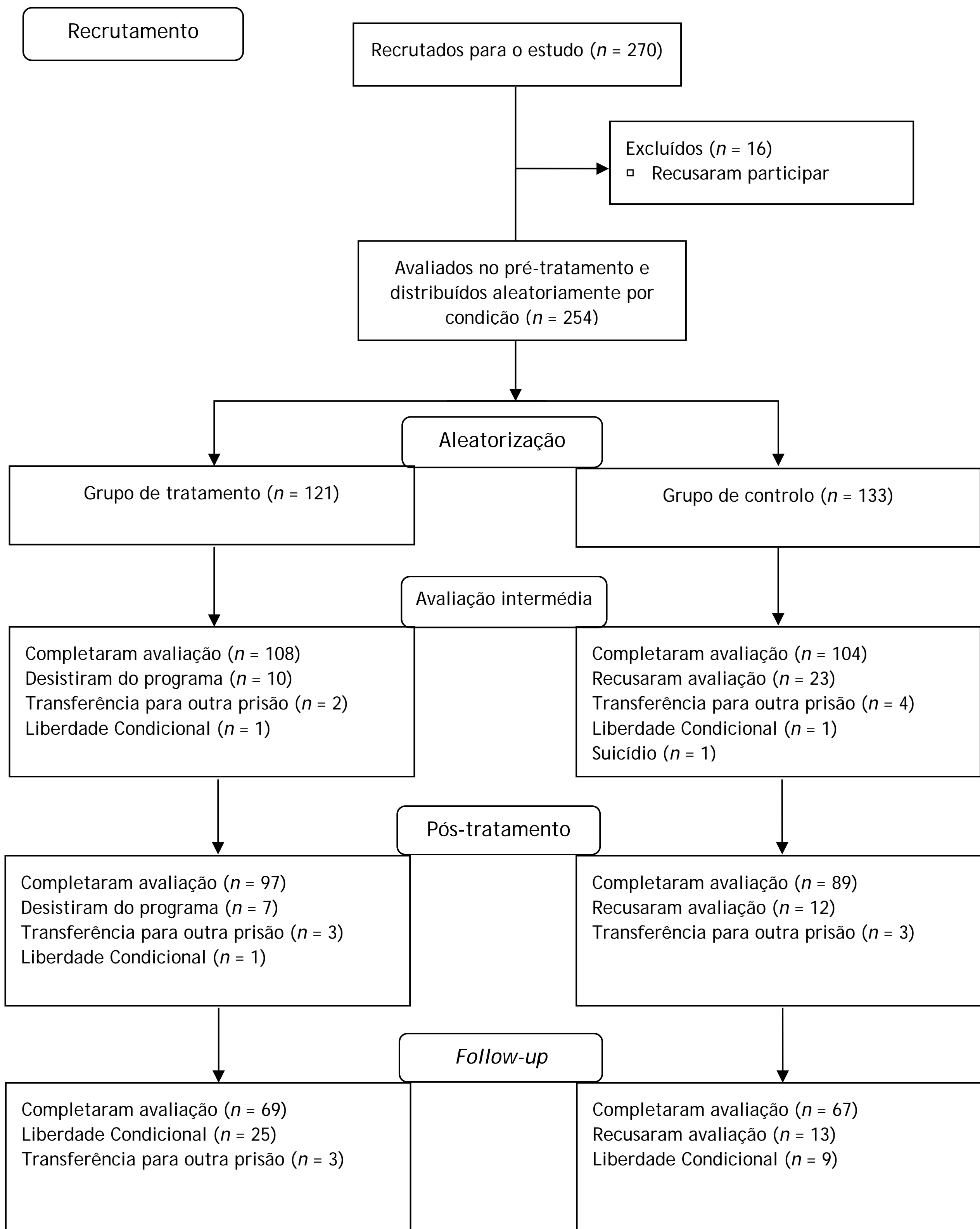


Figura 1 | Representação gráfica da participação dos reclusos no estudo

### 3.2. Instrumentos

#### 3.2.1. Ficha de dados sociodemográficos e jurídico-penais

De forma a obter informação sociodemográfica e jurídico-penal relevante dos participantes, foi construída uma ficha de dados que foi preenchida pelo técnico-tutor de cada recluso. A ficha de dados foi composta por duas partes. A primeira parte, referente aos dados sociodemográficos, incluiu questões acerca da idade, estado civil e nível socioeconómico. O nível socioeconómico dos reclusos foi classificado em três níveis, desde o nível 1 (*baixo*) ao nível 3 (*elevado*), considerando a profissão dos reclusos (anterior à reclusão), de acordo com a proposta do Instituto Nacional de Estatística (2011).

A segunda parte, relativa aos dados jurídico-penais, incluiu questões acerca da duração da pena de reclusão, o(s) tipo(s) de crime(s) cometido(s) e o registo criminal (agressor primário vs. agressor reincidente) dos reclusos.

#### 3.2.2. Entrevista Clínica

Com o objetivo de testar o efeito moderador da severidade da patologia da personalidade dos reclusos sobre os resultados do programa, os participantes foram entrevistados na avaliação-pré-tratamento com uma entrevista clínica que avalia as Perturbações da Personalidade e que descrevemos no ponto seguinte.

##### *3.2.2.1. SCID-II – Entrevista Clínica Estruturada para as Perturbações da Personalidade do Eixo II do DSM-IV*

A SCID-II (First, Gibbon, Spitzer, Williams, & Benjamin, 1997; versão portuguesa: Pinto-Gouveia, Matos, Rijo, Castilho, & Salvador, 1999) é uma entrevista de diagnóstico estruturada para avaliar as 10 Perturbações de Personalidade do Eixo II do DSM-IV, bem como a Perturbação de Personalidade Depressiva e a Perturbação de Personalidade Passivo-Agressiva (incluídas no Apêndice B do DSM-IV). Esta entrevista pode ser utilizada para fazer diagnósticos do Eixo II, quer categorialmente (presente ou ausente) quer dimensionalmente (registando o número dos critérios que, para cada diagnóstico, foi preenchido). No final da entrevista, obtém-se um quadro sumário com um perfil de patologia da personalidade que abrange todas as Perturbações de Personalidade avaliadas. O entrevistador deve ainda decidir e assinalar a patologia da personalidade que considera ser o diagnóstico principal, isto é, a que merece maior atenção clínica.

A fidedignidade ou validade da SCID-II tem sido amplamente investigada. Num estudo realizado por Williams e colaboradores (1995), a SCID-II foi aplicada por dois entrevistadores separados em duas ocasiões diferentes (num espaço de duas semanas) a 284 sujeitos em quatro hospitais psiquiátricos e em duas instituições não psiquiátricas. Relativamente aos doentes recolhidos, os valores *k* variaram entre .24 para a Perturbação de Personalidade Obsessivo-Compulsiva e .74 para a Perturbação de Personalidade Histriónica, com um peso total *k* de .53. Para a população sem doença psiquiátrica, contudo, a concordância foi consideravelmente

menor, com um peso *k* total de .38. O tempo médio de duração da administração da entrevista foi de 36 minutos.

As fidedignidades obtidas por outros investigadores utilizando a SCID-II apresentaram grandes variações, mas têm igualado ou excedido as fidedignidades obtidas no estudo anterior. Malow, West, Williams e Stuker (1989), aplicaram um teste-reteste (com uma segunda entrevista ocorrendo 48 horas após a primeira) em 29 doentes dependentes de cocaína ou de opiáceos, e encontraram um valor *k* de .87 para a Perturbação de Personalidade *Borderline* e de .84 para a Perturbação de Personalidade Antissocial. Por sua vez, Weiss, Najavits, Muenz e Hufford (1995) estudaram a fidedignidade teste-reteste durante 12 meses em 31 doentes dependentes de cocaína e encontraram um *k* total de .46. Finalmente, Arntz e colaboradores (1992) investigaram a fidedignidade da versão holandesa da SCID-II numa amostra de 70 doentes em regime de ambulatório. Os valores *k* variaram deste .77 para a Perturbação de Personalidade Obsessivo-Compulsiva até .82 para a Perturbação de Personalidade Evitante; o peso do *k* calculado para todas as Perturbações de Personalidade foi de .80.

Na presente investigação não foi possível estudar a fidedignidade ou validade da SCID-II por restrições temporais e económicas. Numa tentativa de contornar esta limitação, a entrevista foi aplicada por investigadores com formação e experiência prévia na avaliação das perturbações da personalidade em reclusos. Para além disso, os entrevistadores receberam supervisão regular durante o período em que a SCID-II foi administrada nos Estabelecimentos Prisionais.

#### 3.2.3. Questionários de autorresposta

De forma a testar os efeitos do GPS em diferentes tipos de indicadores, os reclusos responderam a uma bateria de questionários de autorresposta nos quatro momentos de avaliação: pré-tratamento, avaliação intermédia, pós-tratamento e *follow-up*. Em seguida, descreve-se sucintamente cada um dos questionários utilizados.

##### *3.2.3.1. YSQ-S3 - Young Schema Questionnaire Short Form Version 3/Questionário de Esquemas de Young*

O Questionário de Esquemas de Young (YSQ-S3; Young, 2005; versão portuguesa: Pinto-Gouveia, Rijo, & Salvador, 2006) é uma medida de autorresposta que inclui 90 itens que avaliam os 18 esquemas mal-adaptativos precoces propostos por Young (1990). Para cada esquema é apresentado um conjunto de cinco itens não sequenciados, aos quais a resposta é dada numa escala de 1 a 6, desde "*completamente falso, isto é, não tem absolutamente nada a ver com o que acontece comigo*" até "*descreve-me perfeitamente, isto é, tem tudo a ver com o que acontece comigo*". A pontuação para cada um dos 18 esquemas consiste na média das respostas dos cinco itens que avalia cada esquema e oscila entre 1 e 6. Pontuações mais elevadas são indicadoras de maior proeminência de esquemas.

As características psicométricas do YSQ-S3 têm sido testadas por um número considerável de estudos (Rijkeboer, Bergh, & Bout, 2005; Schimdt, Joiner, Young, & Telch,

1995; Soygut, Karaosmanoglu, & Çakir, 2009; Stopa, Thorne, Waters, & Preston, 2001; Waller, Meyer, & Ohanian, 2001).

Na versão Portuguesa, a dimensionalidade da escala foi estudada através de uma Análise Fatorial Confirmatória e os resultados mostraram o bom ajustamento do modelo testado de 18 fatores inter-relacionados. O YSQ-S3 revelou possuir elevada consistência interna para o total (α= .96) e os alfas das subescalas variaram entre .57 e .86. A escala revelou ainda poder discriminativo entre amostras clínicas e não-clínicas, assim como boa estabilidade temporal (Rijo, 2009, 2017).

No presente estudo, apenas foram considerados os oito esquemas subjacentes ao comportamento antissocial, de acordo com o modelo conceptual do GPS (Rijo et al., 2007). O *score* total (que resultou do somatório das pontuações obtidas nos oito esquemas) apresentou um nível de consistência interna de .89. No que se refere aos oito esquemas específicos, foram encontrados os seguintes alfas de Cronbach: .83 para privação emocional, .78 para abandono/instabilidade, .84 para desconfiança/abuso, .78 para indesejabilidade social, .76 para defeito/vergonha, .81 para fracasso, .89 para grandiosidade, e .75 para autocontrolo insuficiente.

#### *3.2.3.2. ACS – Angry Cognitions Scale/Escala de Cognições Associadas à Raiva*

A Escala de Cognições Associadas à Raiva (ACS; Martin & Dahlen, 2007; versão portuguesa: Leal, 2008) é um questionário de autorresposta composto por 54 itens que, por sua vez, se distribuem por nove cenários (e.g., "Chega a casa depois de passar pelo restaurante onde encomendou a comida e descobre que lhe deram a comida errada"). É solicitado aos participantes que imaginem que a situação descrita em cada cenário acabou de acontecer. Em seguida, é pedido aos participantes que respondam a seis itens por cenário que descrevem diferentes tipos de pensamento que podem ocorrer nas situações descritas, através de uma escala de cinco pontos (1 = *muito improvável* a 5 = *muito provável*). Em cada grupo de itens, cinco correspondem a processos mal adaptativos que incluem os seguintes erros cognitivos: atribuição causal, sobregeneralização, rotulação, exigência e catastrofização[14]. Os restantes itens, em cada um dos cenários, diz respeito a processos adaptativos (i.e., pensamentos adaptativos). Pontuação elevadas sugerem um maior recurso a pensamentos mal adaptativos/adaptativos.

A versão original do instrumento apresentou bons níveis de consistência interna, com alfas de Cronbach entre .82 e .91 para cada um dos erros cognitivos, e um alfa de .79 para o fator processos adaptativos (Martin & Dahlen, 2007). A versão portuguesa apenas conseguiu delimitar dois fatores – processos mal adaptativos (que inclui os cinco erros cognitivos) e processos adaptativos, com níveis de consistência interna de .93 e .77, respetivamente (Leal, 2008). No presente estudo, apenas foram considerados os dois fatores do instrumento (tendo em conta que a versão portuguesa não conseguiu identificar os cinco erros cognitivos). Foram

[14]Para uma definição de cada um destes erros cognitivos, consultar Martin e Dahlen (2007).

encontrados alfas de .94 para o fator processos mal adaptativos e .78 para o fator processos adaptativos.

#### 3.2.3.3. *STAXI – State Trait Anger Expression Inventory/Inventário de Expressão da Raiva como Estado e Traço*

O Inventário da Expressão da Raiva como Estado e Traço (STAXI; Spielberger, 1988; versão portuguesa de Silva, Campos, & Prazeres, 1999) é um questionário de autorresposta composto por 44 itens que se dividem em três partes: a primeira parte é constituída por 10 itens que avaliam o estado-raiva (como é que o indivíduo se sente no momento presente); a segunda parte é constituída por 10 itens que avaliam a raiva-traço (como é que o individuo se sente geralmente) e que inclui duas subescalas – temperamento e reação; e a terceira parte é constituída por 24 itens, que avaliam a expressão da raiva (como é que o indivíduo se comporta quando sente raiva) e que inclui três subescalas – raiva para dentro, raiva para fora e controlo da raiva. Cada item é cotado numa escala de quatro pontos (desde 1 = *quase nunca* a 4 = *quase sempre*), sendo que pontuações elevadas sugerem níveis elevados de raiva/controlo da raiva.

Na versão original, os níveis de consistência interna das diferentes subescalas variaram entre .73 e .93 (Spielberger, 1988), enquanto na versão Portuguesa os alfas de Cronbach dessas mesmas subescalas variaram entre .60 e .85 (Silva et al., 1999). No presente estudo, os níveis de consistência interna foram .91 para a raiva-estado, .86 para a raiva-traço, .81 para o temperamento, .77 para a reação, .76 para a expressão da raiva e para a raiva para dentro, .80 para a raiva para fora e .84 para o controlo da raiva.

#### 3.2.3.4. *OAS – Other as Shamer Scale/Escala de Vergonha Externa*

A Escala de Vergonha Externa (OAS; Allan, Gilbert, & Goss 1994; Versão portuguesa: Matos, Pinto-Gouveia, & Duarte, 2011) é um questionário de autorresposta composto por 18 itens que avaliam a vergonha externa (i.e., perceção que os outros veem o *self* como inferior, sem valor, inadequado, desinteressante ou incompetente). Cada item é respondido com base numa escala de cinco pontos (0 = *quase nunca* a 4 = *quase sempre*), de acordo com a frequência com que o indivíduo sente que é julgado pelos outros de forma negativa, sendo que pontuações mais elevadas refletem maior vergonha externa. A pontuação final resulta do somatório de todos os itens e oscila entre 0 e 72.

A versão original da escala apresentou bons níveis de consistência interna, quer com amostras comunitárias (α = .96), quer com amostras clínicas (α = .92) (Goss, Gilbert, & Allan, 1994). A versão portuguesa encontrou um alfa de Cronbach de .91 (Matos et al., 2011). No presente estudo, o nível de consistência interna foi .86.

#### 3.2.3.5. *PS – Paranoia Scale/Escala de Paranoia*

A Escala de Paranoia (PS; Fenigstein & Vanable, 1992; versão portuguesa: Lopes & Pinto-Gouveia, 2005) é um questionário de autorresposta de 20 itens que avaliam ideação paranoide não clínica. Os itens são cotados numa escala de cinco pontos (1 = *nunca* a 5 = *sempre*), sendo

que pontuações elevadas correspondem a níveis elevados de ideação paranoide, nomeadamente: suspeita de conspiração contra o *self*, de ser observado, julgado ou atacado; crença de que os outros podem exercer controlo sobre o *self*; desconfiança face às intenções de terceiros (Fenigstein & Vanable, 1992). A pontuação final consiste no somatório de todos os itens e oscila entre 20 e 100.

Na versão original, a PS apresentou um nível de consistência interna de .89 numa amostra comunitária (Fenigstein & Vanable, 1992). Na versão portuguesa (Barreto Carvalho et al., 2015), o nível de consistência interna foi .92, enquanto no presente estudo o alfa de Cronbach foi .85.

#### *3.2.3.6. ERQ – Emotion Regulation Questionnaire/Questionário de Regulação Emocional*

O Questionário de Regulação Emocional (ERQ; Gross & John, 2003; versão portuguesa de Dinis & Pinto-Gouveia, 2007) é uma medida de autorresposta constituída por 10 itens que avaliam duas estratégias de regulação emocional: reavaliação cognitiva (e.g., "Quando enfrento uma situação perturbadora, esforço-me para pensar nisso de um modo que me ajude a permanecer calmo(a)") e supressão emocional (e.g., "Quando estou a sentir emoções positivas sou cuidadoso(a) para não as expressar"). Os participantes respondem aos itens através de uma escala de sete pontos, desde 1 (*discordo fortemente*) a 7 (*concordo fortemente*), sendo que valores mais elevados são indicadores de uso mais frequente das respetivas estratégias de regulação emocional.

A versão original do ERQ apresentou bons valores de consistência interna, com alfas de Cronbach de .79 para a reavaliação cognitiva e .73 para a supressão emocional (Gross & John, 2003). A versão portuguesa do instrumento apresentou um alfa de Cronbach de .80 para ambos os fatores (Dinis & Pinto-Gouveia, 2007). No presente estudo, os valores de consistência interna foram de .76 para a reavaliação cognitiva e .72 para a supressão emocional.

### 3.2.4. Grelha de registo das infrações e procedimentos disciplinares

Os investigadores desenvolveram uma grelha de registo de forma a ter acesso a dois tipos de indicadores: o número total de infrações disciplinares, bem como o número total de dias que os reclusos estiveram a cumprir procedimentos disciplinares. Estes dados foram consultados em bases informáticas da DGRSP e foram recolhidos considerando três períodos de tempo distintos: nos 12 meses anteriores ao início do GPS, durante os 12 meses do programa, e nos 12 meses seguintes ao término do GPS. A média do número de infrações disciplinares e a média do número de dias procedimentos disciplinares foi calculada e considerada como indicadores de (des)regulação comportamental.

Em suma, foram avaliados vários indicadores do funcionamento psicológico dos participantes através de diferentes métodos de recolha de informação. O Quadro 2 sintetiza as variáveis em estudo e os respetivos instrumentos, bem como os diferentes momentos de avaliação.

**Quadro 2** | Variáveis, instrumentos e momentos de avaliação

| Variáveis | Instrumentos | Momentos de avaliação | | | |
|---|---|---|---|---|---|
| | | M0 | M1 | M2 | M3 |
| Características sociodemográficas e jurídico-penais | Ficha de dados sociodemográficos e jurídico-penais | √ | × | × | × |
| Perturbações da Personalidade | Entrevista Clínica Estruturada para as Perturbações da Personalidade do Eixo II do DSM-IV | √ | × | × | × |
| Esquemas mal-adaptativos precoces | Questionário de Esquemas de Young | √ | √ | √ | √ |
| Pensamentos adaptativos/distorções cognitivas | Escala de Cognições Associadas à Raiva | √ | √ | √ | √ |
| Raiva | Inventário de Expressão da Raiva como Estado e Traço | √ | √ | √ | √ |
| Vergonha externa | Escala de Vergonha Externa | √ | √ | √ | √ |
| Paranoia | Escala de Paranoia | √ | √ | √ | √ |
| Regulação emocional | Questionário de Regulação Emocional | √ | √ | √ | √ |
| Infrações e procedimentos disciplinares | Grelha de registo das infrações e procedimentos disciplinares | √ | √ | √ | - |

*Nota*. Os questionários de autorresposta foram aplicados em quatro momentos diferentes: avaliação pré-tratamento (antes do início do GPS); avaliação intermédia (após a 20ª sessão do programa); avaliação pós-tratamento (logo após o término do GPS); e avaliação *follow-up* (um ano após a conclusão do programa). As infrações e procedimentos disciplinares foram recolhidos em três intervalos de tempo distintos: nos 12 meses anteriores ao início do programa; durante os 12 meses do GPS; e nos 12 meses seguintes à conclusão do programa.

M0 = avaliação pré-tratamento/avaliação nos 12 meses anteriores ao início do GPS

M1 = avaliação intermédia/avaliação durante os 12 meses do programa

M2 = avaliação pós-tratamento/avaliação nos 12 meses seguintes ao término do GPS

M3 = avaliação *follow-up*

### 3.3. Procedimentos de investigação

O projeto de investigação foi submetido a aprovação da Comissão de Ética da Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra e da Comissão Nacional de Proteção de Dados. O projeto foi ainda submetido a aprovação do Diretor-Geral da DGRSP. Após as devidas autorizações e aprovações, uma lista de potenciais participantes (que não cumpriam os critérios de exclusão) foi disponibilizada à esquipa de investigação pelos psicólogos dos Estabelecimentos Prisionais. Em seguida, uma amostra de participantes foi selecionada aleatoriamente por um investigador que desconhecia qualquer tipo de informação pessoal acerca dos reclusos. Foi então realizada uma primeira reunião entre os reclusos selecionados e a equipa de investigação, na qual os investigadores fizeram uma exposição detalhada dos objetivos do estudo, bem como do programa GPS. Foi explicado aos reclusos que a sua participação não teria qualquer impacto/interferência na pena de reclusão e que os mesmos não receberiam qualquer tipo de incentivo (monetário, por exemplo) pela sua participação. Os reclusos que concordaram participar no estudo foram avaliados no momento pré-tratamento (com a entrevista clínica para as perturbações da personalidade e com os questionários de autorresposta), depois de terem assinado um formulário de consentimento informado. Após a conclusão deste momento de avaliação, os reclusos foram distribuídos aleatoriamente pelas condições experimentais (grupo de tratamento e grupo de controlo) por um investigador que, mais uma vez, não teve qualquer acesso a informação pessoal sobre os reclusos. Por fim, os investigadores informaram os psicólogos dos Estabelecimentos Prisionais do resultado da aleatorização, para que o programa GPS pudesse ter início. No total, foram realizados nove grupos (um em cada prisão, sendo que os grupos constituídos variaram de tamanho sendo o menor de 8 e o maior de 15 participantes). Foi oferecida a possibilidade aos reclusos do grupo de controlo de os mesmos frequentarem as sessões do GPS após a conclusão do estudo (i.e., após os 12 meses referentes ao período de *follow-up*).

Nos quatro momentos de avaliação (pré-tratamento, avaliação intermédia, pós-tratamento e *follow-up*), os participantes responderam aos diferentes questionários de autorresposta, sendo que a entrevista clínica apenas foi aplicada na avaliação pré-tratamento. Estas avaliações foram realizadas por investigadores que receberam treino/supervisão na administração dos questionários de autorresposta/entrevista clínica. Para além disso, os avaliadores desconheciam a que condição experimental pertenciam os reclusos. Um sistema de código foi utilizado de forma a emparelhar o protocolo de um dado momento de avaliação com o momento seguinte. Conforme já foi mencionado, as infrações e os procedimentos disciplinares foram recolhidos através de bases informáticas da DGRSP, referentes a três intervalos de tempo distintos: nos 12 meses anteriores ao início do GPS, durante os 12 meses do programa, e nos 12 meses seguintes ao término do GPS. Esta recolha foi realizada por um investigador que só teve acesso à informação relativa às infrações e procedimentos disciplinares dos participantes.

O GPS foi aplicado em cada grupo por dois psicólogos (um do sexo masculino e um do sexo feminino) dos Estabelecimentos Prisionais, que receberam treino especializado no modelo

conceptual e nas metodologias de intervenção do programa. A integridade do tratamento foi assegurada através de: (1) dinamização das sessões por dois terapeutas; (2) reuniões de intervisão entre terapeutas para discussão das sessões aplicadas e preparação das sessões seguintes; (3) reuniões regulares de supervisão entre os terapeutas e a equipa de investigação (inclusive o primeiro autor do programa). Importa referir que a presença simultânea de dois terapeutas em cada sessão terá contribuído para a integridade do tratamento. Enquanto um terapeuta era responsável pela dinamização da sessão, o segundo terapeuta observava a implementação e assegurava-se que o primeiro cumpria o protocolo. Este segundo terapeuta apenas intervinha quando o primeiro se desviava do protocolo (e.g., discutir tópicos irrelevantes para o conteúdo da sessão). Para auxiliar este segundo terapeuta na identificação de desvios ao protocolo, foi incluída uma adenda no manual do GPS com uma identificação de possíveis desvios. Para além disso, o facto de o GPS ser altamente estruturado e manualizado pode ter contribuído, pelo menos parcialmente, para a qualidade da implementação. Procedimentos estandardizados de avaliação da qualidade da implementação do programa, como a gravação de sessões e/ou a presença de avaliadores externos nas sessões do GPS, não foram autorizados pela DGRSP por questões éticas e de confidencialidade/anonimato dos participantes.

### 3.4. Análise de dados

#### 3.4.1. Análise de poder estatístico

Uma análise do poder estatístico foi realizada à priori através do software G*Power v3.1 (Faul, Erdfelder, Buchner, & Lang, 2009). Os resultados mostraram que uma amostra de 203 reclusos seria necessária para detetar efeitos médios ($f = .25$) com um nível de significância de .05 e um poder de .90.

#### 3.4.2. Análise da covariância e *Reliable Change Index*

Conforme já foi referido, estudos prévios foram realizados com o objetivo de estabelecer a eficácia inicial do GPS (cf. Estudos Empíricos I e II). Os dados foram analisados de acordo com o princípio *per-protocol analysis*, segundo o qual apenas os participantes que completaram o protocolo foram incluídos nas análises. Ambos os grupos (i.e., grupo de tratamento e grupo de controlo) foram comparados no pré-tratamento através de testes *t* para amostras independentes e, tendo em conta que foram encontradas diferenças entre os grupos em duas variáveis dependentes, uma análise da covariância (ANCOVA) foi realizada para avaliar os efeitos do GPS no pós-tratamento. Adicionalmente, testes *t* para amostras emparelhadas foram realizados separadamente em cada grupo para avaliar mudanças intra-sujeitos.

Para além das mudanças no grupo (significância estatística), foram também analisadas mudanças individuais (significância clínica), por várias razões. Em primeiro lugar, os testes de diferenças de médias (e.g., testes *t*, ANOVA) não fornecem informação sobre a variabilidade individual em torno da média dos grupos (diferenças individuais), isto é, a variabilidade de

resposta a um dado tratamento. Em segundo lugar, mesmo quando estes testes apontam para um efeito estatisticamente significativo, não implica que o mesmo seja clinicamente significativo. Por mudança clinicamente significativa, entende-se uma redução ou extinção dos problemas (Kazdin & Wilson, 1978), níveis normativos de funcionamento após o tratamento (Kendall & Norton-Ford, 1982; Nietzel & Trull, 1988) ou mudanças que reduzem significativamente o risco para psicopatologia (Jacboson & Truax, 1991). Efeitos estatisticamente significativos são apenas indicadores de que a diferença de médias entre o pré e o pós-tratamento é real e que, portanto, não se deve ao acaso (Jacbson & Truax, 1991; Wise, 2004). Ainda que a magnitude do efeito (*efect size*) seja habitualmente utilizada como um indicador de significância prática ou clínica, esta medida apenas informa se o efeito encontrado é pequeno, médio ou elevado. Assim, esta medida continua a não informar os investigadores se o tratamento teve um impacto real e prático nos sujeitos (Jacbson & Truax, 1991), isto é, se resultou numa efetiva redução de sintomas/dificuldades ou se aproximou os sujeitos de níveis normativos de funcionamento. Por todos estes motivos, a utilização de métodos estatísticos que permitem avaliar a mudança clínica tem vindo a ser utilizada na validação de programas de intervenção com amostras clínicas. No entanto, estas metodologias têm sido menos utilizadas com amostras forenses, nomeadamente com agressores adultos (Hollin et al., 2013).

Para avaliar a mudança clínica nos referidos estudos (i.e., Estudos Empíricos I e II), utilizou-se a metodologia estatística de Jacobson e Truax (1991), o *Reliable Change Index* (RCI), que foi especificamente desenvolvido para testar a eficácia de uma terapia ou programa. Este índice permite testar a hipótese nula de não haver mudança clinicamente significativa, em função da distribuição normal (Maaseen, 2001), tendo ainda em conta o erro de medida dos instrumentos (Wise, 2004). O RCI é calculado com a seguinte fórmula: $RCI = \frac{(X\,post - X\,pre)}{\sqrt{2}(\mathrm{SD0} * \sqrt{1-}\,\alpha)2}$, em que *x post* representa o resultado do indivíduo no momento da pós-intervenção; *X pre* representa o resultado do indivíduo no momento da pré-intervenção; *DP0* representa o desvio-padrão da população geral nessa variável; e *X* representa o índice de consistência interna do instrumento de medida ou subescala que avalia a variável em causa.

De acordo com Wise (2004), caso os resultados sejam superiores a 0.84 podemos afirmar, com um intervalo de confiança de 80%, que se verificou uma mudança real, fiável e significativa; no entanto, caso os resultados sejam superiores a 1.28 ou 1.96, esse intervalo de confiança aumenta para 90 e 95%, respetivamente. Pelo contrário, caso os resultados sejam inferiores a 0.84, podemos afirmar que se verificou deterioração clínica. Valores entre 0.84 e -0.84 sugerem que não ocorreu mudança. Neste estudo, foram consideradas as seguintes categorias que englobam os diferentes intervalos de confiança: "Melhoria Clínica", "Deterioração Clínica" e "Sem Mudança". Para comparar os grupos (tratamento e controlo) na distribuição dos participantes pelas categorias de mudança clínica, foram realizados testes qui-quadrado com ajustamento de *Fisher*. A magnitude do efeito foi calculada através do *Cramer's V*, sendo que .10 foi considerado um efeito pequeno, .30 um efeito médio e .50 um efeito elevado (Cohen, 1988).

### 3.4.3. Modelos de Crescimento Latente

Nos estudos com amostras de maior dimensão, os dados foram analisados com Modelos de Crescimento Latente (cf. Estudos Empíricos III, IV e V) tendo em conta a natureza longitudinal dos mesmos. Numa primeira fase, as análises foram realizadas de acordo com o princípio do *intention to treat analysis*, segundo o qual todos os participantes, mesmo os que não completaram o protocolo, foram incluídos nas análises. Numa segunda fase, e com o objetivo de avaliar os efeitos do GPS apenas nos reclusos que completaram o protocolo, estas mesmas análises foram realizadas de acordo com o princípio do *per-protocol analysis*.

Embora os métodos estatísticos de medidas repetidas (e.g., ANOVA) sejam frequentemente utilizados nos estudos longitudinais, há evidência de que estas abordagens poderão não ser as mais adequadas na avaliação da mudança ao longo do tempo (Curran, Obeidat, & Losardo, 2010; Duncan & Duncan, 2009; Hesser, 2015). Estes métodos exigem pressupostos relativos à homogeneidade e independência dos erros e das medidas repetidas que não só são difíceis de garantir, como a sua violação pode comprometer a qualidade das conclusões obtidas (Marôco, 2011). Adicionalmente, estes métodos assumem que apenas efeitos fixos (i.e., efeitos grupais), e não efeitos aleatórios (i.e., efeitos individuais), são responsáveis pela variação observada entre as diferentes medidas. Estas abordagens avaliam apenas padrões lineares das medidas dos grupos, sendo a variabilidade individual em torno da média dos grupos considerada como variância de erro. Contudo, esta variância de erro pode conter informação importante relativa ao processo sob estudo que é, assim, perdida (Marôco, 2011). Em alternativa, os Modelos de Crescimento Latente analisam quer uma tendência linear, quer uma tendência não-linear de mudança (i.e., quadrática), permitindo aos indivíduos diferirem na taxa de crescimento (i.e., declive) das variáveis dependentes ao longo do tempo (Duncan & Duncan, 1995, 2009; Malmberg et al., 2015; Múthen, 1997; Múthen & Múthen, 2010).

Nos Modelos de Crescimento Latente, considera-se que a variável associada ao crescimento ou variação temporal dos indicadores medidos não é diretamente observável, mas sim latente (Marôco, 2011). A enfâse da análise é, portanto, sobre a modelação do processo explicativo (i.e., latente) e não sobre o comportamento manifesto. Assim, neste estudo foram modeladas duas varáveis latentes, o intercepto (i.e., valor inicial ou basal) e o declive (i.e., taxa de crescimento), a partir dos dados disponíveis no pré-tratamento (M0), na avaliação intermédia (M1), no pós-tratamento (M2) e no *follow-up* (M3). Por convenção, os pesos do intercepto em cada medida repetida foram fixados em 1 de forma a refletir a influência constante do valor basal sobre as diferentes medidas repetidas. Tendo em conta que os diferentes momentos de avaliação não foram igualmente espaçados (i.e., nos três primeiros momentos de avaliação, os reclusos foram avaliados com um intervalo de seis meses; entre o terceiro e o quarto momento de avaliação, os participantes foram avaliados com um intervalo de 12 meses), os pesos do declive foram fixados em 0 para o pré-tratamento, em 1 para a avaliação intermédia, em 2 para o pós-tratamento e 4 para o *follow-up*. O declive da primeira medida repetida foi fixado em 0 para que o valor de $\alpha$ reflita o valor médio basal no início do estudo.

Em primeiro lugar (quer nas análises de acordo com o princípio do *intention to treat analysis*, quer nas análises de acordo com o princípio do *per-protocol analysis*), foram analisados modelos incondicionados de mudança nas variáveis dependentes ao longo do tempo separadamente em cada grupo (tratamento e controlo) sem nenhuma variável preditora ou de controlo. Estes modelos testaram quer a tendência de mudança linear, quer a tendência de mudança não-linear. A magnitude do efeito foi calculada através do *Cohen's d*, com 0.2 a indicar um efeito pequeno, 0.5 um efeito médio e 0.8 um efeito elevado (Cohen, 1988). Em seguida, a associação entre a condição e a mudança ao longo do tempo foi examinada com o grupo (grupo de controlo vs. grupo de tratamento, que foram codificados com 0 e 1, respetivamente) como preditor do intercepto e do declive. A trajetória do grupo para o intercepto reflete diferenças na avaliação pré-tratamento. Por sua vez, a trajetória da condição para o declive reflete diferenças entre os grupos na taxa de crescimento ao longo do tempo. Adicionalmente, a associação entre a dosagem do tratamento e a taxa de crescimento ao longo do tempo foi analisada no grupo de tratamento, com o número de sessões (< 32 sessões vs. ≥ 32 sessões codificadas com 0 e 1, respetivamente) como preditor do declive. O ponto de corte ≥ 32 sessões (80%) foi utilizado para classificar os participantes que completaram o tratamento, de acordo com as recomendações de Cullen e colaboradores (2012).

Em todos os modelos, foram analisados os seguintes indicadores de ajustamento: *Chi-Square* (*x2*), *Comparative Fit Index* (CFI), *Root-Mean Square Error of Approximation* (RMSEA) e *Standardized Root-Mean Square Residual* (SRMR). Um CFI > .95 combinado com um RMSEA < .08 ou com um SRMR < .08 foram considerados bons indicadores de ajustamento, de acordo com a proposta de Hair Jr., Black, Babin e Anderson (2005). Nas análises que foram realizadas de acordo com o princípio do *intention to treat analysis*, foi utilizado o *Full Information Maximum Likelihood Estimation* para lidar com valores omissos. Assim, todos os participantes que completaram os dois primeiros momentos de avaliação (mesmo que não tenham completado o terceiro e/ou o quarto momento de avaliação) foram incluídos nas análises. Apenas foram excluídos das análises os participantes que só completaram a primeira avaliação.

#### 3.4.4. Análise de Perfis Latentes e análise da variância mista

Com o objetivo de avaliar o impacto da severidade da patologia da personalidade dos reclusos nos resultados do programa (cf. Estudo Empírico VI), uma Análise de Perfis Latentes (*Latent Profile Analysis*; LPA) foi realizada com base nos seguintes critérios: (1) número de critérios de diagnóstico preenchidos para a Perturbação de Personalidade Antissocial e (2) número de perturbações de personalidade diagnosticadas em cada participante. Considerou-se estes dois critérios na identificação dos perfis atendendo à elevada prevalência da Perturbação de Personalidade Antissocial e à elevada comorbilidade entre Perturbações de Personalidade encontradas na amostra em estudo (cf. Estudo Empírico VI).

A LPA é um método estatístico centrado no participante, que permite criar perfis de indivíduos com base nas semelhanças e/ou diferenças que os mesmos apresentam num determinado número de variáveis contínuas observáveis (McLachlan & Peel, 2004). O objetivo

da análise consiste em determinar o número de classes (i.e., perfis) que caraterizam os participantes, começando com um modelo de uma única classe. O número de classes aumenta gradualmente até que o modelo deixe de apresentar melhorias nos diferentes indicadores de ajustamento. A opção pelo melhor modelo (i.e., modelo composto pelo número de classes que melhor caracteriza os participantes) obedeceu aos princípios/recomendações propostas por Ram e Grim (2009). Em primeiro lugar, os modelos com diferentes números de classes foram comparados entre si tendo em conta o ajustamento dos Critérios de Informação (*Information Criteria*), nomeadamente: *Bayesian Information Criteria* (BIC; Schwartz, 1978); *Akaike Information Criteria* (AIC; Akaike, 1987); e *Sample-Size-Adjusted Bayesian Information Criteria* (SSA-BIC; Sclove, 1987). Valores mais baixos nestes indicadores, especialmente no BIC, indicam um melhor ajustamento do modelo (Nylund, Asparouhov, & Muthen, 2007). Em segundo lugar, foram analisados os valores de Entropia, que indicam a precisão com que os modelos classificam os indivíduos na sua classe mais provável. Os valores de Entropia variam entre 0 e 1, sendo que valores superiores a .70 indicam uma classificação precisa e um maior poder do modelo em predizer a pertença dos indivíduos às diferentes classes (Muthén, 2001). Em terceiro lugar, comparou-se o ajustamento de um modelo mais complexo ($k$ classes) com um modelo mais parcimonioso ($k$-1 classe), através dos testes Lo-*Mendell-Rubin* (LMR; Lo, Mendell, & Rubin, 2001) e *Bootstrap Likelihood Ratio* (BLRT; McLachlan & Peel, 2004). Valores de $p$ não significativos em ambos os testes mostram que um modelo com menos uma classe é preferível a um modelo mais complexo. Em quarto lugar, foi considerado o tamanho da amostra da classe mais pequena, sendo que modelos com uma classe com menos do que 25 indivíduos ou que correspondesse a < 1% da amostra foram rejeitados (Bauer & Curran, 2004). Finalmente, e tendo em conta que a LPA é uma abordagem probabilística, foram consideradas as probabilidades de associação às classes, sendo que valores iguais ou superiores .80 apontam para uma elevada probabilidade de os indivíduos estarem corretamente classificados nas diferentes classes (Rost, 2006).

Após a LPA, e com o objetivo de investigar o efeito moderador dos perfis de patologia da personalidade nos resultados do programa, foi realizada uma análise da variância (ANOVA) mista com o tempo (avaliação pré-tratamento, avaliação intermédia, avaliação pós-tratamento e avaliação *follow-up*) como factor intra-sujeitos e a condição (tratamento vs. controlo) e os perfis de patologia da personalidade (previamente identificados através da LPA) como factores inter-sujeitos. A magnitude do efeito foi calculada através do *partial eta square* ($\eta^2_p$), com $\eta^2_p = .01$ considerado um efeito pequeno, $\eta^2_p = .06$ um efeito médio e $\eta^2_p = .14$ um efeito elevado (Tabachnick & Fidell, 2013). A opção pela ANOVA mista deveu-se ao reduzido número de participantes em cada um dos perfis, que não permitiu a realização de outro tipo de análises (e.g., Modelos de Crescimento Latente Condicionados).

## 4. Princípios éticos

Durante todo o processo de investigação foram tidos em consideração os princípios éticos na investigação científica em seres humanos e as recomendações presentes no Código Deontológico da Ordem dos Psicólogos Portugueses (2011). De forma a cumprir os princípios éticos da beneficência e não-maleficência na investigação com seres humanos, na fase de desenvolvimento do projeto de investigação, refletiu-se acerca da relevância dos objetivos do estudo, desenho metodológico e potenciais riscos e benefícios para os participantes. Esta reflexão conjunta (entre os elementos da equipa de investigação e os elementos da DGRSP) orientou as escolhas relativas aos instrumentos e aos momentos de avaliação, com o objetivo de salvaguardar o bem-estar dos participantes acima de qualquer outro interesse ou objetivo. Integradas as sugestões decorrentes do processo de reflexão, submeteu-se o projeto de investigação à consideração e aprovação da Comissão de Ética da Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra, da Comissão Nacional de Proteção de Dados e do Gabinete de Gestão de Programas da DGRSP.

Após a aprovação do projeto de investigação, passou-se à sua implementação. Durante esta fase, procurou-se seguir diferentes recomendações éticas. Para além do primeiro contacto junto dos participantes ser efetuado por uma figura de referência (i.e., técnico tutor responsável por cada recluso), foi fornecido aos participantes um conjunto de informações sobre o projeto de investigação, mais especificamente sobre o programa GPS, os objetivos do estudo, o papel dos participantes e os procedimentos envolvidos. Foi também assegurado aos participantes o cariz voluntário da participação, bem como a confidencialidade dos dados e o seu uso exclusivo para fins de investigação. Foram ainda disponibilizados os contactos dos investigadores e do centro de investigação, para que os potenciais participantes pudessem tomar uma decisão informada. Estas informações estavam descritas no formulário de consentimento informado, que foi lido e explicado oralmente a cada participante, de modo a que qualquer dúvida que surgisse fosse imediatamente esclarecida pelo investigador. Foi solicitado a todos os indivíduos que aceitaram participar no projeto de investigação que assinassem o consentimento informado. Durante a implementação do projeto adotaram-se algumas medidas para garantir a confidencialidade e anonimato dos dados recolhidos, nomeadamente: 1) utilizar um gabinete dos serviços clínicos durante o preenchimento dos questionários/participação na entrevista; 2) identificar o protocolo de avaliação com um sistema de código; 3) desemparelhar o consentimento informado do protocolo de avaliação para não permitir a identificação posterior do participante, quer por pessoas externas à equipa de investigação, quer pela própria equipa; 4) recolher apenas dados pessoais estritamente necessários à investigação; e 5) inserir os dados numa base informática, analisando-os exclusivamente de forma coletiva.

Por fim, na fase da divulgação dos resultados, os mesmos foram apresentados de acordo com os parâmetros internacionais de divulgação científica. Para além da divulgação dos resultados entre a comunidade científica (através da publicação de artigos e da realização de comunicações em formato oral/poster em encontros científicos nacionais e internacionais),

realizou-se uma reunião com elementos do Gabinete de Gestão de Programas da DGRSP, na qual foram apresentados os resultados e discutidas as principais implicações para a prática profissional/gestão do sistema prisional. Está ainda prevista uma reunião de devolução da informação a todos os diretores/psicólogos dos Estabelecimentos Prisionais que colaboraram neste projeto de investigação.

# CAPÍTULO III

## ESTUDOS EMPÍRICOS

## Estudo Empírico I |

## Clinical change in cognitive distortions and core schemas after a cognitive-behavioral group intervention: Preliminary findings from a randomized controlled trial

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# Clinical change in cognitive distortions and core schemas after a cognitive-behavioral group intervention: Preliminary findings from a randomized controlled trial

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## Abstract

***Objective:*** The goal of this pilot study was to assess the efficacy of a cognitive–behavioral program in reducing cognitive distortions and schemas in prison inmates.

***Method:*** The Angry Cognitions Scale and the Young Schema Questionnaire was answered by a treatment and control group, and the treatment effects were tested using ANCOVA with baseline as covariate and condition as fixed factor. In order to assess clinical change, the Reliable Change Index was computed.

***Results:*** At baseline, no differences were found between groups, except for one subscale of the Angry Cognitions Scale (Maladaptive Processes), where controls scored higher than treatment subjects. ANCOVA showed significant differences between groups at posttreatment, with treatment subjects presenting lower scores on the studied variables. Concerning clinical change, differences between groups were observed in the distributions by change categories in the majority of the variables.

***Conclusion:*** These outcomes offer preliminary evidence of the program's ability to change cognitive variables underlying antisocial behavior.

*Keywords*: antisocial behavior; clinical change; cognitive distortions; core schemas; Growing Pro-Social Program.

## Introduction

Structured multimodal programs in a group delivery format have been regarded as the best cost-effective practice for the rehabilitation of adult and young offenders (McGuire, 2006, 2008, 2011, 2013), and are the main form of intervention, both in community and institutional settings. The most disseminated and validated proposals aiming for the reduction of criminal recidivism are structured cognitive-behavioral programs (Andrews & Bonta, 2010a, 2010b; Bogestad, Kettler, & Hagan, 2009; Borum & Verhaagen, 2006; Farrell & Flannery, 2006; Genovés, Morales, & Sanchéz-Meca, 2006; Gilbert & Daffern, 2010; Holin, Palmer, & Hatcher, 2013; Lösel, 2001; MacKenzie, 2006; McGuire, 2001; McGuire et al., 2008; Pearson, Lipton, Cleland, & Campbell, 2002; Wilson, Bouffard, & MacKenzie, 2005). Research has also pointed out that multimodal group programs, which include a cognitive component, can be twice as effective as those that do not (Bogestad et al., 2009; Gendreau & Andrews, 1990; Holin et al., 2013; Izzo & Ross, 1990; Pearson et al., 2002; Wilson et al., 2005).

In forensic settings, most rehabilitation programs are designed to have an impact in social information processing associated with offensive behavior. Among the most disseminated programs used in the rehabilitation of inmates are the Reasoning and Rehabilitation (R&R; Ross, Fabiano, & Ross, 1989) and the Enhanced Thinking Skills (ETS; Clark 2000), both having a good evidence base (Cullen et al., 2012; McDougall, Perry, Clarbour, Bowles, & Worthy, 2009). These programs are based on the cognitive-behavioral approach and include a large number of sessions aiming for the development of different skills, such as: problem solving, assertiveness skills, social skills, negotiation skills, creative thinking, emotion management, values reasoning, and critical reasoning. The promotion of these skills is essential for the modification of self—serving cognitive distortions, which is these programs' main goal.

The role of social cognitive biases and dysfunctional cognitions in aggressive and conduct-disordered boys has been widely described in the social information processing theory by Dodge et al. (Crick & Dodge, 1994, 1996; Dodge, 1993; Dodge & Schwartz, 1997; Huesmann & Guerra, 1997; Lochman, Wayland, & White, 1993; Quiggle, Garber, Panak, & Dodge, 1992; Zeli, Dodge, Lochman, & Laird, 1999). According to these authors, aggressive children have a tendency to attribute hostile intent to others under circumstances of ambiguous cues. Thus, the likelihood of being aggressive partially depends on the child's social information processing. Dodge et al. five-step model (e.g., Dodge & Schwartz, 1997) proposes that children first encode and then interpret cues; highly aggressive youth may attribute hostile intent to peers and selectively interpret cues that support that hostile attribution bias. The next steps include response access or construction, response evaluation and decision, and behavior enactment; for aggressive children with a hostile bias, the response is often aggressive (in accordance with the hostile view of others). In line with Dodge and colleagues work, Walters (1990, 1995, 2005, 2007) proposes that criminal behavior results from a life pattern characterized by irresponsibility, self-indulgence, interpersonal intrusion, and social rule-breaking, which is maintained by eight criminal thinking styles: mollification, cutoff, entitlement, power orientation, sentimentality, super optimism, cognitive-indulgence and discontinuity (for a

definition of each one of these thinking styles, see Walters, 1990). From a cognitive perspective, these criminal thinking styles could be conceptualized as cognitive distortions that offenders use when processing information, in order to justify their criminal conduct and/ or to minimize the consequences of their own behavior. According to this perspective, cognitive distortions should be selected as targets for change when intervening with offenders.

Other studies also suggest that specific core beliefs or schemas play a major role in the onset and maintenance of antisocial behavior (Ball & Cecero, 2001; Calvete, 2008; Chakhssi, Bernstein, & de Ruiter, 2012; Gilbert & Daffern, 2013; Jovev & Jackson, 2004; Nordahl, Holthe, & Haugum, 2005; Petrocelli, Glaser, Calhoun, & Campbell, 2001). Early Maladaptive Schemas—EMSs (Rafaeli, Bernstein, & Young, 2011; Young, 1990; Young, Beck, & Weinberger, 1993; Young & Klosko, 1994; Young, Klosko, & Weishaar, 1993; Young & Lindemann, 1992) are core cognitive structures comprising dysfunctional memories, emotions, and cognitions underlying dysfunctional interpersonal patterns and behaviors. EMSs are conceptualized as negative themes about the self and the others that have their origin in early interactions with significant others, who do not meet the children's core needs (connection, acceptance, autonomy, definition of limits, and safeness). Later in life, EMSs can be triggered in any situation where schema-relevant information is present. Once an EMS is triggered it will guide information processing in a way that maintains and reinforces that same EMS. The core schemas maladaptiveness results not only from the amount of cognitive distortions, when processing the available information, but also from the arousal of intense negative emotional states, and schema-related dysfunctional behavior. One key aspect of EMSs is that they are stable and hard to change, namely due to schema processes: cognitive, emotional and behavioral maintenance, avoidance and overcompensation (for a review, see Young et al., 2003). From this point of view, antisocial behavior can be conceptualized as a result of a distorted view of the self and others, which leads to cognitive distortions in the social information processing. These distortions, in the interpretation of relevant events, facilitate aggression and other antisocial behavioral patterns (Barriga, Gibbs, Potter, & Liau, 2001; Nas, Brugman, & Koops, 2005, 2008), which, in turn, reinforce and maintain dysfunctional core schemas. In other words, core schemas will give rise to judgments, inferences, and attributions that are consistently biased in an erroneous manner (i.e., they will cause cognitive distortions). For instance, one who endorses a mistrust/abuse schema and believes that others are likely to be hostile is at risk of interpreting an ambiguous interaction as reflecting an aggressive intent (Crick & Dodge, 1994, 1996; Dodge, 1993; Dodge & Schwartz, 1997), and, consequently, will act in accordance with this misperception (i.e., in an aggressive manner). A considerable amount of research (Ball & Cecero, 2001; Calvete, 2008; Chakhssi et al., 2012; Gilbert & Daffern, 2013; Jovev & Jackson, 2004; Nordahl et al., 2005; Petrocelli et al., 2001) has demonstrated the association between core schemas and antisocial behavior, and the results have shown a positive association between mistrust/abuse, grandiosity/entitlement and insufficient self-control schemas and antisocial behavior.

Although the link between dysfunctional core beliefs, cognitive distortions and antisocial behavior is known, few intervention programs developed for offenders take into account the need for promoting change at a deeper level, such as dysfunctional core schemas, in order to modify aggressive and antisocial behavior. Most of the programs do not identify what should be the focus of change and what actually causes changes, nor define the relation between the variables that they try to modify during intervention (Rijo & Sousa, 2004; Rijo et al., 2007). For instance, emotional control sessions are carried out if emotional control is totally independent from social reasoning or interpersonal behavior (Brazão, da Motta, & Rijo, 2013). Moreover, most programs tend to use mainly reasoning and school-like activities (e.g., paper and pencil), rather than experiential tasks, which would be more adequate to increase self-knowledge and cognitive change (Brazão et al., 2013; Rijo et al., 2007). Another frequent misconception in these approaches is the assumption that the majority of antisocial individuals present deficits in social skills. Clinical practice and research have shown that many offenders do not present social deficits (Rijo & Sousa, 2004), and intervention should focus more ''(...) on the question of whether certain skills are used, as well as the frequency, context, and purpose with which they are employed'' (Brazão et al., 2013, p. 639).

In order to overcome these shortcomings, Rijo and colleagues (2007) developed a new cognitive-behavioral intervention program, the GPS—Growing Pro-Social. GPS's theoretical framework is based on a cognitive-interpersonal perspective (Safran & McMain, 1992; Safran & Segal, 1990; Rafaeli et al., 2011; Young 1990; Young & Klosko 1994; Young & Lindemann 1992; Young et al., 1993, 2003), which conceptualizes aggressive behavioral patterns as a result of a distorted view of the self and the others. GPS aims to achieve behavioral change through the promotion of change in cognitive correlates (core schemas, cognitive distortions and cognitive products) of antisocial behavior. The ultimate goal is to reach some degree of change in particular dysfunctional core beliefs, underlying the social information processing of antisocial individuals (Brazão et al., 2013; Rijo et al., 2007): Emotional Deprivation, Abandonment, Mistrust/Abuse, Defectiveness/Shame, Social Isolation/Alienation, Failure, Entitlement, and Insufficient Self-Control (for a description of each of these schemas, see Young et al. 2003). This is accomplished by following a gradual strategy of change which begins by: (1) increasing knowledge about human communication (recognizing the ambiguity of human interactions), (2) changing maladaptive interpersonal behavior patterns, (3) learning about cognitive distortions and trying to counteract them, (4) experiencing and understanding the way emotions work and their influence on behavior and, finally, (5) relating actual problems and malfunctioning with core schemas and their influence on thoughts, emotions and behavior. This gradual strategy of change requires that the program be delivered in a predefined sequence of five modules, (preceded by an initial session for the presentation of the program): Human Communication (5 sessions), Interpersonal Relationships (10 sessions), Cognitive Distortions (6 sessions), Function and Meaning of Emotions (7 sessions), and Dysfunctional Core Beliefs (10 sessions). GPS ends with a final session, and follow-up sessions can be carried out afterwards.

While Modules 1 and 2 are focused on interpersonal behavior and communication skills, Modules 3, 4 and 5 address cognitive and emotional variables. From the GPS 40 sessions (each lasting 90 min), 16 of them are designed to directly address cognitive change; in six of these sessions, participants are encouraged to understand the way our mind processes social information. Common thinking errors (cognitive distortions) are identified, and participants are trained to think in a more realistic way about relevant daily events. In the other 10 sessions, dysfunctional core beliefs are identified, as well as their influence in the attribution of meaning to reality. Participants are encouraged to fight against their own core beliefs, diminishing the influence these schemas exert on thoughts, emotions and behavior. These sessions usually include experiential tasks, and participants are encouraged to achieve insight through systematic questioning about the reactions noticed during activities (guided discovery approach), and to apply this knowledge to real life situations (Brazão et al., 2013; Rijo et al., 2007).

The main goal of this pilot study was to test the GPS efficacy in reducing cognitive distortions and specific dysfunctional core beliefs in a sample of male prison inmates. It was expected that, after GPS delivery, treatment group subjects would show a decrease of cognitive distortions in social information processing, as well as less endorsement of the eight core schemas underlying antisocial behavior, when compared to control group subjects.

## Method

This exploratory trial was designed in accordance with the CONSORT (Consolidated Standards of Reporting Trials) 2010 Statement guidelines for reporting randomized trials.

### Participants

Participants were selected from male prison inmates aged between 19 and 40 years old from three Portuguese prisons. The initial selection of inmates met the following exclusion criteria: (1) presence of cognitive disabilities (given that this kind of intervention is not suitable for the cognitively-impaired) or psychotic symptoms (experiential strategies used in GPS are contraindicated for psychotic patients); (2) being treated for drug abuse/dependence (cessation or at least substantial reduction of drug or alcohol use must precede any attempt to attend GPS sessions); (3) being sentenced exclusively for sexual offenses (sex offenders would benefit from more specific intervention programs); and (4) remaining in prison less than 12 months (GPS's length), since the beginning of the program.

A sample of 60 male prison inmates, who did not meet the exclusion criteria, was invited to participate. After this first selection, four subjects declined to participate, and 56 inmates were randomly assigned to treatment and control groups. Treatment subjects attended GPS's 40 sessions for 12 months, while the controls did not participate in any kind of program. From the initial 27 treatment group subjects, two dropped out of the program, and one was transferred to another prison during intervention. These three subjects were excluded from further analysis, because it was not possible to obtain post-treatment measures. From the 29

controls, three refused to answer the second evaluation and another two were transferred to another prison. These five subjects were also excluded from analysis.

Groups were compared regarding demographic characteristics, and no significant differences were found (all *p* > .05). In treatment and control groups, the mean age was 27.26 (SD = 7.37) and 29.50 (SD = 5.83), respectively. Most participants were mostly single (79.1% in treatment group and 75.0% in control group), with a low socioeconomic status (87.5% in treatment group and 100% in control group). The groups were also compared concerning legal and criminal sample features, and no significant differences were found (all *p* > .05). In treatment and control groups, the average sentence length was 129.75 months (SD = 59.55) and 155.45 months (SD = 54.61), respectively. Most participants committed several crimes (54.1% in treatment group and 75.0% in control group) and were first-time offenders (79.1% in treatment group and 75.0% in control group). Crimes for which they were sentenced to prison were predominantly against property, followed by crimes against people, crimes against the State, and drug-related offences.

### Measures

Subjects reported on measures of core schemas and cognitive distortions before the start and after the terminus of the program (or the equivalent time interval for the control group). Socio-demographic and legal data on participants were collected from prison staff members.

**Young Schema Questionnaire—YSQ-S3** (Young, 2005; Portuguese version by Pinto-Gouveia, Rijo, & Salvador, 2006): is a widely-used self-report questionnaire including 90 items, measuring the 18 Early Maladaptive Schemas proposed by Young (1990). Each schema is evaluated using a set of five items listed randomly, which the individual rates using a Likert-type scale from 1 (completely untrue to me) to 6 (describes me perfectly). The YSQ's psychometric properties have been extensively studied by several authors (Schmidt, Joiner, Young, & Telch, 1995; Soygut, Karaosmanoglu, Çakir, 2009; Stopa, Thorne, Waters, & Preston, 2001; Waller, Meyer, & Ohanian, 2001). Factor structure and discriminant power between clinical and nonclinical samples have also been studied (e.g., Rijkeboer, Bergh, & Bout, 2005). In Portuguese samples, a structure of 18 factors with moderate item-total correlations and high internal consistency (a = .97) was found (Rijo, 2009).

In the present study, only the eight schemas proposed as underlying antisocial behavior by the GPS theoretical model (Rijo et al., 2007) were taken into account. The total score (resulting from the sum of the eight schemas) internal consistency was .89. As for the specific schemas, the internal consistency was .83 for Emotional Deprivation, .78 for Abandonment/Instability, .84 for Mistrust/Abuse, .78 for Social Isolation/Alienation, .76 for the Defectiveness/ Shame, .81 for the Failure, .89 for the Grandiosity/Entitlement and, finally, .75 for the Insufficient Self Control/ Self Discipline.

**Angry Cognitions Scale—ACS** (Martin & Dahlen, 2007; Portuguese version by Leal, 2008): consists of 54 items distributed across nine scenarios (e.g., ''you get home from the

drive thru and realized that you were given the wrong food''). Participants are asked to imagine that the situation described in each scenario has just happened. For each scenario, there are six items referring to different thoughts that could arise during the situation, which can be rated on a 5-point Likert-type scale (very unlikely to very likely). In each group of items, five correspond to Maladaptive Processes addressing five information processing errors—Misattributing Causation, Overgeneralization, Inflammatory Labeling, Demandingness and Catastrophic Evaluation (for a definition of each one of these errors, see Martin & Dahlen, 2007). The remaining item in each scenario refers to the Adaptive Processes, which constitutes the second factor of this instrument (Martin & Dahlen, 2007).

The original version of the ACS presented good psychometric properties, with internal consistency values ranging between .82 and .91 for each of the five information processing errors subscales, and an alpha of .79 for the subscale corresponding to Adaptive Processes (Martin & Dahlen, 2007). For the psychometric data of the Portuguese version of this instrument, only two factors were identified—Maladaptive Processes and Adaptive Processes, with Cronbach's alphas of .93 and .77, respectively (Leal, 2008).

In the current study, only Adaptive and Maladaptive main factors were taken into account (since the Portuguese version of the instrument could not identify the five specific cognitive distortions). The Adaptive Processes factor presented an alpha of .78, and the Maladaptive Processes an alpha of .94.

### Interventions

Treatment subjects attended to the GPS program (previously described in the introduction session) for about 12 months, in addition to the Treatment As Usual (TAU) delivered at Portuguese penitentiaries: supervision of school frequency, occupational and job-related tasks and sentence planning supervision over time. Subjects assigned to the control group received TAU and did not attend the GPS sessions or any other program during the research period.

GPS is used in the Portuguese Prison system as a universal delivery program. In this sense, the majority of prison inmates receive the program a few months after prison intake and after the definition of the individual rehabilitation plan, which is done by the case management staff using a motivational approach. Offenders presenting specific criminogenic needs also receive other structured interventions after GPS completion.

### Procedures

At each prison, individuals who did not meet the exclusion criteria, were invited to participate in this study. An explanation about the research project and a brief overview of the intervention program were presented and inmates were invited to participate voluntarily. Subjects were then randomly assigned to the treatment or control conditions using a random number table. At a first meeting, prison staff explained the aims of the study to the selected inmates and asked for their informed consent.

Data collection was carried out by psychologists from each prison (not responsible for the GPS delivery) and by the authors of this paper. Subjects in the treatment group were assessed a week before the first session of the program and one week after its terminus; controls were assessed with the same time interval. All treatment completers attended at least 80 % of the GPS sessions (32 or more sessions). Two senior psychologists were chosen to be responsible for the GPS implementation in each prison and, as a way to ensure treatment integrity, all six professionals received training and regular supervision in the program's methodology and intervention strategies. The study was approved by the Head of the General Directorship of Social Reinsertion and Prison Services of the Portuguese Ministry of Justice.

**Data analysis**

Data analysis was carried out in accordance with the Treatment Received (TR) principle, in which outcomes were measured by comparing the outcomes for inmates who completed the program with those in the control group. Both groups were compared at baseline, using independent-samples t tests and the between-group differences in outcome measures at post-treatment were tested using ANCOVA with baseline as covariate and condition as a fixed factor. Additionally, within-group t tests were performed for each group. All effect sizes were calculated using *Cohen's d*.

In order to evaluate intra-subject clinical change, the Reliable Change Index (RCI; Jacobson & Truax, 1991) was used, which is considered an index with high reliability (Atkins, Bedics, McGlinchey, & Bauchaine, 2005). The RCI was designed to test the efficacy of a particular therapy or program. Instead of focusing on the differences of mean scores, it provides information about treatment effects for each individual, allowing to test whether an individual improves or deteriorates in comparison to baseline (Conboy, 2003). In order to ascertain whether the observed change is in fact genuine and not just due to measurement errors, and whether the change places the individual inside the norms of functional groups (Conboy, 2003), RCI allows the testing of the null hypothesis of no clinically meaningful change, depending on the normal distribution (Maaseen, 2001), and taking into account the measurement error of the instruments (Jacobson & Truax, 1991). This index is computed using the formula: $RCI = \frac{(X\,post - X\,pre)}{\sqrt{2}(\mathrm{SD0} * \sqrt{1-\alpha})2}$ where X post represents the result of the individual in the post-test, X pre represents the result of the individual in the pre-test, SD0 represents the standard deviation of the variable in a normal sample, and a represents the internal consistency of the scale in the present sample.

According to Wise (2004), if the RCI scores are > 0.84 we can assert, with a confidence interval of 80 %, that real, reliable and significant change has been verified; however, if the result exceeds 1.28 or 1.96, that confidence interval increases to 90 and 95 %, respectively. On the contrary, if the result is less than -0.84, we can say that deterioration occurred. All values between 0.84 and -0.84 indicate that no change was observed. For the interpretation of the RCI in this study, three broad categories were defined: ''Global Improvement'' (GI), ''Global Deterioration'' (GD) and ''No Change'' (NC). To compare both groups in the distributions by

clinical change categories, Chi square statistics with Fisher's exact tests with a .05 level of significance was performed. Effect sizes of the differences found in the distributions by clinical change category between groups were calculated with *Cramer's V*.

## Results

### Baseline differences

Comparisons between groups at baseline for the outcome measures were performed. No significant differences were found between the control and treatment groups at the onset of the study (all $p > .05$), except for one factor of the Angry Cognitions Scale, Maladaptive Processes. In this subscale, the control group had a higher score (M = 3.06; SD = 0.64) at baseline when compared to the treatment group (M = 2.71; SD = 0.67), and the effect size of this comparison was moderate ($t = 2.03$; $p = .048$; *Cohen's d* = 0.59).

### Analysis of covariance

Table 1 presents the analysis of covariance, with baseline as covariate. Regarding the Angry Cognitions Scale, the treatment group had lower scores in Maladaptive Processes at the end of GPS when compared to the control group, which indicates less use of cognitive distortions when processing social information. This difference corresponded to a strong effect. For Adaptive Processes, no differences between groups were found.

Concerning core schemas, and with the exception of the Mistrust/Abuse schema, there were significant differences between groups in the expected direction: treatment group subjects showed lower scores on the majority of specific core beliefs when compared to controls, which suggests less prominence of these core beliefs in the individuals' self-concept. This same outcome was observed for the total score, with strong effect sizes.

### Within-group *t* tests of change

Within-group *t* tests were also carried out in each group (see Table 2). In the treatment group, and concerning the Angry Cognitions Scale, no significant differences between pre-and post-treatment moments were found either for Adaptive or Maladaptive Processes. Regarding core schemas, significant differences were found for Social Isolation/Alienation and for the total score in the expected direction: subjects showed a significant reduction at post-treatment when compared to baseline. These differences corresponded to moderate effects. For the remaining schemas no significant differences were found between baseline and post-treatment.

In the control group, significant differences were found for Adaptive and Maladaptive Processes, with subjects presenting higher scores at post-treatment when compared to baseline. The observed effect sizes were moderate. These same outcomes were observed for Emotional Deprivation, Defectiveness/Shame, Failure, and Insufficient Self-Control schemas, as well as for the total score. No other differences were found between pre- and post-treatment.

**Clinical change in adaptive and maladaptive processes, and core schemas after GPS completion**

The results obtained for each group in the three possible classes of clinical change in Adaptive and Maladaptive Processes, and core schemas are presented in Table 3. There were no differences between groups on the distributions by clinical change categories either for Adaptive or Maladaptive Processes. Nevertheless, there was a tendency to a better outcome on Maladaptive Processes in the treatment group subjects while the majority of controls tended to deteriorate in this variable.

Concerning core schemas, the results showed a clear difference between groups on the distributions by clinical change category for the total score. For this variable, improvement in the treatment group was similar to the number of subjects with clinical deterioration on the control group. The observed effect size was strong. Concerning the specific core beliefs, differences between groups on the distributions by clinical change categories were observed for Emotional Deprivation, Defectiveness/Shame, Social Isolation/Alienation, and Failure. In all cases, a high percentage of subjects from the treatment group showed improvements while a high percentage of controls fell into the deterioration category. The effect sizes for these comparisons were strong. No other differences between groups were observed.

Table 1. *Means and SDs of the Outcome Measures by Group at Post-treatment, and Analysis of Covariance*

| | *TG* | | *CG* | | | | |
|---|---|---|---|---|---|---|---|
| Outcome measures | *M* | *SD* | *M* | *SD* | *F* | *p* | *Cohen's d* |
| Angry Cognitions Scale | | | | | | | |
| Maladaptive Processes | 111.79 | 47.74 | 151.54 | 22.88 | 8.51 | .005 | 1.06 |
| Adaptive Processes | 34.37 | 7.13 | 36.16 | 5.41 | 1.26 | .267 | 0.28 |
| Young Schema Questionnaire | | | | | | | |
| Emotional Deprivation | 1.58 | 0.84 | 2.69 | 1.30 | 16.47 | <.001 | 1.01 |
| Abandonment/Instability | 2.10 | 0.97 | 3.14 | 0.60 | 15.00 | <.001 | 1.28 |
| Mistrust/Abuse | 2.55 | 1.11 | 3.05 | 0.91 | 2.39 | .129 | 0.49 |
| Social Isolation | 1.73 | 0.63 | 2.68 | 0.89 | 17.01 | <.001 | 1.23 |
| Defectiveness/Shame | 1.25 | 0.29 | 2.30 | 0.83 | 32.33 | <.001 | 1.68 |
| Failure | 1.32 | 0.42 | 2.10 | 0.86 | 14.77 | <.001 | 1.15 |
| Grandiosity/Entitlement | 2.05 | 0.75 | 2.90 | 0.78 | 15.00 | <.001 | 1.11 |
| Insufficient Self-Control | 1.92 | 0.72 | 2.60 | 0.93 | 7.86 | .007 | 0.81 |
| Total (8 schemas) | 1.81 | 0.56 | 2.68 | 0.64 | 25.23 | <.001 | 1.44 |

*Note*. Maladaptive Processes include the following cognitive distortions: Misattributing Causation, Overgeneralization, Inflammatory Labeling, Demandingness, and Catastrophic Evaluations.
TG = treatment group; CG = control group.

Table 2. *Within Group T-tests for Treatment and Control Groups*

| | Treatment group | | | | | | Control group | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | T1 | | T2 | | | | T1 | | T2 | | | |
| Outcome measures | M | SD | M | SD | *t* | *Cohen's d* | M | SD | M | SD | *t* | *Cohen's d* |
| Angry Cognitions Scale | | | | | | | | | | | | |
| Maladaptive Processes | 122.33 | 24.52 | 111.79 | 47.74 | 1.29 | 0.27 | 138.04 | 28.84 | 151.54 | 22.88 | 2.47* | 0.52 |
| Adaptive Processes | 35.50 | 6.07 | 34.37 | 7.13 | .545 | 0.12 | 32.58 | 6.07 | 36.16 | 5.41 | 2.36* | 0.61 |
| Young Schema Questionnaire | | | | | | | | | | | | |
| Emotional Deprivation | 1.87 | 1.16 | 1.58 | 0.84 | 1.54 | 0.28 | 2.00 | 1.23 | 2.69 | 1.30 | 3.02** | 0.54 |
| Abandonment/Instability | 2.63 | 0.96 | 2.10 | 0.97 | 2.00 | 0.54 | 3.23 | 1.29 | 3.14 | 0.60 | 0.39 | 0.08 |
| Mistrust/Abuse | 2.61 | 0.83 | 2.55 | 1.11 | 0.31 | 0.06 | 2.82 | 1.08 | 3.05 | 0.91 | 1.51 | 0.23 |
| Social Isolation | 2.09 | 0.76 | 1.73 | 0.63 | 2.29* | 0.51 | 2.31 | 0.97 | 2.68 | 0.89 | 1.70 | 0.39 |
| Defectiveness/Shame | 1.55 | 0.74 | 1.25 | 0.29 | 2.00 | 0.53 | 1.74 | 1.05 | 2.30 | 0.83 | 2.41* | 0.59 |
| Failure | 1.45 | 0.46 | 1.32 | 0.42 | 1.25 | 0.29 | 1.62 | 0.66 | 2.10 | 0.86 | 2.91** | 0.62 |
| Grandiosity/Entitlement | 2.45 | 0.77 | 2.05 | 0.75 | 2.01 | 0.52 | 2.49 | 0.99 | 2.90 | 0.78 | 1.79 | 0.46 |
| Insufficient Self-Control | 2.04 | 0.82 | 1.92 | 0.72 | 0.62 | 0.15 | 2.14 | 0.72 | 2.60 | 0.93 | 2.36** | 0.55 |
| Total (8 schemas) | 2.08 | 0.55 | 1.81 | 0.56 | 2.07* | 0.48 | 2.29 | 0.72 | 2.68 | 0.64 | 3.39** | 0.57 |

*Note*. Maladaptive Processes include the following cognitive distortions: Misattributing Causation, Overgeneralization, Inflammatory Labeling, Demandingness, and Catastrophic Evaluations.

T1 = pre-treatment; T2 = post-treatment. * $p < .05$; ** $p < .01$.

Table 3. *Reliable Change Index for the Adaptive and Maladaptive Processes, and for the 8 EMS Underlying Antisocial Behavior as Hypothesized by the GPS Theoretical Model*

| *Outcome measures* | *Categories* | *TG* | | *CG* | | *F* | *p* | *Cramer's V* |
|---|---|---|---|---|---|---|---|---|
| | | *n* | % | *N* | % | | | |
| ACS | | | | | | | | |
| | GI | 5 | 20.8 | 10 | 41.6 | | | |
| Adaptive Processes | NC | 13 | 54.1 | 11 | 45.8 | 2.75 | .298 | 0.24 |
| | GD | 6 | 25.0 | 3 | 12.5 | | | |
| | GI | 11 | 45.8 | 4 | 16.6 | | | |
| Maladaptive Processes | NC | 6 | 25.0 | 6 | 25.0 | 5.51 | .058 | 0.34 |
| | GD | 7 | 29.1 | 14 | 58.3 | | | |
| YSQ-S3 | | | | | | | | |
| | GI | 9 | 37.5 | 7 | 29.1 | | | |
| Abandonment | NC | 11 | 45.8 | 12 | 50.0 | .47 | .864 | 0.09 |
| | GD | 4 | 16.6 | 5 | 20.8 | | | |
| | GI | 8 | 33.3 | 3 | 12.5 | | | |
| Mistrust/Abuse | NC | 8 | 33.3 | 12 | 50.0 | 3.05 | .250 | 0.25 |
| | GD | 8 | 33.3 | 9 | 37.5 | | | |
| | GI | 8 | 33.3 | 2 | 8.3 | | | |
| Emotional Deprivation | NC | 13 | 54.1 | 9 | 37.5 | 10.57 | .004 | 0.46 |
| | GD | 3 | 12.5 | 13 | 54.1 | | | |
| | GI | 6 | 25.0 | 4 | 16.6 | | | |
| Defectiveness/Shame | NC | 17 | 70.8 | 7 | 29.1 | 15.57 | <.001 | 0.55 |
| | GD | 1 | 4.1 | 13 | 54.1 | | | |
| | GI | 9 | 37.5 | 1 | 4.17 | | | |
| Social Isolation | NC | 12 | 50.0 | 16 | 66.6 | 8.59 | .015 | 0.42 |
| | GD | 3 | 12.5 | 7 | 29.1 | | | |
| | GI | 6 | 25.0 | 2 | 8.3 | | | |
| Failure | NC | 16 | 66.6 | 11 | 45.8 | 9.09 | .011 | 0.43 |
| | GD | 2 | 8.3 | 11 | 45.8 | | | |
| | GI | 11 | 45.8 | 5 | 20.8 | | | |
| Grandiosity | NC | 8 | 33.3 | 7 | 29.1 | 5.09 | .076 | 0.32 |
| | GD | 5 | 20.8 | 12 | 50.0 | | | |
| | GI | 8 | 33.3 | 6 | 25.0 | | | |
| Insufficient Self-Control | NC | 9 | 37.5 | 7 | 29.1 | 3.14 | .227 | 0.25 |
| | GD | 7 | 29.1 | 11 | 45.8 | | | |
| | GI | 15 | 62.5 | 5 | 20.8 | | | |
| Total (8 schemas) | NC | 1 | 4.1 | 4 | 16.6 | 10.27 | .005 | .46 |
| | GD | 8 | 33.3 | 15 | 62.5 | | | |

*Note*. Maladaptive Processes include Misattributing Causation, Overgeneralization, Inflammatory Labeling, Demandingness, and Catastrophic Evaluations cognitive distortions.

ACS = Angry Cognitions Scale; YSQ-S3 = Young Schema Questionnaire; GI = Global Improvement; NC = No Change; GD = Global Deterioration; TG = treatment group; CG = control group.

## Discussion

The main goal of this pilot study was to assess GPS efficacy in promoting change in cognitive processes and self-representation (core schemas) in male prison inmates. Differences between mean scores in treatment and control groups at post-treatment were analyzed, as well as within group comparisons, and special attention was given to clinical change observed in each of the participants. Several authors (Atkins et al., 2005; Conboy, 2003; Jacobson & Truax 1991; Maaseen, 2001) have argued that significant clinical change should be addressed in the assessment of any treatment efficacy. Nevertheless, this methodology has been less used in offender's treatment evaluation (Holin et al., 2013).

At post-treatment, significant differences were found between groups on the maladaptive cognitive processes and on the majority of the specific core beliefs underlying antisocial behavior, with treatment subjects presenting lower scores than control subjects. When looking at within group comparisons, results suggested that these between group differences after GPS completion may result not only from the improvement achieved by treatment subjects, but also from the deterioration observed in controls in the majority of the studied variables. Results in the subjects that completed GPS may suggest that this program can be effective in buffering this tendency to worsen over time.

Concerning clinical change, no significant differences between groups in the distributions by clinical change categories were found for Maladaptive or Adaptive Processes. However, there was a tendency for clinical improvement on Maladaptive Processes in a high percentage of the treatment subjects, while the majority of controls presented clinical deterioration. Concerning schema change at a global level, clinical improvement in a high percentage of treatment group participants was observed while, at the same time, a similar number of controls presented clinical deterioration. This finding suggests that GPS can produce changes in self-representation. According to theory (Rafaeli et al., 2011; Young, 1990; Young & Klosko, 1994; Young & Lindemann, 1992; Young et al., 1993, 2003), lower scores on schema measures may be interpreted as a lower prominence of these schemas in the individual's self-concept. In other words, dysfunctional core schemas decrease their influence on associated cognitive distortions and related cognitive products. As a result, attribution of meaning can be made in a more realistic way, less influenced by schema-serving biases. Differences between groups in the distributions by clinical change categories were found for the Emotional Deprivation, Defectiveness/Shame, Social Isolation and Failure schemas. No significant differences between groups in the distributions by clinical change categories were found for the remaining schemas. As a whole, these are encouraging outcomes, considering the nature of schemas and length of the program. When analyzing clinical change for each of the specific core schemas, a considerable percentage of participants from both groups showed no change between the assessments. When looking at global schema change (total score for the eight EMS) only a small number of individuals does not change any features of their self-representation themes. Different explanations may contribute to understand these results. One possible explanation may be related to the fact that not every subject is expected to endorse all the

eight core schemas (Rijo et al., 2007). Following this idea, GPS efficacy would be related to global schema score rather than specific schemas indicators. Another concurrent explanation for the number of subjects showing no change between assessments may be related to core beliefs' maintenance processes and resistance to change (Rafaeli et al., 2011; Young, 1990; Young & Klosko, 1994; Young & Lindemann, 1992; Young et al., 1993, 2003). From this point of view, specific schema change would be expected in a certain degree, but not for all the intervened subjects.

Findings presented in this paper offer preliminary evidence of the GPS's efficacy in achieving change at a cognitive level in antisocial individuals, when looking at dysfunctional cognitive processes and/or at underlying core beliefs. If this cognitive malfunctioning can be seen as a correlate of emotional and behavioral regulation problems (Brazão et al., 2013; Rijo et al., 2007), then core schemas should be selected as targets for change, and programs should include cognitive change at this level and not only on cognitive distortions. Furthermore, we can expect stability of change over time if schema change did occur. Future research should address this issue.

The implications of these results are of considerable relevance to the current practices in the justice system. Most inmates present dysfunctional beliefs and maladaptive cognitive processes that not only lead to severe psychopathology and behavioral problems but are also related with recidivism risk, which should be taken into account in any type of intervention (Constantine, Robst, Ander, & Teague, 2012; Copeland, Miller-Johnson, Keeler, Angold, & Costello, 2007; Martin, Dorken, Wamboldt, & Wootten, 2012; Morgan et al., 2012). Our findings may suggest that these issues may not be effectively addressed by the current practices, as controls showed considerably high clinical deterioration rates in the assessed variables. In contrast, results also suggest that it is possible to obtain considerable gains with structured interventions that consume fewer human and economic resources (Andrews & Bonta, 2010a, 2010b; Bonta & Wormith, 2013; McGuire, 2006, 2008, 2011, 2013; Holin et al. 2013), and that these programs can, at least partially, ensure that subjects in contact with the justice system receive adequate intervention with regards to some of their psychological needs.

Considering that this is a pilot study, generalizations should be carefully addressed and a study replication with a larger sample is required prior to establish GPS efficacy. Further research should assess other relevant variables associated with antisocial behavior (e.g., paranoia, anger, shame), as well as other variables that do not rely exclusively on self-report measures (e.g., behavioral measures, disciplinary incidents and prison records). Mental health disorders should be assessed (especially personality disorders, which are known to be prevalent in prison inmates) and should also be tested as moderators of treatment effects in clinical outcomes. Future studies should take into account the risk profile of the sample, once it may be an important variable influencing GPS efficacy. The risk profile is also crucial to assess the suitability of the GPS dosage (60h). The GPS impact in criminal recidivism is another relevant outcome that future studies should address.

In the current study, the integrity of GPS delivery was ensured by training and supervising senior psychologists who run the program. In future research, more systematic quality control procedures of the program's delivery should be carried out. Because GPS is divided into different modules and is carried out over a considerable period of time, further research should assess if each module may have a particular significant effect in promoting change. Follow-up studies should also focus on possible delayed effects of intervention and the stability of change over time.

Being the first study focusing the GPS impact on promoting change at a cognitive level, results presented and discussed in this paper are encouraging for future research, exploring GPS's effect over relevant dimensions of human functioning, change over time, and criminal recidivism. These outcomes provide preliminary evidence of the program's potential to promote change at a cognitive level, in variables theoretically proposed as underlying antisocial behavior. The cognitive-interpersonal framework from which GPS's contents and methodologies were drawn incorporates recent findings, namely those referring to the core schemas associated with antisocial behavior (Ball & Cecero, 2001; Calvete, 2008; Chakhssi et al., 2012; Jovev & Jackson, 2004; Nordahl et al., 2005; Petrocelli et al., 2001). In this sense, it offers a different approach to work at a deeper level of cognitive malfunctioning, and, at the same time, it balances the cost-effectiveness by delivering an intervention program in a group format.

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# Estudo Empírico II |

# Clinical change in anger, shame and paranoia after a structured cognitive-behavioral group program: Early findings from a randomized controlled trial

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# Clinical change in anger, shame and paranoia after a structured cognitive-behavioral group program: Early findings from a randomized controlled trial

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## Abstract

***Objective:*** This study's main goal was to assess the efficacy of a structured cognitive-behavioral group program, Growing Pro Social (GPS), in reducing anger, paranoia, and external shame in male prison inmates.

***Method:*** In this randomized trial, a treatment group (n=24) was compared to a control group (n=24) and both groups were assessed at pre- and post-treatment. Participants answered the State-Trait Anger Expression Inventory, the Paranoia Scale, and the Other as Shamer Scale. Treatment effects were tested using ANCOVA with baseline as covariate and condition as fixed factor. Additionally, in order to assess significant clinical change after intervention, the Reliable Change Index (RCI) was computed.

***Results:*** At baseline, no significant differences between conditions were found. ANCOVA with baseline as covariate showed significant differences between groups at post-treatment. When compared to controls, treatment subjects showed lower scores in anger-trait (temperament and reaction subscales) and paranoia. Concerning clinical change, a high percentage of treatment subjects presented improvements in anger, paranoia, and external shame; the majority of controls showed significant deterioration in the same variables. After treatment, differences between groups were observed in the distributions by clinical change categories for anger-trait and its subscales, and paranoia. No differences between groups were found in anger-state and external shame.

***Conclusion:*** These results point out the GPS's ability to promote significant change in cognitive- and emotional-relevant variables associated with antisocial behavior.

*Keywords*: anger; antisocial behavior; clinical change; external shame; Growing Pro-Social Program; paranoia.

## Introduction

Meta-analytic research (Andrews et al., 1990; Garret, 1985; Lipsey, 1995; Lipsey & Wilson, 1998; Lösel, 1995; McGuire 2001; Redondo, Garrido, & Sanchéz-Mecca, 1997; Redondo, Sanchéz-Mecca, & Garrido, 1999) has shown that multimodal programs have a significant impact on the reduction of recidivism in offenders. These studies pointed out that cognitive-behavioral-based programs are among the most effective, namely when cognitive variables are included as targets for change (Bogestad, Kettler, & Hagan, 2009; Hollin, Palmer, & Hatcher, 2013; Pearson, Lipton, Cleland, & Yee, 2002; Wilson, Bouffard, & MacKenzie, 2005). It has been suggested that these interventions can be improved in order to achieve even better outcomes in recidivism reduction obeying to the risk–need–responsivity (RNR) model (Andrews & Bonta, 2010a, 2010b; Andrews, Bonta, & Wormith, 2006; Andrews & Dowden, 2005; Dowden & Andrews, 2000, 2004). The RNR model is based on "human service principles", which state that recidivism reduction should be achieved through some type of treatment instead of punishment. Research has shown that punitive strategies actually increase criminal recidivism (Andrews & Bonta 2010a, 2010b; Caldwell & Rybroek, 2005; Lipsey, 2009; Lipsey, Howell, Kelly, & Carver, 2010; McGuire, 2011, 2013). The RNR model also argues that more intensive interventions should be applied to offenders evaluated as being at higher risk of recidivism (risk principle), since they present more criminogenic needs (e.g., antisocial personality). Because these kinds of variables fall into the dynamic risk factors category (thus, changeable), they should be a major focus in any intervention program (need principle). This model recognizes the importance of the therapeutic relationship but also adds that a structured, cognitive behavioral intervention is an important component of effective programs (responsivity principle).

Cognitive-behavioral programs usually include different modules or sessions addressing cognitive, emotional, and behavioral skills, assumed to be lacking in antisocial individuals. Nevertheless, each of these skills tends to be seen as independent from the others instead of seeing them as intertwined variables (Rijo et al., 2007). For example, emotional control sessions are carried out as if emotional control was totally independent from social reasoning or interpersonal behavior (Brazão, da Motta, & Rijo, 2013). Another misconception of traditional approaches has to do with the methodologies adopted: there is a tendency to give preference to reasoning and school-like activities (e.g., paper and pencil), rather than experiential tasks that would be more suitable for increasing self-knowledge as well as promoting cognitive, emotional, and behavioral change (Brazão et al., 2013; Rijo et al., 2007). In order to overcome some of these limitations, Rijo and colleagues (2007) developed a new cognitive-behavioral rehabilitation program, the GPS—Growing Pro-Social, adapting its contents and methodology to the characteristics of the target population, and to the RNR model.

GPS is based on the developments of the cognitive-behavioral therapies for personality disordered individuals (Rafaeli, Bernstein, & Young, 2011; Safran & McMain, 1992; Safran & Segal, 1990; Young, 1990; Young, Beck, & Weinberger, 1993; Young & Klosko, 1994; Young, Klosko, & Weishaar, 2003; Young & Lindemman, 1992), which conceptualize recurrent antisocial

behavior as the result of cognitive malfunctioning in the attribution of meaning, underlying cognitive distortions, and cognitive core structures responsible for social information processing. GPS aims to achieve behavioral change not only through the rehearsal of prosocial behaviors but also through the promotion of change in the cognitive and emotional correlates of antisocial behavior. The ultimate goal is to promote change in the dysfunctional cognitive structures underlying antisocial behavior (Brazão et al., 2013; Rijo et al., 2007) by following a progressive strategy of change (for a program overview, see the intervention section).

Although a considerable amount of research has recognized the role that cognitive malfunctioning plays in the onset and maintenance of antisocial behavior, recent developments in cognitive-behavioral therapies highlight the importance of evolutionary variables, such as anger, shame, and paranoia, in psychopathology (Gilbert, Boxall, Cheing, & Irons, 2005: Gilbert & Procter, 2006; Gilbert et al., 2009; Matos & Pinto-Gouveia, 2010; Matos, Pinto-Gouveia, & Gilbert, 2012; Nestor, 2002; Novaco, 2010).

From an evolutionary perspective, seeking dominance and displaying threat behaviors towards others can be conceptualized as a strategy to cope with the experience of shame and the consequent threat it represents to our position in the social rank (Gilbert, 1997, 2002). Many antisocial individuals, when faced with increased perceived threats and competitiveness, tend to use aggressive behaviors (externalizing anger) as a defensive strategy against feelings of insecurity, instead of displaying a submissive strategy (Gilbert, 1998). Anger is also a common response to rejection by others, criticism, and social put-down (Downey, Freitas, Michaelis, & Khouri, 1998; Downey, Lebolt, Rincón, & Freitas 1998; Gilbert & Miles, 2000). From this point of view, anger can be seen as an effective coping strategy against perceived attacks on the self. The perception of being inferior, incompetent, and socially devalued, which generally arises during the experience of shame (Farmer & Andrews, 2009; Tangney & Dearing, 2002; Thomaes, Buschman, Stegge, Olthof, & Nezlek, 2011; Tracy & Robins, 2004), can lead to the expression of anger. This shame-induced anger-state is often perceived as a particular anger-state where hostility prevails, called "humiliated fury" (Thomaes et al., 2011). The available empirical evidence points out that shame is a predictor of aggressive behavior and criminal recidivism (Hosser, Windzio, & Greve, 2008), and that anger plays a major role in the motivation to attack (Tangney & Dearing, 2002; Lobbelstael, Arntz, Cima, & Chakhssi, 2009).

Additionally, individuals with negative beliefs about the self and others tend to adopt external attributions (blaming others) as a self-preserving bias, thus triggering paranoid schemas (Bentall & Kaney, 1996). Paranoia can be conceptualized as a defense system against the perception of threats in order to protect the individual in a social context where he/she perceives him/herself as an undesirable social object, due to the loss of attractiveness of the self (Gilbert, 1998). However, while individuals feeling shame tend to compete for social status (Gilbert 1997, 1998, 2002), individuals with paranoid beliefs seek to protect themselves from malevolent intent from others (Gilbert at al., 2005), who, in turn, are seen as powerful and hostile, able to cause physical harm, or even to kill (Gilbert et al., 2005; Gumley, Gillan, Morrison, & Schwannauer, 2011).

While the majority of the research on rehabilitation programs for antisocial individuals chooses reduction in recidivism rates as the preferred measure of its efficacy, less is known about the cognitive and emotional variables underlying behavioral change (Skeem, Polaschek, & Manchak, 2009). Further research is needed to assess not only behavioral change but also change in other variables associated with the origins and maintenance of antisocial behavior. In this randomized trial, we looked at significant changes in shame, anger, and paranoia in male prison inmates after GPS completion. We hypothesized that GPS can reduce paranoia, shame, and anger, because it engenders a less-threatening view of others. GPS tries to promote a different view of others, and to increase self-confidence about oneself when relating to them. After GPS completion, participants are expected to see themselves as more worthy individuals, thus decreasing the severity and frequency of feelings of shame. If change occurs at this level, it is likely that paranoia will also decrease, as a consequence of seeing others as less threatening. Following these assumptions, we can also expect that an individual more confident about oneself and others should experience a decrease in the frequency and intensity of anger feelings, assuming that anger could result, at least partially, from a strategy to cope with shame and perceived external attacks.

## Methods

This trial was designed in accordance with the CONSORT (Consolidated Standards of Reporting Trials) 2010 Statement recommendations for reporting randomized trials.

### Participants

Participants were selected from male prison inmates aged between 19 and 40 years old from three Portuguese prisons. The initial selection of prisoners met a set of exclusion criteria: (1) the presence of cognitive impairment (given that this kind of intervention is not suitable for the cognitively impaired) or psychotic disorders (experiential strategies used in GPS are not suitable for psychotic patients), (2) active substance use (cessation or at least substantial reduction of drug or alcohol use must precede the GPS treatment), (3) being sentenced exclusively for sexual offenses (sex offenders are generally assigned to more specific intervention programs), and (4) remaining in prison less than 12 months (program length) from the beginning of the program.

A sample of 60 Portuguese prison inmates who did not meet the exclusion criteria was invited to participate (see Figure 1). After this first selection, four inmates declined to participate. A total of 56 inmates were then randomly assigned to treatment and control conditions. Subjects in the treatment group attended the 40 sessions of the GPS for 12 months, while the control group did not participate in any intervention program. From the initial 27 treatment group subjects, two dropped out of the program and one was transferred to another prison during the intervention. These three subjects were excluded from further analysis because it was not possible to obtain post-treatment measures. From the 29 controls, three

refused to answer the second evaluation and another two were transferred to another prison. These five subjects were also excluded from analysis.

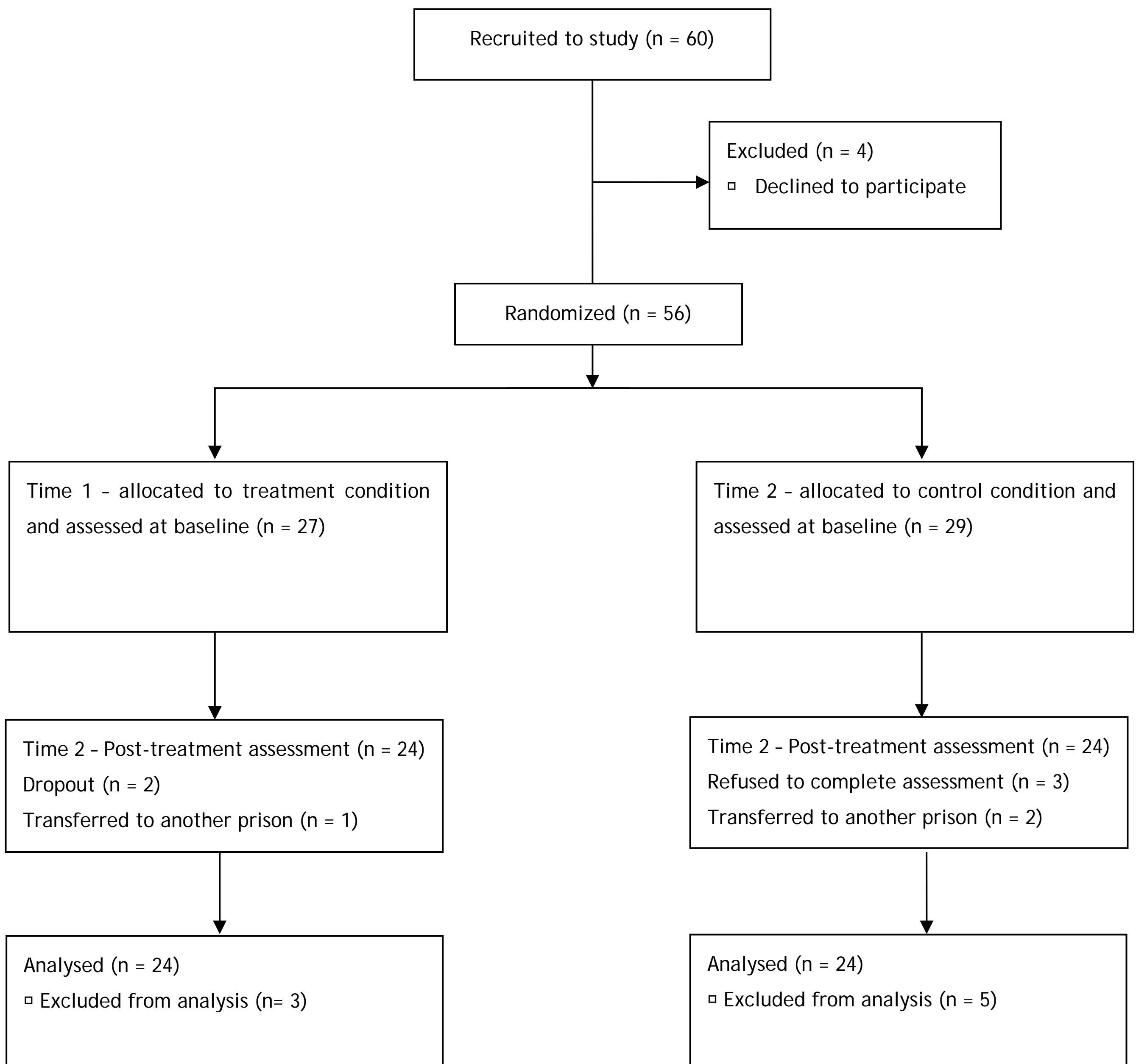


*Figure 1*. Flowchart of inmate participation

Table 1 presents the main demographic characteristics of both groups (only completers' characteristics are reported). The groups were similar regarding age, years of education, marital status, and socioeconomic status.

Table 1. *Socio-Demographic Sample Characteristics by Group*

| | *TG* | | *CG* | | | | |
|---|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *T* | *p* | *Cohen's d* |
| Age | 27.26 | 7.37 | 29.50 | 5.83 | 1.15 | .253 | 0.33 |
| Years of education | 8.17 | 1.76 | 8.58 | 2.13 | .74 | .463 | 0.20 |
| | *n* | *%* | *N* | *%* | *Fisher's* | *p* | *Cramer's V* |
| Marital status | | | | | | | |
| Single | 19 | 79.1 | 18 | 75.0 | 3.06 | .668 | 0.26 |
| Married | 0 | 0 | 2 | 8.3 | | | |
| Civil Union | 2 | 8.3 | 2 | 8.3 | | | |
| Divorced | 3 | 12.5 | 2 | 8.3 | | | |
| Socioeconomic status | | | | | | | |
| Low | 21 | 87.5 | 24 | 100 | 4.36 | .279 | 0.31 |
| Medium | 2 | 8.3 | 0 | 0 | | | |
| High | 1 | 4.1 | 0 | 0 | | | |

*Note*. TG = treatment group; CG = control group.

Table 2 summarizes legal and criminal sample features. Concerning sentence length, no differences were found between groups. However, the controls presented, on average, a longer sentence than the treatment subjects, and that difference corresponds to a moderate effect. Groups were also compared regarding the number of crimes for which they were sentenced to prison, as well as the legal category of the most severe crime for which they were sentenced. No differences in the distributions were found between groups. Nevertheless, there were more individuals with several crimes in the control group than in the treatment group. This difference corresponds to a moderate effect. Subjects were further divided into primary and relapse categories (according to the existence of previous sentences in their criminal records). Equivalent distributions were found for this variable.

Table 2. *Legal and Criminal Sample Characteristics by Group*

| | TG | | CG | | | | |
|---|---|---|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* | *T* | *p* | *Cohen's d* |
| Sentence length | 129.75 | 59.55 | 155.42 | 54.61 | 1.55 | .127 | 0.45 |
| | *n* | % | *N* | % | *Fisher's* | *p* | *Cramer's V* |
| Quantity of crimes | | | | | | | |
| Single crime | 11 | 45.8 | 6 | 25.0 | 6.13 | .303 | 0.36 |
| Several crimes | 13 | 54.1 | 18 | 75.0 | | | |
| Type of crimes | | | | | | | |
| Against property | 12 | 50.0 | 8 | 33.3 | 12.12 | .224 | 0.24 |
| Against people | 10 | 41.6 | 12 | 50.0 | | | |
| Against the State | 1 | 4.1 | 0 | 0 | | | |
| Drug trafficking | 1 | 4.1 | 4 | 16.6 | | | |
| Criminal record | | | | | | | |
| First-time offender | 19 | 79.1 | 18 | 75.0 | .11 | .731 | 0.05 |
| Reoffender | 5 | 20.8 | 6 | 25.0 | | | |

*Note.* Sentence length in months.

Crimes against property include robbery, theft and qualified theft; Crimes against people include homicide, attempted homicide, kidnapping, and rape; Crimes against the State include falsification.

TG = treatment group; CG = control group.

### Measures

Subjects reported on the measures of anger, paranoia, and external shame before the start and after the terminus of the intervention program (or the equivalent time period for the control group). Socio-demographic and legal data on participants were collected from prison staff members.

**Other as Shamer Scale** (OAS; Allan, Gilbert, & Goss; 1994; Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011). The OAS is an 18-item scale that assesses a subject's perception of being negatively judged by others. Each item is rated on a five-point Likert scale reporting how frequently one experiences the feelings described in each statement (0 = never to 4 = almost always) (Goss, Gilbert, & Allan, 1994). The original version revealed a high internal consistency in both clinical and nonclinical samples (α= .96 and .92, respectively) (Goss et al. 1994); in the Portuguese version, Cronbach's alpha was .91 (Matos, Pinto-Gouveia, & Duarte, 2011). In the current study, internal consistency was .86.

**Paranoia Scale** (Fenigstein & Vanable, 1992; Portuguese version by Lopes and Pinto-Gouveia, 2005). This scale is a 20-item self-report measure developed to assess paranoid ideation in non-clinical individuals. Items are rated on a five-point Likert scale (1 = never to 5 = always), where higher scores indicate the existence of more paranoid ideation, for example, suspicion of conspiracy against the self; of being observed, judged, or talked behind their back; that other people or instances can exert some kind of thought-control; and lack of trust in others (Fenigstein & Vanable, 1992). The original study presented internal consistencies ranging between .78 and .89 for the general population (Fenigstein & Vanable, 1992). In a Portuguese

clinical sample (C. Barreto, pers. comm., June 18, 2012), internal consistency was .92, whereas in the current sample internal consistency was .85.

**State-Trait Anger Expression Inventory** (STAXI; Spielberger 1988; Portuguese version by Silva, Campos, & Prazeres, 1999). STAXI was developed to assess anger experience and expression as a multidimensional construct evaluating two main components of anger: (1) anger-state, an emotional state with subjective feelings of variable intensity, and (2) anger-trait, a more stable predisposition to evaluate several situations as unpleasant and frustrating, as well as a tendency to react more frequently with intense anger-states (Spielberger, 1991). STAXI is a 44-item questionnaire divided into three parts: the first assesses anger-state (how one feels in the present moment), the second assesses anger-trait (how one generally feels), and the third assesses anger-expression (how one generally reacts or behaves when feeling enraged or angry). According to Spielberger (1988), anger-trait encompasses two factors: temperament and angry reaction. For the purpose of the present study, only the anger-state and anger-trait were selected. Internal consistency of the different subscales ranged from .73 to .93 (Spielberger 1988), while in the Portuguese version the same values ranged between .60 and .85 (Silva et al. 1999). In the present study, internal consistency values were .81 for anger-state, .80 for anger-trait, .78 for anger temperament and .61 for anger reaction.

## Interventions

Growing Pro-Social (GPS; Rijo et al., 2007) is a manualized group rehabilitation program for individuals with antisocial behavior. It is run in small groups, ranging from 8 to 12 participants, in 40 weekly sessions, which are grouped into five sequential modules. The theoretical framework underlying GPS is based on a cognitive-interpersonal perspective (Rafeeli et al., 2011; Safran & McMain, 1992; Safran & Segal, 1990; Young 1990; Young et al., 1993, 2003; Young & Klosko, 1994; Young & Lindemman, 1992), which conceptualizes aggressive behavioral patterns as a result of distorted views of the self and others.

In an effort to improve the traditional group exercises in this kind of program, GPS sessions include experiential exercises. Participants are encouraged to achieve insight through systematic questioning about the reactions noticed during the activities (guided discovery approach), and to apply this knowledge to real-life situations (Brazão et al., 2013; Rijo et al., 2007). The program was built to promote gradual change in behavior and emotional reactions, while working towards a more adaptive information processing style. The ultimate goal of GPS is to promote change in particular dysfunctional core beliefs about the self and others, which underlie social information processing (e.g., social isolation/alienation, mistrust/abuse, and defectiveness/shame), and are related to antisocial and aggressive behavior (Ball & Cecero 2001; Bernstein, 2008; Calvete, 2008; Chakhssi, Bernstein, & de Ruiter, 2012; Thimm, 2010; Tremblay & Dozois, 2009). It is expected that a change at a cognitive level (e.g., less endorsement of dysfunctional core beliefs and cognitive distortions) will encourage prosocial behavior.

Concerning the program's structure, GPS consists of 40 sessions, each lasting about 90 min. Sessions must be carried out by two psychologists who should be skillful in cognitive-behavioral therapy. As summarized in Table 3, sessions are grouped into five modules, preceded by an initial session for the presentation of the program. While modules 1 and 2 are focused on interpersonal behavior and communication skills, modules 3, 4, and 5 directly address cognitive and emotional variables. GPS ends with a final session, and follow-up sessions can be carried out afterwards. The extension of each module varies depending on the contents and the time needed to achieve the defined goals.

Treatment subjects attended the GPS program for about 12 months, in addition to the Treatment As Usual (TAU) delivered at Portuguese penitentiaries: supervision of school frequency, occupational and job-related tasks, and sentence-planning supervision over time. Subjects in the control group received TAU and did not attend the GPS sessions or any other kind of structured intervention during the research period.

**Procedures**

At each prison, individuals who did not meet the exclusion criteria were invited to participate in the study. An explanation about the research project and a brief overview of the treatment program were presented and inmates were invited to participate voluntarily. Subjects were then randomly assigned to the treatment or control conditions using a random number table. At the first meeting, prison staff explained the aims of the study to the selected inmates and asked for their informed consent.

Data collection was carried out by psychologists of the national prison system (not responsible for the GPS delivery) and by the authors of this paper. Subjects in the treatment group were assessed a week before the first session of GPS and one week after its terminus, while individuals in the control group were assessed with the same time interval. All treatment completers attended at least 80 % of the GPS sessions (32 or more sessions). At each prison, two senior psychologists specially trained and supervised in the program's methodology by the authors were chosen to deliver the GPS intervention. At the time of the study, these psychologists already had experience in delivering the GPS intervention.

Table 3. *GPS Modules and Contents*

| Modules | Number of sessions | Contents summary |
|---|---|---|
| Initial session | 1 | Presentation of the participants, the structure and the methodology of the program. |
| 1. Human communication | 5 | The communication process and its obstacles; verbal and non-verbal communication skills, the ambiguity of human communication; the (in)congruences between digital and analogical languages. |
| 2. Interpersonal relationships | 10 | Behavioral styles (assertive, aggressive, passive and manipulative) in relationships; self-concept and interpersonal behavior; ideas about the others and interpersonal behavior; specific interpersonal contexts and assertive behavior; negotiation as a strategy to deal with conflicts. |
| 3. Cognitive distortions | 6 | Understanding cognitive distortions; identifying and changing cognitive distortions: Selective Abstraction, Overgeneralization, Mind Reading, Crystal Ball, Minimization, Disqualifying the Positive Experiences, Dichotomous Thinking, Labeling and Personalization. |
| 4. Function and meaning of emotions | 7 | The diversity of the emotional experience; the nature and function of emotions: sadness, shame, fear, anger, guilt, and happiness. |
| 5. Dysfunctional core beliefs | 10 | The role of core beliefs about the self and the others; dysfunctional core beliefs and their influence in giving meaning to reality; identifying and changing relevant core beliefs: Failure, Social Isolation, Mistrust/Abuse, Defectiveness/Shame, Emotional Deprivation, Abandonment/Instability, Grandiosity; fighting core belief's influences in thoughts, emotions, and behavior. |
| Final session | 1 | Reflection and consolidation of learning, and generalization of gains made during the program. |

*Note*. Adapted from "From multimodal programs to a new cognitive-interpersonal approach in the rehabilitation of offenders," by N. Brazão, C. da Motta and D. Rijo, 2013, *Aggression and Violent Behavior*, *18*, 640.

## Data analysis

Data analysis was carried out in accordance with the treatment received (TR) principle, in which outcomes were measured by comparing the outcomes for inmates who completed the program with those in the control group. Treatment and control groups were compared at baseline, using independent-samples t tests. Between-group differences in outcome measures at post-treatment were tested with ANCOVA with baseline as covariate and condition as a fixed factor. Additionally, within-group t tests were performed for each group. All effect sizes were calculated using *Cohen's d*.

In order to evaluate intra-subject clinical change, the Reliable Change Index (RCI; Jacobson & Truax, 1991) was used. According to the literature, this is an index that ensures very high reliability (Atkins, Bedics, McGlinchey, & Bauchaine, 2005). The RCI was designed to test the effectiveness of a particular therapy or program. Instead of focusing on the differences of mean scores, it provides information about treatment effects for each individual, allowing to test whether an individual improves or deteriorates in comparison to his initial assessment (Conboy, 2003). In order to ascertain whether the observed change in the individual is in fact genuine and not just due to measurement errors, and whether the change places the individual inside the norms of functional groups (Conboy, 2003), RCI allows the testing of the null hypothesis of no clinically meaningful change, depending on the normal distribution (Maaseen, 2001), and taking into account the measurement error of the instruments (Jacobson & Truax, 1991). This index is computed using the formula: $RCI = \frac{(X\,post - X\,pre)}{\sqrt{2(\mathrm{SD0} * \sqrt{1 - \alpha})2}}$, where X post represents the result of the individual in the post-test, X pre represents the result of the individual in the pre-test, SD0 represents the standard deviation of the variable in a normal sample, and α represents the internal consistency of the scale in the present sample. According to Wise (2004), if the results are greater than 0.84 we can assert, with a confidenceintervalof80%, that real, reliable, and significant change has been verified; however, if the result exceeds 1.28 or 1.96, that confidence interval increases to 90 and 95 %, respectively. On the contrary, if the result is less than 0.84, we can say that deterioration has occurred. For the interpretation of the RCI in this study, three broad categories were defined to encompass different confidence intervals: "global improvement" (GI), "global deterioration" (GD) and "no change" (NC). To compare both groups in the distributions by clinical change categories, Chi-square statistics with Fisher's exact tests with a .05 level of significance was performed. Effect sizes of the differences found in the distributions by clinical change category between groups were calculated with *Cramer's V*.

## Baseline differences

Baseline differences between groups were compared for all outcome measures (see Table 4). No differences were found between the control and treatment groups at the onset of the study. However, in the STAXI Temperament subscale, controls presented a lower score

when compared with treatment subjects, and, although this difference failed to reach statistical significance, the effect size was moderate.

Table 4. *Baseline Differences on the Outcome Measures by Group*

| | *TG* | | *CG* | | | | |
|---|---|---|---|---|---|---|---|
| Outcome measures | *M* | *SD* | *M* | *SD* | *t* | *p* | *Cohen's d* |
| Anger state | 12.00 | 2.95 | 11.38 | 3.09 | .71 | .477 | 0.20 |
| Anger-trait | 17.79 | 4.13 | 17.42 | 4.71 | .29 | .771 | 0.08 |
| Temperament | 6.75 | 2.59 | 5.79 | 1.64 | 1.53 | .133 | 0.44 |
| Reaction | 7.79 | 1.67 | 7.88 | 2.32 | .14 | .884 | 0.04 |
| Paranoia | 47.21 | 10.61 | 50.25 | 10.96 | .97 | .334 | 0.28 |
| External shame | 24.83 | 10.22 | 23.13 | 9.70 | .59 | .556 | 0.17 |

*Note*. TG = treatment group; CG = control group.

**Analysis of covariance**

ANCOVA with baseline as covariate demonstrated that there was a significant difference between the groups in the majority of the outcomes at post-treatment (seeTable5). When compared with the control group, the treatment group had significantly lower scores at the end of GPS in anger-trait (total score and subscales) and paranoia. These differences correspond to strong or moderate effects. For anger-state and external shame, no differences between groups were found. However, the treatment group had lower scores at post-treatment in these variables when compared to the control group. For external shame, the difference was near the threshold of significance and the effect was moderate.

Table 5. *Means and SDs of the Outcome Measures by Group at Post-treatment, and Analysis of Covariance*

| | *TG* | | *CG* | | | | |
|---|---|---|---|---|---|---|---|
| Outcome measures | *M* | *SD* | *M* | *SD* | *F* | *p* | *Cohen's d* |
| Anger state | 11.58 | 2.88 | 12.12 | 3.79 | .41 | .524 | 0.16 |
| Anger-trait | 16.29 | 4.40 | 19.50 | 5.79 | 10.43 | .022 | 0.62 |
| Temperament | 6.25 | 2.00 | 7.12 | 2.77 | 8.17 | .006 | 0.36 |
| Reaction | 6.95 | 2.42 | 8.70 | 2.44 | 7.84 | .007 | 0.72 |
| Paranoia | 45.58 | 12.36 | 59.37 | 15.25 | 11.53 | .001 | 0.99 |
| External shame | 22.33 | 13.98 | 29.04 | 12.28 | 3.70 | .061 | 0.50 |

*Note*. TG = treatment group; CG = control group.

### Within-group *t*-tests of changes

Additionally, within-group *t*-tests were also carried out in each group (see Tables 6 and 7). In the treatment group, significant differences were found between baseline and post-treatment for anger-trait, with subjects presenting a lower score after GPS completion. The observed effect size was moderate. For the reaction subscale, a similar result was found but the difference failed to reach statistical significance. For the remaining variables, no significant differences were found between pre- and post-treatment.

In the control group, significant differences were found between baseline and post-treatment time points for the majority of the variables (with the exception of anger-state), with subjects presenting higher scores when measured at the post-treatment time point. The observed effect sizes were all moderate.

Table 6. *Within-Group t-tests of Changes in the Treatment Group*

| | T1 | | T2 | | | | |
|---|---|---|---|---|---|---|---|
| Outcome measures | *M* | *SD* | *M* | *SD* | *t* | *p* | *Cohen's d* |
| Anger state | 12.00 | 2.94 | 11.58 | 2.88 | .47 | .643 | 0.14 |
| Anger-trait | 17.97 | 4.13 | 16.29 | 4.40 | 2.32 | .029 | 0.39 |
| Temperament | 6.75 | 2.59 | 6.25 | 2.00 | 1.51 | .143 | 0.21 |
| Reaction | 7.79 | 1.66 | 6.95 | 2.42 | 1.69 | .103 | 0.40 |
| Paranoia | 47.20 | 10.61 | 45.58 | 12.36 | .78 | .439 | 0.14 |
| External shame | 24.83 | 10.22 | 22.33 | 13.98 | .72 | .475 | 0.20 |

*Note*. T1 = pre-treatment; T2 = post-treatment.

Table 7. *Within-Group t-tests of Changes in the Control Group*

| | T1 | | T2 | | | | |
|---|---|---|---|---|---|---|---|
| Outcome measures | *M* | *SD* | *M* | *SD* | *t* | *p* | *Cohen's d* |
| Anger state | 11.38 | 3.09 | 12.12 | 3.79 | .91 | .372 | 0.21 |
| Anger-trait | 17.42 | 4.71 | 19.50 | 5.79 | 2.32 | .029 | 0.39 |
| Temperament | 5.79 | 1.64 | 7.12 | 2.77 | 2.96 | .007 | 0.58 |
| Reaction | 7.88 | 2.32 | 8.70 | 2.44 | 2.09 | .047 | 0.34 |
| Paranoia | 50.25 | 10.96 | 59.37 | 15.25 | 3.24 | .004 | 0.68 |
| External shame | 23.13 | 9.70 | 29.04 | 12.28 | 2.44 | .023 | 0.53 |

*Note*. T1 = pre-treatment; T2 = post-treatment.

### Clinical change in anger, paranoia and external shame after GPS completion

Data relating to clinical change in anger, paranoia, and external shame on both groups are presented in Table 8. Results indicated differences between groups in the distribution by clinical change categories for anger-trait. For this variable, the number of subjects falling into the global improvement category in the treatment group was identical to the number of

subjects falling into the global deterioration category in the control group. Differences in the distributions between groups for this variable had a strong effect. Similar results were found for the anger-trait subscales (temperament and anger reaction). For the temperament subscale, there were differences between both distributions and the effect size was moderate; for the anger reaction subscale, there were also differences in the distributions between groups, with a moderate effect size. No differences between groups were found for anger-state. Results in the Paranoia Scale indicated a clear difference between the distributions by clinical change categories in both groups: a high percentage of individuals in the treatment group presented significant improvements while an even higher percentage of controls revealed clinical deterioration. These differences correspond to a strong effect. Concerning external shame, no significant differences were found in the distributions between groups. However, the improvement rates of the treatment group were almost as high as the deterioration rates observed for controls, following the same tendency of the results found for paranoia.

Table 8. *Reliable Change Index for Anger, Paranoia and External Shame by Group*

| Outcome measures | Categories | TG | | CG | | *Fisher's* | *p* | *Cramer's V* |
|---|---|---|---|---|---|---|---|---|
| | | *n* | % | *n* | % | | | |
| Anger-state | GI | 6 | 25 | 4 | 16.6 | .57 | .867 | 0.10 |
| | NC | 12 | 50 | 12 | 50.0 | | | |
| | GD | 6 | 25 | 8 | 33.3 | | | |
| Anger-trait | GI | 11 | 45.8 | 4 | 16.6 | 8.76 | .012 | 0.42 |
| | NC | 9 | 37.5 | 7 | 29.1 | | | |
| | GD | 4 | 16.6 | 13 | 54.1 | | | |
| Temperament | GI | 10 | 41.6 | 4 | 16.6 | 7.30 | .027 | 0.34 |
| | NC | 9 | 37.5 | 6 | 25.0 | | | |
| | GD | 5 | 20.8 | 14 | 58.3 | | | |
| Reaction | GI | 10 | 41.6 | 3 | 12. | 7.39 | .025 | 0.39 |
| | NC | 11 | 45.8 | 11 | 45.8 | | | |
| | GD | 3 | 12.5 | 10 | 41.6 | | | |
| Paranoia | GI | 13 | 54.1 | 4 | 16.6 | 8.20 | .012 | 0.41 |
| | NC | 1 | 4.1 | 5 | 20.8 | | | |
| | GD | 10 | 41.6 | 15 | 62.5 | | | |
| External shame | GI | 13 | 54.1 | 7 | 29.1 | 5.27 | .081 | 0.33 |
| | NC | 4 | 16.6 | 2 | 8.3 | | | |
| | GD | 7 | 29.1 | 15 | 62.5 | | | |

*Note*. TG = treatment group; CG = control group; GI = Global Improvement; NC = No Change; GD = Global Deterioration.

## Discussion

While the majority of research on the efficacy of cognitive-behavioral programs for offender rehabilitation focuses mainly on recidivism reduction as the major outcome, a recent trend (e.g., Skeem et al., 2009) focuses on the change in cognitive and emotional correlates of antisocial behavior. Following this trend, this randomized trial studied the impact of a new structured cognitive-behavioral program, Growing Pro-Social (GPS; Rijo et al., 2007), in producing significant change in cognitive and emotional variables, which, from an evolutionary perspective, are associated with antisocial behavior. Differences between mean scores in treatment and control groups at post-treatment (statistically significant change at a group level) were analyzed, as well as within-group comparisons, but special attention was given to clinical change for each of the participants (clinical significance). Significant clinical change has been addressed in the assessment of treatment efficacy with several clinical samples but it has been used less often with offenders (Hollin et al., 2013).

Post-treatment scores in the studied variables showed significant differences between groups, with treatment subjects presenting a significant reduction in anger-trait (including the temperament and reaction subscales) and paranoia. Differences between groups for anger-state and external shame did not reach statistical significance, but inmates who attended the GPS sessions presented lower scores in these variables at post-treatment, when compared to controls. When looking at within-group comparisons, data suggested that differences at post-treatment may result not only from the improvement achieved by treatment subjects but also from the deterioration observed in controls on the majority of the studied variables. These findings raise important questions about the impact of incarceration on inmates' psychological correlates of antisocial behavior. The worrisome deterioration observed in controls over a 1-year period in variables such as anger, shame, and paranoia, raises the question of whether traditional prison practices work towards rehabilitation or may be bolstering psychological and emotional processes related to maladaptive behavior (Ashkar & Kenny, 2008; Lambie & Randell, 2013; Lane, Lanza-Kaduce, Frazier, & Bishop, 2002; Myers, 2003). The traditional penitentiary treatment, together with the controls' harsh criminal features (e.g., longer sentence length), may be responsible for the observed deterioration in these subjects. From this point of view, outcomes in subjects who completed GPS may indicate that such a program can be useful in buffering this tendency to get worse over time.

Results also pointed to significant clinical changes in the treatment group, with a pattern of higher numbers of subjects falling into the global improvement category, while a similar number of subjects from the control group fell into the opposite category of global deterioration. This pattern was observed for anger-trait (and its subscales) and for paranoia. Concerning external shame, the effect size was not strong enough to distinguish both groups in terms of the clinical change category, even though the same distribution tendency was observed.

According to GPS theoretical assumptions, by the end of the program, participants should be able to look at themselves in a more valuable and healthy manner (Brazão et al.,

2013; Rijo et al., 2007), thus decreasing the severity and intensity of feelings of shame. Considering the results on the association between external shame and paranoia found by Matos and colleagues (2012), a decrease in shame should also be accompanied by a decrease in paranoid ideation. A similar decrease in anger would also be expected, as anger could be conceptualized as a defensive strategy to cope with shame (Downey et al., 1998a, 1998b; Gilbert & Miles, 2000; Thomaes et al., 2011), and a reaction against perceived external attacks (Gilbert, 1998; Gilbert et al., 2005; Gumlet et al., 2011). It is important to add that GPS provides experiences of acceptance and of social desirability (Brazão et al., 2013; Rijo et al., 2007). This may also contribute to an increase in feelings of being more attractive in the eyes of others, and to a decrease in the fear of being attacked or threatened by competitors.

The decrease in paranoia observed in the treatment group subjects may also be attributed to the fact that GPS works towards changing participants' view of others as malevolent and/or abusive in several different manners: first, by recognizing the subjectivity of information processing in interpersonal contexts; second, by recognizing the frequent misattribution of others' behavior towards us; and third, by becoming conscious of cognitive distortions underlying the attribution of meaning to interpersonal behaviors (Brazão et al., 2013; Rijo et al., 2007). This knowledge may help the individual to reduce paranoid ideation through the development of less distorted/more realistic social information processing.

Concerning differences between groups for anger, a strong effect size was verified for anger-trait, and moderate effect sizes were observed in both anger-trait subscales (anger temperament and anger reaction). As previously stated, anger-trait is related to a higher propensity to experience and express anger. Thus, a decrease in this variable may suggest an increase in tolerance to mistakes, frustrations, and interpersonal stress (Spielberger, 1991). The main goal of GPS Module 4, Function and Meaning of Emotions, is emotional regulation, and participants are encouraged to trigger basic emotions (e.g., anger, fear, sadness, happiness), to feel them in their body and relate them to real-life scenarios. By learning about the feeling and the expression of these emotions, they are invited to discover the usefulness of the diversity of the emotional states that humans can experience. Finally, participants are challenged to assess in daily-life situations the adequacy and usefulness of their own emotional experiences (Brazão et al., 2013; Rijo et al., 2007). The specific work done in these sessions may be responsible for the change observed in anger-trait, thus contributing to a reduction in anger feelings and related disruptive behavior.

Differences between groups did not occur for anger-state. One possible explanation for this result may be that the prison environment is quite effective in constraining outbursts of anger. Bursts of anger inside prison are immediately reported and punished, and prison inmates are frequently encouraged to exert control over the externalization of negative emotional states. Another possible explanation has to do with the procedures and instructions when answering the anger-state measure. Subjects were instructed to answer these items according to their emotional state in that same moment (Spielberger, 1991), which, due to research procedures, was a quiet and stable environment.

Overall, these findings show that a structured cognitive-behavioral group program can produce significant clinical changes in emotional and cognitive correlates of antisocial behavior when delivered inside a prison. Nevertheless, generalizations should be made carefully: all the subjects were male inmates and the sample size was small in both groups. Future trials should increase sample size. The GPS's impact on behavioral change (e.g., in the reduction of disciplinary incidents and prison records) should also be tested in future studies to ascertain if changes observed in cognitive and emotional variables are reflected in a more adjusted behavioral pattern. In the present study, the integrity of GPS delivery was assured by training and supervising all senior psychologists who run the program. In future research, more systematic quality control procedures of the program's delivery could be implemented.

Because the GPS is divided into different modules and is carried out over a considerable period of time, further research should also focus on whether each module may have had a particular significant effect in promoting change. Follow-up studies should also focus on possible delayed effects of the intervention and the stability of change in participants' behavior over time.

## Conclusions

This paper focused on the GPS's ability to promote significant change in evolutionary variables that recent research conceptualizes as associated with diverse forms of behavioral malfunctioning (Gilbert & Procter 2006; Gilbert et al., 2005, 2009; Matos & Pinto-Gouveia, 2010; Matos et al., 2012; Nestor, 2002; Novaco, 2010) and antisocial behavior (Farmer & Andrews, 2009; Gilbert, 1998; Hosser et al., 2008; Lobbelstael et al., 2009; Thomaes et al., 2011). To our knowledge, this is one of the few studies that investigate the efficacy of a structured cognitive-behavioral program in this kind of variables in male prison inmates. This study provides preliminary support for the efficacy of GPS in producing clinical changes at an emotional level (anger-trait) and at a cognitive level (paranoia) in adult offenders. It is probable that a larger sample would also produce significant differences in external shame between conditions, demonstrating the GPS's ability to induce changes in negative self-representations and feelings of shame. The findings from this study are encouraging for future research, not only for future efficacy and effectiveness testing of the GPS but also for the development of other interventions based on the manipulation of cognitive and emotional variables as therapeutic mechanisms of change in antisocial and aggressive behavior.

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## Estudo Empírico III |

## The effects of the Growing Pro-Social Program on cognitive distortions and early maladaptive schemas over time in male prison inmates: A randomized controlled trial

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# The effects of the Growing Pro-Social Program on cognitive distortions and early maladaptive schemas over time in male prison inmates: A randomized controlled trial

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## Abstract

***Objective:*** This randomized controlled trial aimed to assess the efficacy of a structured cognitive– behavioral group program, Growing Pro-Social (GPS), in reducing cognitive distortions and early maladaptive schemas over time in male prison inmates.

***Method:*** A total of 254 participants were recruited from nine Portuguese prisons and allocated to receive GPS ($n$ = 121) or treatment as usual ($n$ = 133). Participants were assessed with self-report measures on cognitive distortions and early maladaptive schemas at baseline, during intervention, at post-treatment and at 12 months' follow-up. Assessors were blind to group allocation. Treatment effects were tested with latent growth curve models.

***Results:*** At baseline, no significant differences between conditions were found. Results from latent growth curve models showed that condition was a significant predictor of change observed in all outcome measures over time. When compared with the control group, the treatment group showed a significant increase on adaptive thinking, and a significant decrease of cognitive distortions and early maladaptive schemas over time. Results also showed that treatment effects were maintained over time (12 months after GPS completion). Additionally, participants who completed the program presented higher improvements on cognitive distortions and early maladaptive schemas over time than noncompleters.

***Conclusion:*** This study showed that a structured cognitive–behavioral group program can have positive effects on the cognitive functioning of male prison inmates, by reducing cognitive distortions and the prominence of early maladaptive schemas.

*Keywords*: cognitive distortions; early maladaptive schemas; Growing Pro-Social Program; latent growth curve models; male prison inmates.

## Introduction

The issue of what works and what doesn't work with offenders has received a lot of attention since the Martinson (1974) report suggesting that nothing works. Several meta-analyses have been undertaken, covering hundreds of studies. These meta-analyses have attempted to identify the features of effective interventions and, in many cases, have tried to quantify the impact of different types of treatment (for a review, see Brazão, da Motta, & Rijo, 2013). For instance, Andrews and Bonta (2010a) argued that effective practice can be conceptualized as focusing on the principles of risk, need, and responsivity. The authors suggested that effective practice concentrate on medium to high-risk offenders, are focused on their criminogenic needs, and make use of structured cognitive– behavioral techniques or interventions.

Several well conducted meta-analyses have identified cognitive–behavioral programs as particularly effective interventions in reducing recidivism among juvenile and adult offenders (Bonta et al., 2011; Koehler, Lösel, Akoensi, & Humphreys, 2013; Raynor, Ugwudike, & Vanstone, 2014; Trotter, 2013). Among the most disseminated cognitive–behavioral programs for adult offenders are the 22-session Enhanced Thinking Skills (ETS; Clark, 2000) and the 36-session Reasoning and Rehabilitation (R&R; Ross, Fabiano, & Ross, 1989) programs, both having a strong evidence-base (Cullen et al., 2012; McDougall, Perry, Clarbour, Bowles, & Worthy, 2009; Tong & Farrington, 2006). These interventions have been identified as cognitive-restructuring programs, thus conceptualizing antisocial behavior as a consequence of maladaptive or dysfunctional thought processes, including cognitive distortions or thinking errors (Antonio & Crossett, 2017). These programs explicitly identify cognitive distortions as targets of change. The theoretical framework underlying these approaches argues that criminal thinking and criminal behavior are linked, and therefore changing one's criminal thought is paramount to changing one's criminal behavior (Landenberger & Lipsey, 2005; Lipsey, Landenberger, & Wilson, 2007). Therefore, the main goal is to teach offenders to understand the thinking processes that are strictly linked to their aggressive behavior. Learning to self-monitor thinking is typically the first step, after which the therapeutic techniques seek to help offenders to identify and correct biased thinking patterns. These techniques typically involve cognitive skills training, anger management, and components related to social skills and/or moral development (Antonio & Crossett, 2017; McGuire, 2011, 2013; Polaschek, 2011).

The role of social–cognitive biases and dysfunctional cognitions is relevant when trying to understand the cognitive correlates of aggressive and antisocial behavior, and a considerable amount of research has attempted to identify antisocial cognitions in offenders. For instance, Walters (1990, 2007) proposed that criminal behavior results from a life pattern characterized by irresponsibility, self-indulgence, interpersonal intrusion, and social rule-breaking, which is maintained by eight criminal thinking styles: mollification, cutoff, entitlement, power orientation, sentimentality, superoptimism, cognitive-indulgence and discontinuity (for a definition of each one of these thinking styles, see Walters, 1990). From a cognitive perspective, these criminal thinking styles could be conceptualized as cognitive distortions that

offenders use when processing information, to justify their criminal conduct and/or to minimize the consequences of their own behavior (Brazão et al., 2015a). Offender's cognitive distortions have been conceptualized as criminogenic needs by the general personality and cognitive social learning model of Andrews and Bonta (2010a), defending that antisocial cognitions should be selected as targets of change.

Although the issue of criminal thinking styles has been frequently addressed by research, most studies addressing cognitive correlates of antisocial behavior failed to include negative core beliefs or early maladaptive schemas (EMSs), which from a cognitive perspective, underlie the offender's dysfunctional social information processing (Brazão et al., 2013, 2015a, 2015b). EMSs (e.g., Rafaeli, Bernstein, & Young, 2011; Young, Klosko, & Weishaar, 2003) may be defined as core cognitive structures comprising dysfunctional memories, emotions, and cognitions underlying dysfunctional interpersonal patterns and behaviors. EMSs are conceptualized as negative themes about the self and the others, that have their origin in early interactions with significant others, who do not meet the children's core needs (e.g., connection, acceptance, autonomy, safeness). Later in life, EMSs can be triggered in any situation where schema-relevant information is available. Once an EMS is triggered it will then guide information processing in a way that maintains and reinforces that same EMS, by ignoring schema-inconsistent information and/or selecting schema-consistent information. From this point of view, antisocial behavior can be conceptualized as a result of a distorted view of the self and others, which leads to cognitive distortions in the social information processing. This distorted view (i.e., EMSs) will elicit attributions (i.e., cognitive distortions) that are consistently and negatively biased, which, in turn, will lead to dysfunctional behavior. For instance, one who endorses a mistrust/abuse schema and believes that others will hurt, abuse or humiliate the self, tends to perceive innocuous situations as threats, thus perceiving harmless remarks as disrespectful or deliberately provocative and, consequently, attacking others (Brazão et al., 2015a).

Growing up in threatening environments, with high rates of abandonment, emotional deprivation, neglect, and abusive experiences may contribute to the development of EMSs (Rafaeli et al., 2011; Rijo, Brazão, & Capinha, 2015; Thimm, 2010; Young et al., 2003). These rearing environments have been systematically associated with antisocial and aggressive behavior (Abram et al., 2004; Vagos, Ribeiro da Silva, Brazão, & Rijo, 2018), and some authors (e.g., Chakhssi, Bernstein, & de Ruiter, 2012; Gilbert & Daffern, 2013) suggested that particular combinations of EMSs may result in the development and maintenance of specific psychopathological disorders, including antisocial behavior. In forensic samples, the content and nature of EMSs have been reliably assessed via self-report methodology. A considerable amount of research (e.g., Calvete, 2008; Chakhssi et al., 2012; Gilbert & Daffern, 2013; Specht, Chapman, & Cellucci, 2009) found a positive association of mistrust/abuse, insufficient self-control and entitlement schemas with antisocial behavior. It is noteworthy that entitlement can also develop as an overcompensation for failure and defectiveness/shame schemas (Rafaeli et al., 2011). A more recent study (Shorey, Anderson, & Stuart, 2014) showed that schemas

belonging to the disconnection/rejection domain, which includes mistrust/abuse, abandonment, emotional deprivation, defectiveness/ shame and social isolation schemas, were positively associated with increased antisocial behavior. These results suggest that specific EMSs play a major role on the cognitive basis of antisocial behavior. Thus, it makes sense to select EMSs as targets of change when intervening with offenders. Schema-focused therapy is currently being offered to offenders and forensic patients (Farrell, Shaw, & Webber, 2009; Giesen-Bloo et al., 2006; Nadort et al., 2009; van Asselt et al., 2008), and has proven to be effective in reducing schema's endorsement, psychiatric symptoms, and aggressive and violent behavior. Additionally, Keulen-de Vos, Bernstein, and Arntz (2013) have made recommendations for the adaptation of schema therapy in forensic settings, suggesting that its theoretical model is useful in understanding the meaning behind events triggering violent and antisocial behavior. The same authors have been investigating the efficacy of schema therapy with antisocial and psychopathic offenders placed in forensic hospitals in the Netherlands, and preliminary results showed that schema therapy was capable of reducing recidivism risk and promoting reintegration into the community.

Despite these findings (and although research on the schema based-model applied to forensic samples is still a work in progress), few intervention programs for offenders take into account the need of promoting change at a deeper level, such as EMSs, to modify antisocial behavior. To overcome this shortcoming, Rijo and colleagues (2007) developed the Growing Pro-Social (GPS) program, which is strongly based on schema theory (e.g., Rafaeli et al., 2011; Young et al., 2003). GPS was specifically designed to be used in the rehabilitation of offenders and conceptualizes aggressive behavioral patterns as a result of a distorted view of the self and the others. The program aims to achieve behavioral change through the change in cognitive correlates of antisocial behavior: EMSs, cognitive distortions and cognitive products. The ultimate goal is to reach some degree of change in specific EMSs, underlying the social information processing of offenders, such as: emotional deprivation, abandonment, mistrust/abuse, defectiveness/ shame, social isolation/alienation, failure, entitlement, and insufficient self-control. GPS also tries to fight against resistance to change and cognitive rigidity of EMSs, by overcoming cognitive and emotional avoidance, as well as overcompensation through experiential tasks (for a detailed description of the program, see interventions section).

A pilot study was conducted to assess the program feasibility, as well as to establish initial efficacy of the GPS with male prison inmates. While the 24-treatment participants presented clinical improvement on cognitive distortions and EMSs, the majority of the 24-controls showed significant deterioration in those same variables between baseline and post-treatment assessments (Brazão et al., 2015a). However, this pilot study suffered from a number of methodological flaws, such as the small sample size in each group, the absence of blinding assessments and the lack of a follow-up assessment, thus impeding conclusions about stability of change over time. The current study tried to overcome limitations of previous research and consisted of a randomized controlled trial testing GPS's effects on cognitive distortions and

EMSs in a larger sample of male prison inmates. This study's main goal was, therefore, to assess whether male prison inmates who participated in GPS showed changes on cognitive distortions and EMSs targeted by the program, when compared with the controls. Another goal was to examine the extent to which any improvements were maintained for 12 months after treatment completion. Additionally, the association between treatment dosage and change over time was analyzed in the treatment group, to investigate whether participants who completed the program presented higher improvements on cognitive distortions and EMSs than noncompleters. We expected that the GPS program would lead to a significant decrease of cognitive distortions and EMSs over time in the treatment group, when compared with the control group, and that these effects would be maintained over time. We also expected that participants who completed the program would present higher improvements on cognitive distortions and EMSs over time than noncompleters.

## Method

This randomized controlled trial was designed in accordance with APA Publications and Communications Board Working Group on Journal Article Reporting Standards (JARS; 2008) and the Consolidated Standards of Reporting Trials (CONSORT; Moher et al., 2010) Statement.

### Trial design and participants

This study was a randomized controlled trial with blind assessments, carried out between 2013 and 2016 in three city areas in mainland Portugal (Lisbon, Oporto and Coimbra) and in the Madeira Island. Participants were selected from male prison inmates aged between 18 and 40 years old from nine Portuguese prisons. The initial selection of inmates had the following exclusion criteria: (a) presence of cognitive disabilities (because GPS is not suitable for the cognitively impaired) or (b) psychotic symptoms (experiential strategies used in GPS are contraindicated for psychotic patients); (c) being under treatment for drug abuse/dependence (cessation or at least substantial reduction of drug or alcohol use must precede attendance of the GPS sessions); (d) being sentenced exclusively for sexual offenses (cognitive- behavioral interventions for sex offenders usually involve distinctive features tailored to those offenders specific needs); and (e) remaining in prison less than 24 months since the beginning of the program (taking into account GPS's 12-month length and 12-month follow-up assessment). Female prison inmates were also excluded from the sample because women represent less than 6% of the total prisoners in Portugal, and any possible idiosyncrasies from this cohort would be underrepresented.

**Sample size.** A power analysis showed that a sample of 203 inmates was necessary to detect medium effects with a significance level of .05 and a power of .90.

**Interventions**

Cognitive-behavioral programs usually include different modules or sessions addressing cognitive, emotional and behavioral skills, assumed to be lacking in offenders. However, each of these skills tends to be seen as independent from the others instead of being conceptualized as intertwined with other variables (Rijo et al., 2007). For instance, emotional control sessions are carried out as if emotional control was totally independent from social reasoning or interpersonal behavior (Brazão et al., 2013). Another misconception of traditional approaches regards the methodologies adopted: there is a tendency to give preference to reasoning and school-like activities (e.g., paper and pencil), rather than experiential tasks that would be more suitable to increase self-knowledge and promote cognitive, emotional, and behavioral change.

In order to overcome some of these limitations, Rijo and colleagues (2007) developed a new cognitive- behavioral group program, the GPS — Growing Pro-Social, adapting its contents and methodology to the characteristics of offenders and to the risk-need-responsivity model (RNR; Andrews & Bonta, 2010a), namely the need and responsivity principles, by changing maladaptive thinking (considered a criminogenic need by the RNR model) with cognitive-behavioral techniques (the more effective strategies, in accordance with the RNR model). As previously stated, the GPS is strongly based in schema theory (e.g., Rafaeli et al., 2011; Young et al., 2003) and the program's main goal is changing specific EMSs underlying the offenders' social information processing. GPS is a manualized program of 40, 90-min, sessions which runs on a weekly basis. Sessions must be delivered by two therapists who should be skillful in cognitive- behavioral techniques and schema therapy.

The GPS's structure follows a progressive strategy of change, which begins by (a) increasing knowledge about the nature of human communication, (b) changing maladaptive behavioral patterns in specific interpersonal contexts, (c) learning about cognitive distortions and counteracting their influence in the attribution of meaning to events, (d) experiencing and understanding the function and meaning of emotions and their influence on human behavior, and (e) learning about early maladaptive schemas and fighting against their influence on thoughts, emotions and behaviors. This gradual strategy of change requires the program to be delivered in a predefined sequence of five modules, (preceded by an initial session for the presentation of the program): (a) human communication, (b) interpersonal relationships, (c) cognitive distortions, (d) function and meaning of emotions, and (e) early maladaptive schemas (see Table 1). GPS ends with a final session, and follow-up sessions can be carried out afterward.

Table 1. *GPS Modules and Contents*

| Modules | Number of sessions | Contents summary |
| --- | --- | --- |
| Initial session | 1 | Presentation of the participants, the structure and the methodology of the program. |
| 1. Human communication | 5 | The communication process and its obstacles; verbal and nonverbal communication skills, the ambiguity of human communication; the (in)congruences between digital and analogical languages. |
| 2. Interpersonal relationships | 10 | Behavioral styles (assertive, aggressive, passive and manipulative) in relationships; self-concept and interpersonal behavior; ideas about the others and interpersonal behavior; specific interpersonal contexts and assertive behavior; negotiation as a strategy to deal with conflicts. |
| 3. Cognitive distortions | 6 | Understanding cognitive distortions (thinking errors); identifying and changing cognitive distortions: Selective Abstraction, Overgeneralization, Mind Reading, Crystal Ball, Minimization, Disqualifying the Positive Experiences, Dichotomous Thinking, Labeling and Personalization. |
| 4. Function and meaning of emotions | 7 | The diversity of the emotional experience; the nature and function of emotions: sadness, shame, fear, anger, guilt, and happiness. |
| 5. Early maladaptive schemas | 10 | Early maladaptive schemas and their influence in giving meaning to reality; identifying and changing early maladaptive schemas: Failure, Social Isolation, Mistrust/Abuse, Defectiveness/Shame, Emotional Deprivation, Abandonment/Instability, Grandiosity; fighting schema's influences in thoughts, emotions, and behavior. |
| Final session | 1 | Reflection and consolidation of learning, and generalization of gains made during the program. |

*Note*. Adapted from "From multimodal programs to a new cognitive-interpersonal approach in the rehabilitation of offenders," by N. Brazão, C. da Motta and D. Rijo, 2013, *Aggression and Violent Behavior*, *18*, 640.

Although Modules 1 and 2 are focused in communication and interpersonal behavior, Modules 3, 4, and 5 address cognitive and emotional variables. From the GPS 40 sessions, 16 of them are designed to directly address cognitive change. In six of these sessions, participants are encouraged to understand the way our mind processes social information. Common thinking errors (cognitive distortions) are identified, and participants are trained to think in a more realistic way about relevant daily events. In the other 10 sessions, EMSs, as well as their influence in the attribution of meaning to events, are identified. Participants are encouraged to fight against their own EMSs, diminishing the influence EMSs exert on thoughts, emotions and behavior. All sessions usually include experiential tasks, and participants are encouraged to achieve insight through systematic questioning about the reactions noticed during activities (guided discovery approach), and to apply this knowledge to real life situations.

The treatment group attended the GPS program for about 12 months, in addition to the treatment as usual (TAU) delivered at Portuguese penitentiaries: supervision of school frequency, occupational and job-related tasks, sentence-planning supervision over time, and counseling by a psychologist in a regular basis (once per week). Participants in the control group received TAU and did not attend the GPS sessions or any structured intervention programs during the research period.

**Outcome measures**

Participants completed self-report measures of cognitive distortions and EMSs. Additionally, sociodemographic and legal data on participants were collected from prison staff members.

**Angry Cognitions Scale** (ACS; Martin & Dahlen, 2007; Portuguese version by Leal, 2008). This scale consists of 54 items distributed across nine scenarios (e.g., "You get home from the drive-thru and realized that you were given the wrong food"). Participants are asked to imagine that the situation described in each scenario had just happened. For each scenario, there are six items referring to different thoughts that could arise during the situation, which can be rated on a five-point Likert-type scale (1 = *very unlikely* to 5 = *very likely*). In each group of items, five correspond to Maladaptive Processes addressing five thinking errors—Misattributing Causation, Overgeneralization, Inflammatory Labeling, Demandingness and Catastrophic Evaluation (for a definition of each one of these errors, see Martin & Dahlen, 2007). The remaining item in each scenario refers to the Adaptive Processes, which constitutes the second factor of this instrument (Martin & Dahlen, 2007).

The original version of the ACS presented good internal consistency values, with alphas ranging between .82 and .91 for each of the five thinking errors subscales, and an alpha of .79 for the subscale corresponding to Adaptive Processes (Martin & Dahlen, 2007). In a Portuguese study with male prison inmates, only two factors were identified—Maladaptive Processes and Adaptive Processes, with Cronbach's alphas of .93 and .77, respectively (Leal, 2008).

In the current study, only Adaptive and Maladaptive main factors were taken into account (because the Portuguese study with offenders could not identify the five specific

cognitive distortions). The Maladaptive Processes factor presented an alpha of .94. and the Adaptive Processes an alpha of .78.

**Young Schema Questionnaire** (YSQ-S3; Young, 2005; Portuguese version by Pinto-Gouveia, Rijo, & Salvador, 2006). Is a widely used self-report questionnaire including 90 items, measuring the 18 EMSs proposed by Young (1990). Each EMS is evaluated using a set of five items listed randomly, which the individual rates using a Likert-type scale from 1 (*completely untrue to me*) to 6 (*describes me perfectly*). The YSQ's psychometric properties have been extensively studied by several authors (Schmidt, Joiner, Young, & Telch, 1995; Soygüt, Karaosmanoglu, & Çakir, 2009; Stopa, Thorne, Waters, & Preston, 2001; Waller, Meyer, & Ohanian, 2001). Factor structure and discriminant power between clinical and nonclinical samples have also been studied (e.g., Rijkeboer, van den Bergh, & van den Bout, 2005). In Portuguese samples, a structure of 18 factors with moderate item-total correlations and high internal consistency ($\alpha$ = .97) was found (Rijo, 2009).

In the present study, only the eight EMSs proposed as underlying antisocial behavior by the GPS theoretical model (Rijo et al., 2007) were taken into account. The total score (resulting from the sum of the eight EMSs) internal consistency was .89. As for the specific EMSs, the internal consistency was .83 for emotional deprivation, .78 for abandonment/instability, .84 for mistrust/abuse, .78 for social isolation/alienation, .76 for the defectiveness/shame, .81 for the failure, .89 for the grandiosity/entitlement and, finally, .75 for the insufficient self-control/self-discipline.

**Procedures**

The current study was approved by the Ethics Committee of the Faculty of Psychology and Educational Sciences of the University of Coimbra where the Research Center is based. Additionally, researchers sought authorization by the Portuguese Data Protection Authority, in order to assure data protection from all participants involved in the study. A list of potential participants (who did not meet the exclusion criteria) was made available to the research team by psychologists from the justice system, after approval was obtained from the Head of the General Directorate of Reintegration and Prison Services of the Portuguese Ministry of Justice.

A large sample of participants was randomly selected using a random number table by a research assistant who was blind to any personal information about each inmate. In a first meeting between the research team and the randomized inmates, researchers explained the goals of the study and presented a brief overview of the treatment program. It was also explained to inmates that their participation in the study would not impact their sentencing in any way, and they were invited to participate voluntarily. Inmates who agreed to participate in the study were assessed at baseline, after they signed an informed consent. Then, participants were randomly assigned to treatment conditions (treatment and control groups) using a random number table by a research assistant who was blind to any information about each participant. Afterward, the research team informed the psychologists in each prison of the result of the randomization so that GPS could be initiated. Participants in the control group

were informed that they would be offered the GPS treatment after the study's completion (including the follow-up interval).

Assessments occurred at baseline, after the 20th session of the program (mid-treatment assessment), at the end of treatment and 12 months' post-treatment (follow-up assessment) by independent research assistants, who received training in the self-report measures and were blind to group allocation. Respondent-specific codes were used to link the data from one time-point to the next one.

The program was delivered by two psychologists in each prison involved in the study, who already had training and experience in delivering the program with inmates. Program integrity and consistency was ensured through (a) delivery of sessions by two therapists; (b) group supervision meetings of facilitators to discuss previously delivered sessions and to prepare the following ones; and (c) regular meetings and supervision between program facilitators and researchers (including the program's main author). It is noteworthy that the simultaneous presence of two experienced therapists in each session contributes to treatment fidelity. While one therapist is leading the session, the other one observes the implementation and helps in keeping it close to the program handbook. Furthermore, GPS's structured and manualized design ensures, at least partially, that program integrity is respected. Quality control procedures, such as recording sessions and/or the presence of external assessors in the GPS sessions, were not allowed in prisons.

**Data analysis**

Preliminary analyses included comparisons between the treatment and control group on demographic and legal data, using independent-samples *t* tests or chi-square tests depending on the nature of the data. Groups were also compared on the outcome measures at baseline, using independent-samples *t*-tests. These preliminary analyses were carried out with the IBM SPSS Statistics v22.0.

Taking into account the longitudinal design of the research, intervention effects were tested by intent to treat analysis using latent growth curve models (LGCM; Duncan & Duncan, 1995). Although repeated measures statistical methods (e.g., ANOVA) can handle multiple data points, there is a growing recognition that these approaches may not be adequate when assessing change over time (Curran, Obeidat, & Losardo, 2010; Duncan & Duncan, 2009; Hesser, 2015). These traditional methods only analyze change in observed group means, thus being incapable of capturing individual differences in change (differences in trajectories are treated as error variance). Also, these methods assume that change in participants is linear. Alternatively, LGCM analyze both linear and nonlinear change, and individuals are allowed to differ on the rate of change in the dependent variables over time. Therefore, LGCM is a reliable method to assess individual variation in the growth of the dependent variables, and to examine if treatment condition might predict changes over time (Duncan & Duncan, 1995, 2009; Malmberg et al., 2015; Muthén, 1997; Muthén & Muthén, 2010).

In LGCM, the intercept (i.e., initial status) and slope (i.e., change over time) were modeled as latent variables from data at baseline (Time 1), mid-treatment (Time 2), post-treatment (Time 3) and follow-up (Time 4) assessments. First, unconditional models testing a linear and a nonlinear (i.e., quadratic trend) of change in the dependent variables over time were estimated separately in each group without predictors or control variables. Effect sizes for the rate of change observed in the dependent variables in each group were calculated using Cohen's *d*, with 0.2 indicating a small effect, 0.5 a medium effect and 0.8 a large effect (Cohen, 1988).

After establishing the unconditional models, the association between condition and change over time was examined by including condition (control group vs. treatment group coded as 0 and 1, respectively) as a predictor of the growth factors (i.e., intercept and slope). The path from condition to intercept reflects group differences at the baseline and should be nonsignificant due to randomization. The path from condition to slope reflects group differences on the trajectory of change in the dependent variables over time. Additionally, the association between treatment dosage and change over time in the outcome measures was analyzed in the treatment group by including the number of sessions (< 32 sessions vs. ≥ 32 sessions coded as 0 and 1, respectively) as a predictor of the rate of change. A cut-off of ≥ 32 session (80% of attendance) was used to classify participants as completers, following the recommendations by Cullen and colleagues (2012).

In all LGCM, Full Information Maximum Likelihood Estimation was used to handle missing data according to a proposal by Muthén and Muthén (2010). Thus, all participants with at least two complete measures for each outcome were included in the analyses. For each LGCM, chi-square, comparative fit index (CFI), root-mean-square error of approximation (RMSEA) and the standardized root-mean square residual (SRMR) were used as model fit indices. Following the guidelines by Hair, Black, Babin, and Anderson (2005), and taking into account our sample size (< 250), a CFI > .95 combined with either RMSEA < .08 or a SRMR < .08 were considered as indicators of acceptable/good fit. All LGCM were carried out using Mplus v7.4 (Muthén & Muthén, 2010). For a graphical representation of LGCM, see Appendix A.

## Results

### Recruitment and retention

A sample of 270 inmates, who did not meet the exclusion criteria, were invited to participate in the study (see Figure 1). After this first selection, 16 (5.9%) inmates declined to participate, and 254 (94.1%) inmates completed the baseline assessment and were randomly assigned to treatment and control groups.

From the initial 121 treatment group participants, 108 (89.2%) completed the mid-treatment assessment, 97 (80.1%) completed the post-treatment assessment and 69 (57.0%) completed the follow-up assessment. Only 17 (14.0%) inmates dropped out the program. The majority of losses to subsequent assessments was due to transference to another prison or

parole. Of the 121 inmates randomized to GPS, 79 (65.4%) attended more than 32 sessions, 19 (15.7%) attended between 31 and 21 sessions, 12 (9.9%) attended between 20 and 11 sessions, and 11 (9.0%) attended less than 10 sessions. Inmates attended in average 30 sessions (*M* = 30.18; *SD* = 11.45) of the program.

From the initial 133 control participants, 104 (85.9%) completed the mid-treatment assessment, 89 (66.9%) completed the posttreatment assessment and 67 (50.3%) completed the follow-up assessment.

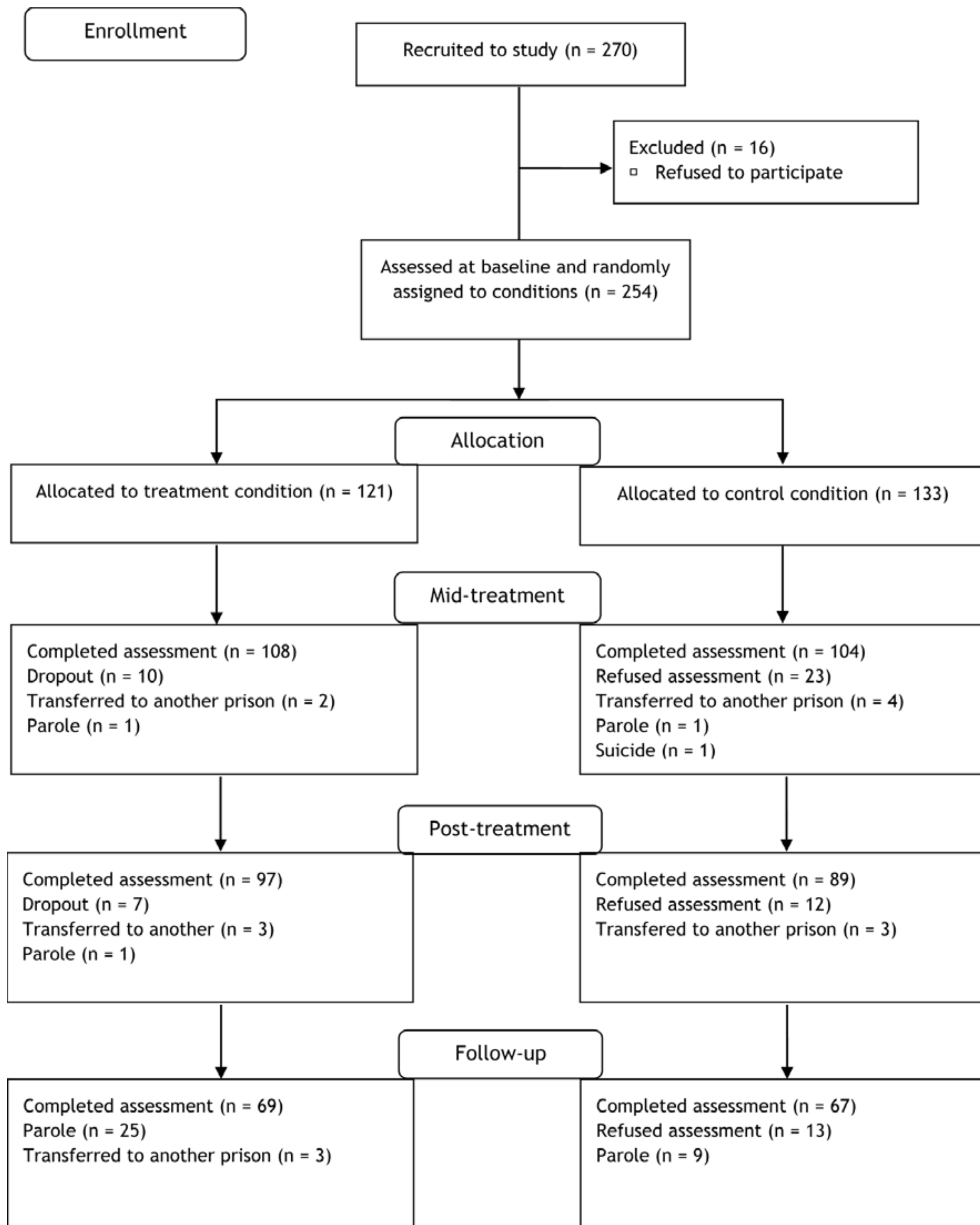


*Figure 1*. Flowchart of inmate participation

**Baseline differences**

Treatment and control groups were compared on demographic characteristics, and no significant differences were found (all $p > .05$). In treatment and control groups, the mean age was 28.24 (*SD* = 6.32) and 28.74 years old (*SD* = 6.14), respectively. Participants were mostly single (69.4% in the treatment group and 70.7% in the control group), with a low socioeconomic status[15] (94.2% in the treatment group and 97.0% in the control group).

The groups were also compared concerning legal and criminal features, and no significant differences were found (all $p > .05$). In treatment and control groups, the average sentence length was 111.53 (*SD* = 59.25) and 120.76 months (*SD* = 63.22), respectively. Although participants were mainly first-time offenders (62.8% in the treatment group and 60.9% in the control group), most of them were charged in the current conviction for having committed several crimes (56.2% in the treatment group and 50.4% in the control group). Crimes for which they were sentenced to prison were predominantly against property (55.4% in the treatment group and 51.1% in the control group), followed by crimes against people (28.7% in the treatment group and 31.6% in the control group), drug-related offenses (14.2% in the treatment group and 13.5% in the control group), and crimes against the state (1.7% in the treatment group and 3.8% in the control group).[16] Baseline differences between groups were also tested for all outcome measures (see Table 2). No differences were found between conditions at the onset of the study. Overall, these results indicated that randomization was successful.

**Intervention effects on cognitive distortions and EMSs**

As previously stated, unconditional models were performed separately by each condition.[17] Next, conditional models with condition as a predictor of the growth factors (i.e., intercept and slope) were examined.

**Unconditional models in the treatment group.** A linear and nonlinear (i.e., quadratic) trend of the unconditional models of change in the dependent variables over time were tested. Although a significant quadratic trend was found for the insufficient self-control EMS and for the EMSs total score, it did not achieve acceptable fit.[18] For the remaining variables, none of the models showed a significant quadratic trend. Therefore, only the linear trend was included in the following models. The linear trend of the unconditional models presented good fit indices to the observed data (see Appendix C).

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[15]Socioeconomic status (SES) was measured by inmates' profession, considering the Portuguese professions classification (Instituto Nacional de Estatística, 2011). Examples of professions in the high SES group are judges, higher education professors, or medical doctors; in the medium SES group are nurses, psychologists, or school teachers; and in the low SES group are farmers, cleaning staff, or undifferentiated workers.

[16]Crimes against property include robbery, theft and qualified theft; Crimes against people include simple and aggravated assault, intimidation, kidnapping, attempted homicide and homicide; and crimes against the state include counterfeiting and forgery of documents.

[17]For a graphical representation of change over time on cognitive distortions and EMSs (total score) in treatment and control groups, see Appendix B.

[18]Fit indices for the insufficient self-control EMS: $x2$ = 14.172, $p$ .014; CFI = .729; RMSEA = .147; SRMR = .097; Fit indices for the EMSs total score: $x2$ = 22.225, $p < .001$; CFI = .767; RMSEA = .201; SRMR = .108.

As presented in Table 3, and for the Maladaptive and Adaptive Processes, the average slopes were significant. Although scores on Maladaptive Processes decreased over time (as indicated by the negative slope), levels of Adaptive Processes increased over time (as indicated by the positive slope). The effect sizes for the rate of change observed in Maladaptive and Adaptive Processes were large and medium, respectively. In addition, an individual variation around the mean of the growth trajectory of Maladaptive Processes was found, as indicated by the significant slope factor variance. For the Adaptive Processes, the slope factor variance was nonsignificant.

For all the specific EMSs and for the total score, the average slopes were significant, indicating that schema's endorsement decreased over time. The effect sizes for the rate of change observed in those same variables were medium or large. Additionally, individual differences around the mean of the growth trajectory of Mistrust/Abuse, Abandonment/Instability, Social Isolation/Alienation and Insufficient Self-Control EMSs were found. For the remaining EMSs and total score, the slope factor variance was nonsignificant.

**Unconditional models in the control group.** Linear and quadratic trends of the unconditional models in the control group were also tested. Besides EMSs total score, none of the models showed a significant quadratic trend. As such, only the linear trend was included in the subsequent analyses. The linear trend of the unconditional models showed good fit indices to the data (see Appendix C).

As reported in Table 4, and for Maladaptive and Adaptive Processes, results showed that scores on these variables decreased over time; however, the average slope was only significant for the Adaptive Processes, and the observed effect size was medium. For both variables, the average variances of the slopes were significant, indicating individual variation around the mean of the growth trajectories. For all EMSs, and although results showed a slight increase on the scores of these variables over time, the average slopes were always nonsignificant. Individual differences around the mean of the growth trajectory of all EMSs were found.

**Conditional models with group as a predictor of the growth factors.** The conditional models with group (control vs. treatment) as a predictor of the growth factors provided good fit indices to the observed data (see Appendix C).

As presented in Table 5, condition did not predict variation in the intercept, indicating that the groups did not differ in self-reported cognitive distortions and EMSs scores at baseline. On the other hand, condition was a significant predictor of change over time observed in all outcome measures. Specifically, the treatment group showed a greater increase (of almost 3 units) in Adaptive Processes than the control group, as indicated by the positive B value. Treatment participants also showed a greater decrease (of almost 8 units) in Maladaptive Processes than controls, as indicated by the negative B value. Finally, the treatment group presented a greater decrease in EMSs total score than the control group, as indicated by the negative B value (- .253). The same tendency of results was found for all specific EMSs.

**Conditional models with treatment dosage as predictor of the rate of change in the treatment group.** Additionally, conditional models with treatment dosage (i.e., < 32 sessions vs. ≥ 32 sessions) as predictor of the rate of change in Maladaptive and Adaptive Processes, and in EMSs total score were analyzed in the treatment group. As previously specified, participants that completed at least 32 sessions were considered completers. In turn, participants that attend less than 32 sessions were considered noncompleters. Results showed that treatment dosage was a significant predictor of change over time observed in the outcome measures. Specifically, completers showed a greater increase in Adaptive Processes (B = 1.987; $p < .001$), and a greater decrease in Maladaptive Processes (B = -5.051; $p = .041$) and EMSs total score (B = -.166; $p = .003$) when compared with the noncompleters.

Table 2. *Baseline Differences on the Outcome Measures by Group*

| | *Treatment group* | | *Control group* | | *t* | *p* | *Cohen's d* |
|---|---|---|---|---|---|---|---|
| Outcome measures | *M* | *SD* | *M* | *SD* | | | |
| ACS | | | | | | | |
| Maladaptive Processes | 122.42 | 29.06 | 124.27 | 30.05 | .495 | .621 | 0.06 |
| Adaptive Processes | 32.03 | 6.07 | 31.81 | 6.14 | .288 | .774 | 0.03 |
| YSQ-S3 | | | | | | | |
| Emotional Deprivation | 2.06 | 1.08 | 2.18 | 1.17 | .848 | .397 | 0.10 |
| Abandonment/Instability | 3.00 | 1.03 | 3.22 | 1.27 | 1.505 | .134 | 0.19 |
| Mistrust/Abuse | 2.77 | 0.99 | 2.86 | 1.10 | .699 | .485 | 0.08 |
| Social Isolation/Alienation | 2.15 | 0.83 | 2.28 | 0.98 | 1.127 | .261 | 0.14 |
| Defectiveness/Shame | 1.63 | 0.64 | 1.70 | 0.84 | .796 | .427 | 0.09 |
| Failure | 1.65 | 0.56 | 1.75 | 0.80 | 1.172 | .243 | 0.14 |
| Grandiosity/Entitlement | 2.45 | 0.83 | 2.48 | 1.00 | .311 | .756 | 0.03 |
| Insufficient Self-Control | 2.22 | 0.80 | 2.36 | 0.99 | 1.287 | .199 | 0.15 |
| Total score (8 schemas) | 2.24 | 0.58 | 2.36 | 0.75 | 1.396 | .172 | 0.17 |

*Note*. Maladaptive Processes include the following cognitive distortions: Misattributing Causation; Overgeneralization; Inflammatory Labeling; Demandingness; and Catastrophic Evaluations.

ACS = Angry Cognitions Scale; YSQ-S3 = Young Schema Questionnaire.

Table 3. *Unconditional Model of the Rate of Change (Slope) in Maladaptive and Adaptive Cognitive Processes and Early Maladaptive Schemas in the Treatment Group*

| Outcome measures | *T1* M (SD) | *T2* M (SD) | *T3* M (SD) | *T4* M (SD) | *T1-T4* Cohen's *d* | Slope | Slope (V) |
|---|---|---|---|---|---|---|---|
| ACS | | | | | | | |
| Maladaptive Processes | 122.30 (29.99) | 115.18 (31.93) | 88.98 (30.37) | 125.60 (29.96) | 1.10 | -8.33*** | 13.75*** |
| Adaptive Processes | 32.13 (6.06) | 33.25 (6.07) | 34.28 (6.92) | 36.13 (6.28) | 0.64 | 0.90*** | 2.51 |
| YSQ-S3 | | | | | | | |
| Emotional Deprivation | 2.05 (1.11) | 1.90 (0.96) | 1.61 (0.85) | 1.37 (0.59) | 0.76 | -0.18*** | 0.05 |
| Abandonment/Instability | 3.01 (1.05) | 2.66 (1.13) | 2.19 (1.03) | 1.75 (0.78) | 1.36 | -0.33*** | 0.10*** |
| Mistrust/Abuse | 2.76 (1.01) | 2.64 (1.06) | 2.35 (1.09) | 1.83 (0.77) | 1.03 | -0.22*** | 0.11*** |
| Social Isolation/Alienation | 2.16 (0.85) | 1.96 (0.85) | 1.75 (0.72) | 1.54 (0.59) | 0.84 | -0.13** | 0.07*** |
| Defectiveness/Shame | 1.62 (0.63) | 1.44 (0.61) | 1.33 (0.51) | 1.22 (0.33) | 0.79 | -0.09*** | 0.02 |
| Failure | 1.65 (0.57) | 1.54 (0.52) | 1.43 (0.53) | 1.29 (0.40) | 0.73 | -0.08** | 0.04 |
| Grandiosity/Entitlement | 2.46 (0.85) | 2.05 (0.83) | 1.89 (0.75) | 1.57 (0.43) | 1.32 | -0.21*** | 0.03 |
| Insufficient Self-Control | 2.20 (0.80) | 1.98 (0.81) | 1.79 (0.72) | 1.56 (0.56) | 0.92 | -013*** | 0.07** |
| Total score (8 schemas) | 2.24 (0.59) | 2.02 (0.59) | 1.79 (0.60) | 1.51 (0.44) | 1.40 | -0.19*** | 0.02 |

*Note*. Maladaptive Processes include the following cognitive distortions: Misattributing Causation; Overgeneralization; Inflammatory Labeling; Demandingness; and Catastrophic Evaluations.

ACS = Angry Cognitions Scale; YSQ-S3 = Young Schema Questionnaire; Slope (V) = Variance of the slope.

**p < .01; ***p < .001.

Table 4. *Unconditional Model of the Rate of Change (Slope) in Maladaptive and Adaptive Cognitive Processes and Early Maladaptive Schemas in the Control Group*

| Outcome measures | *T1* M (SD) | *T2* M (SD) | *T3* M (SD) | *T4* M (SD) | *T1-T4* Cohen's *d* | Slope | Slope (V) |
|---|---|---|---|---|---|---|---|
| ACS | | | | | | | |
| Maladaptive Processes | 125.60 (29.96) | 120.72 (33.75) | 125.22 (35.77) | 124.62 (33.66) | 0.03 | -0.05 | 14.26*** |
| Adaptive Processes | 31.65 (6.41) | 30.69 (6.46) | 30.61 (8.34) | 26.11 (10.37) | 0.64 | -1.17** | 8.09** |
| YSQ-S3 | | | | | | | |
| Emotional Deprivation | 2.21 (1.17) | 2.00 (1.04) | 2.09 (1.11) | 2.30 (1.11) | 0.07 | 0.03 | 0.20*** |
| Abandonment/Instability | 3.29 (1.27) | 2.71 (1.14) | 2.75 (1.15) | 2.87 (1.01) | 0.36 | 0.01 | 0.15*** |
| Mistrust/Abuse | 2.89 (1.10) | 2.74 (1.16) | 2.76 (1.18) | 2.96 (1.10) | 0.06 | 0.05 | 0.12** |
| Social Isolation/Alienation | 2.30 (0.98) | 2.15 (1.05) | 2.39 (1.06) | 2.46 (1.10) | 0.15 | 0.06 | 0.19*** |
| Defectiveness/Shame | 1.71 (0.87) | 1.67 (0.88) | 1.83 (0.89) | 1.99 (0.98) | 0.30 | 0.09 | 0.16** |
| Failure | 1.72 (0.78) | 1.65 (0.77) | 1.94 (1.02) | 2.07 (1.03) | 0.38 | 0.09 | 0.11** |
| Grandiosity/Entitlement | 2.48 (0.94) | 2.32 (1.01) | 2.35 (0.91) | 2.36 (0.92) | 0.12 | -0.03 | 0.08** |
| Insufficient Self-Control | 2.36 (0.97) | 2.17 (1.03) | 2.19 (0.91) | 2.22 (0.99) | 0.14 | 0.05 | 0.09** |
| Total score (8 schemas) | 2.37 (0.75) | 2.18 (0.78) | 2.29 (0.83) | 2.41 (0.84) | 0.05 | 0.04 | 0.12** |

*Note*. Maladaptive Processes include the following cognitive distortions: Misattributing Causation; Overgeneralization; Inflammatory Labeling; Demandingness; and Catastrophic Evaluations.

ACS = Angry Cognitions Scale; YSQ-S3 = Young Schema Questionnaire; Slope (V) = Variance of the slope.

**p < .01; ***p < .001.

Table 5. *Conditional Model with Condition as Predictor of the Initial Level (Intercept) and Rate of Change (Slope) in Maladaptive and Adaptive Cognitive Processes and Early Maladaptive Schemas*

| | *Intercept* | | *Slope* | |
|---|---|---|---|---|
| | B | *p* | B | *p* |
| ACS | | | | |
| Maladaptive Processes | -2.812 | .448 | -7.939 | < .001 |
| Adaptive Processes | -.029 | .971 | 2.775 | < .001 |
| YSQ-S3 | | | | |
| Emotional Deprivation | .006 | .966 | -.253 | < .001 |
| Abandonment/Instability | -.050 | .759 | -.266 | < .001 |
| Mistrust/Abuse | .001 | .992 | -.392 | < .001 |
| Social Isolation/Alienation | -.112 | .381 | -.253 | < .001 |
| Defectiveness/Shame | -.061 | .581 | -.201 | < .001 |
| Failure | -.024 | .803 | -.215 | < .001 |
| Grandiosity/Entitlement | -.046 | .718 | -.219 | < .001 |
| Insufficient Self-Control | -.098 | .438 | -.250 | < .001 |
| Total score (8 schemas) | .006 | .996 | -.253 | < .001 |

*Note*. Maladaptive Processes include the following cognitive distortions: Misattributing Causation; Overgeneralization; Inflammatory Labeling; Demandingness; and Catastrophic Evaluations.
ACS = Angry Cognitions Scale; YSQ-S3 = Young Schema Questionnaire.

## Discussion

This study aimed to test the efficacy of the Growing Pro-Social (GPS) program in reducing cognitive distortions and early maladaptive schemas (EMSs) over time in male prison inmates. Specifically, it was assessed whether offenders who participated in GPS showed change on cognitive distortions and EMSs targeted by the program, when compared with the controls. It was also examined the extent to which any improvements were maintained for 12 months after GPS completion. The association between treatment dosage and change over time was also analyzed, in order to investigate whether participants who completed the GPS sessions presented higher improvements on cognitive distortions and EMSs than noncompleters. To our best knowledge, this was the first randomized controlled trial carried out in Portuguese prisons. It was also the first study to test the effects of a cognitive-behavioral group program with offenders using latent growth curve models (LGCM).

Data on recruitment and retention, showed that the majority of the inmates randomized to GPS (65.4%) completed the intervention (32 or more sessions). It is noteworthy that only a small number of inmates (14.0%) dropped out the program. These data suggested that GPS's length and methodology may account for the favorable program retention. Losses observed in follow-up assessments in the treatment group were mainly due to external

variables, such as transference to another prison and/or parole, that researchers could not overcome. The same occurred in the control group, although a considerable percentage of inmates from this group refused to complete subsequent assessments (namely between mid-treatment and follow-up assessments). Nonetheless, and in accordance with the JARS and CONSORT guidelines (APA Publications and Communications Board Working Group on Journal Article Reporting Standards, 2008; Moher et al., 2010), an intent-to-treat analysis was followed and all participants (including the noncompleters from both groups) were included in the subsequent analyses. Including only the completers in the analyses would introduce selection bias into the findings (Antonio & Crossett, 2017; APA Publications and Communications Board Working Group on Journal Article Reporting Standards, 2008; Moher et al., 2010).

Comparisons between treatment and control groups on demographic and criminal features, as well as in the outcome measures at baseline, revealed nonsignificant differences between groups. This result sustains that randomization was successful, thus allowing for reliable conclusions on the predictor effect of condition on cognitive distortions and EMSs over time.

Results from LGCM showed that condition was a significant predictor of change over time observed in all outcome measures. Concerning adaptive thinking (i.e., adaptive cognitive processes), while the treatment group presented an increase over time, the control group showed a decrease over time. This result supports the idea that GPS is capable of changing the way inmates process social information, promoting a more realistic, healthy and prosocial thinking style. The decrease of adaptive thinking over time observed in controls also suggests that GPS may be effective in buffering a tendency to get worse across time while in prison.

Regarding cognitive distortions (i.e., maladaptive cognitive processes), the treatment participants presented a greater and significant decrease of cognitive distortions over time, when compared with the controls. This result is co-occurrent with findings observed for adaptive thinking, in which treatment participants showed an improvement, whereas controls showed a worsening in this same variable. The deterioration observed in this group may be explained by the fact that controls did not receive any intervention program during the research period (i.e., there was no accounting for dosage), which may suggest that the usual penitentiary treatment (when not including specific intervention programs) may not be effective in changing maladaptive cognitions that are associated with aggressive and antisocial behavior, and recidivism risk (Constantine, Robst, Ander, & Teague, 2012; Martin, Dorken, Wamboldt, & Wootten, 2012; Morgan et al., 2012). These findings stress the need to provide appropriate treatment programs to inmates, namely the ones focused in offender's cognitive malfunctioning (McGuire, 2006, 2008, 2011, 2013; Hollin, Palmer, & Hatcher, 2013), as shown by the GPS's ability to, on one hand, decrease maladaptive thinking processes and, on the other hand, increase the use of adaptive thinking strategies.

Results also pointed out to a significant decrease of EMSs over time in the treatment group, when compared with the control group, who showed no change over time in these variables. According to schema theory (e.g., Rafaeli et al., 2011; Young et al., 2003), lower

scores on schema measures may be interpreted as a lower prominence of EMSs in the individual's self-concept. As such, EMSs decrease their influence on associated cognitive distortions and dysfunctional cognitive products. Consequently, attribution of meaning can be made in a more realistic way, less influenced by EMSs. Once the ultimate goal of the GPS (according to its theoretical approach) is to promote changes in self-representation, these findings support the program's ability to produce change at this level of cognitive functioning. Moreover, improvements for both cognitive distortions and EMSs were sustained over time (12 months after GPS completion), suggesting that those who participated in the program continued to use and consolidate the strategies learned in sessions after they finished treatment, which is one the GPS's main goals (Brazão et al., 2013; Rijo et al., 2007).

It is important to add that a reduction on cognitive distortions and EMSs was observed from Time 1 (baseline assessment) to Time 2 (mid-treatment assessment), which is prior to cognitive distortions and EMSs sessions being delivered. Although GPS's Module 1 and 2 are focused in communication and interpersonal behavior, the main goal of these modules is to increase participants' awareness of the ambiguity of human communication and the subjectivity of information processing in interpersonal contexts. Also, participants are challenged to identify the frequent misattribution of others' behavior toward oneself, thus becoming more conscious about cognitive distortions underlying the attribution of meaning to interpersonal behaviors, thus modifying those same distortions and, consequently, core schemas to a certain degree. These modules were, therefore, developed to promote some degree of change at a cognitive level (Brazão et al., 2013; Rijo et al., 2007). This initial work may explain, at least partially, the change observed in cognitive distortions and EMSs before the subsequent specific modules. Another possible explanation may be related to nonspecific factors, namely the fact that inmates were included in a regular group activity, which per se might be helpful, considering that inmates participating in this study did not attend any other intervention program or treatment.

Additional analyses on treatment dosage as predictor of change over time in the treatment group showed that completers (i.e., participants that completed at least 32 sessions) presented, on one hand, a greater increase in adaptive thinking and, on another hand, a greater decrease in maladaptive thinking and in schema's endorsement than noncompleters (i.e., participants that attended less than 32 sessions). These findings emphasize the need for therapists to engage participants with the full treatment, in order to maximize the GPS's effects. This issue is especially relevant, taking into account that dropouts typically reoffend at a higher rate than treatment completers (Bennett, Stoops, Call, & Flett, 2007; Kroner & Takahashi, 2012; Prendergast, Hall, Wexler, Melnick, & Cao, 2004).

Overall, findings from this randomized controlled trial offer evidence of GPS's efficacy in changing the cognitive biases that seem underlie antisocial behavior. If this cognitive malfunctioning can be seen as a correlate of behavioral and emotion regulation difficulties (Brazão et al., 2013; Rijo et al., 2007), then EMSs should be selected as targets of change (Brazão et al., 2015a; Farrell et al., 2009; Giesen-Bloo et al., 2006; Nadort et al., 2009; van

Asselt et al., 2008) and programs should promote cognitive change at this level, instead of focusing uniquely on cognitive distortions. Results also support the idea that it is possible to achieve cognitive change with structured interventions that consume fewer human and economic resources (Andrews & Bonta, 2010a, 2010b; Bonta & Wormith, 2013; McGuire, 2006, 2008, 2011, 2013; Hollin et al., 2013), and that this kind of programs can, at least partially, ensure that individuals in contact with the justice system receive appropriate intervention, addressing relevant psychological needs of prison inmates.

The fact that cognitive distortions and EMSs are usually assessed through self-report measures encompasses one of the limitations of the current research, because this kind of measures is not free of response bias. Another limitation has to do with the outcome measures used in the current study, which were not specifically developed for offenders. Although other instruments (e.g., the Psychological Inventory of Criminal Thinking Styles or the Measure of Criminogenic Thinking Styles) may be more adequate to assess antisocial cognitions, to our best knowledge these same measures were not adapted and/or validated for Portuguese samples, at the onset of the study. Alternatively, researchers used the Angry Cognitions Scale (Martin & Dahlen, 2007) that has been previously validated with Portuguese male prison inmates. Moreover, this instrument assesses not only cognitive distortions but also adaptive thinking. Taking into account that researchers were interested in assessing the GPS capability to reduce cognitive distortions, but also to promote adaptive thinking (because a reduction in cognitive distortions does not necessarily lead to a more adaptive thinking), this instrument seemed to be a proper alternative. Finally, and taking into account that the GPS's main goal is to change specific EMSs, researchers used the YSQ (Young, 2005) — which is a widely used self-report questionnaire to measure EMSs — to assess change in those same variables.

The integrity of GPS delivery was ensured by training and supervising psychologists who run the program. However, no systematic quality control procedures of the program's delivery were carried out in the current study. As previously stated, recording sessions or the presence of external assessors in sessions were not allowed in prisons.

The effects of the GPS in the reduction of criminal recidivism rates were not analyzed in this study. The positive effects of a rehabilitation program over recidivism rates are usually presented as a major requirement for the selection of effective intervention practices (e.g., McGuire, 2011, 2013). However, a recent trend in research (e.g., Antonio & Crossett, 2017; Skeem, Polaschek, & Manchak, 2009) has begun to study other relevant variables as outcome measures, besides criminal recidivism reduction. The current study added to this new-wave of research and proposed to test the effects of a structured cognitive– behavioral group intervention on cognitive correlates of antisocial behavior. Nonetheless, it seems of the utmost importance to test if the positive changes in cognitive distortions and EMSs results in a significant reduction of reoffending and/or criminal recidivism. As previously stated, participants in the control group were informed that they would be offered the GPS treatment after the study's completion. This waiting list control design eliminates the possibility of the control group being used for any recidivism follow-up study. However, this design allows the

replication of the observed findings in the current treatment group when controls undertake GPS. Finding a similar pattern of change in the control group would confirm the GPS's positive effects on the cognitive correlates of antisocial behavior.

Future studies should assess other relevant variables associated with antisocial behavior (such as emotional variables), as well as variables that do not rely exclusively on self-report measures (e.g., behavioral measures, disciplinary incidents and prison records). Taking into account the individual variability of change in cognitive distortions and EMSs observed in the current study, future research should test for relevant variables that could explain this same variability. Testing moderators of treatment effects is another important topic to be addressed in further research.

This randomized controlled trial confirms and extends previous findings from a former pilot study (Brazão et al., 2015a), and showed that GPS can have positive effects on the cognitive functioning of male prison inmates, by reducing cognitive distortions and the prominence of EMSs in offender's social information processing. Future multimodal programs delivered to prison inmates should consider the cognitive functioning at different levels, in order to optimize treatment effects and adopt a more comprehensive approach to treatment. In conclusion, findings presented in this paper represent the first attempt to perform a randomized controlled trial of the GPS program in Portuguese prisons. However, replication of these findings with other type of offenders (e.g., female offenders) and/or in other settings (e.g., in community-based interventions), as well as in other countries, will speak to the generalizability of the program in promoting change in the full range of the offenders' cognitive functioning.

## Trial Registration

The ClinicalTrials.gov ID for this research is NCT03013738. The full trial protocol can be assessed at https://clinicaltrials.gov/

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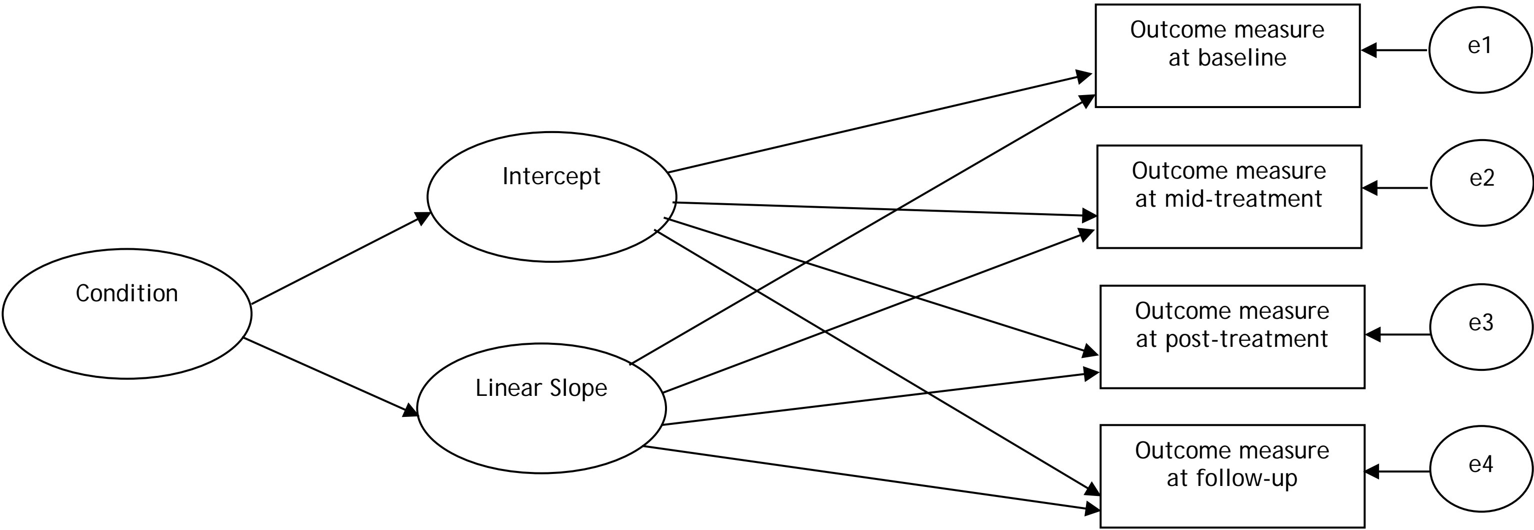
Appendix A. Latent Growth Curve Model for one outcome measure measured on the four timepoints with condition as predictor




*Note*. The factor loadings for the intercept were set to 1, and the factor loadings for the linear slope were fixed to 0 at baseline, 1 at mid-treatment, 2 at post-treatment and 4 at follow-up. Condition was coded as 0 = control group and 1 = treatment group.

Appendix B. Change over time in maladaptive and adaptive cognitive processes, and in early maladaptive schemas (total score) in treatment and control groups

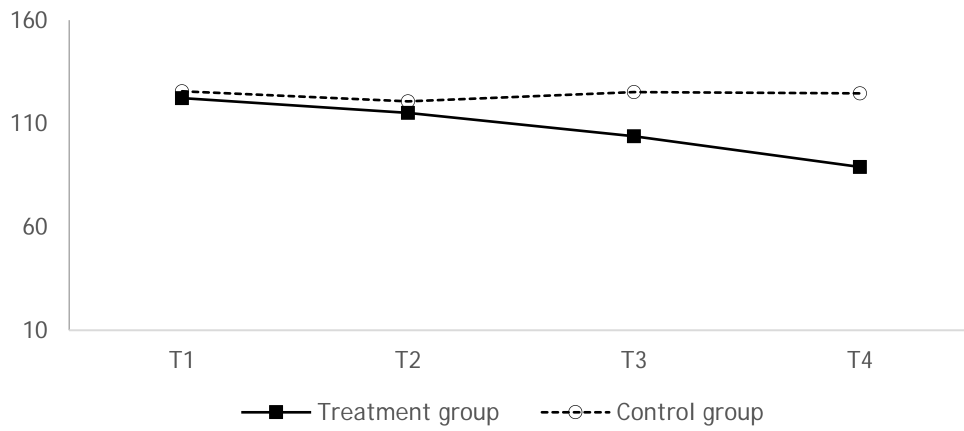



Figure B1. Change over time in maladaptive cognitive processes in treatment and control groups

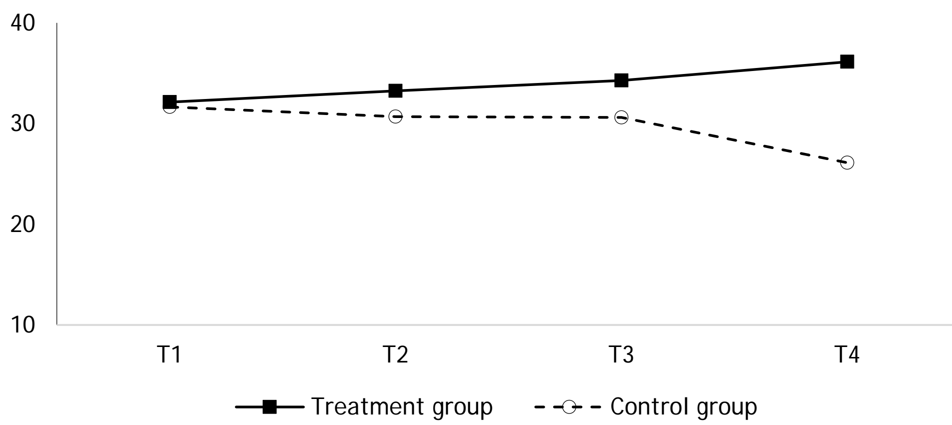



Figure B2. Change over time in adaptive cognitive processes in treatment and control groups

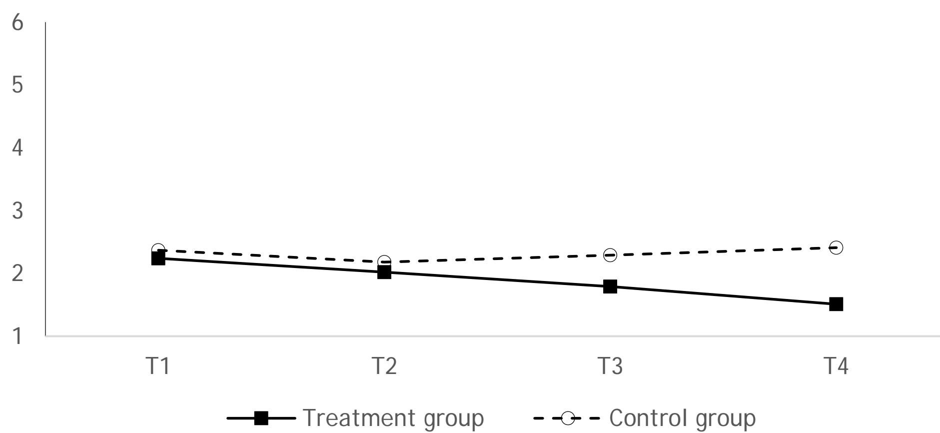



Figure B3. Change over time in early maladaptive schemas in treatment and control groups

Appendix C. Model fit indices for the unconditional models in the treatment and control groups, and for the conditional model with condition as predictor

| Outcome measures | *x2* | *x2* p | CFI | RMSEA | SRMR |
|---|---|---|---|---|---|
| | | Unconditional model in the TG | | | |
| Angry Cognitions Scale (ACS) | | | | | |
| Maladaptive Processes | 5.742 | .332 | .994 | .037 | .028 |
| Adaptive Processes | 5.133 | .399 | .996 | .018 | .079 |
| Young Schema Questionnaire (YSQ-S3) | | | | | |
| Emotional Deprivation | 3.331 | .649 | 1.000 | .000 | .049 |
| Abandonment/Instability | 1.419 | .922 | 1.000 | .000 | .027 |
| Mistrust/Abuse | 2.629 | .756 | 1.000 | .000 | .040 |
| Social Isolation/Alienation | 5.565 | .350 | .982 | .036 | .064 |
| Defectiveness/Shame | 7.614 | .178 | .959 | .072 | .059 |
| Failure | 0.443 | .994 | 1.000 | .000 | .014 |
| Grandiosity/Entitlement | 8.192 | .146 | .953 | .080 | .059 |
| Insufficient Self-Control | 5.565 | .350 | .982 | .036 | .064 |
| Total score (8 schemas) | 3.641 | .820 | 1.000 | .000 | .040 |
| | | Unconditional model in the CG | | | |
| Angry Cognitions Scale (ACS) | | | | | |
| Maladaptive Processes | 1.371 | .927 | 1.000 | .000 | .037 |
| Adaptive Processes | 6.819 | .288 | .964 | .053 | .081 |
| Young Schema Questionnaire (YSQ-S3) | | | | | |
| Emotional Deprivation | 8.025 | .154 | .967 | .077 | .075 |
| Abandonment/Instability | 5.686 | .338 | .986 | .037 | .051 |
| Mistrust/Abuse | 5.077 | .406 | .998 | .013 | .067 |
| Social Isolation/Alienation | 2.861 | .721 | 1.000 | .000 | .039 |
| Defectiveness/Shame | 3.628 | .821 | 1.000 | .000 | .044 |
| Failure | 7.614 | .178 | .959 | .072 | .059 |
| Grandiosity/Entitlement | 8.192 | .146 | .953 | .080 | .059 |
| Insufficient Self-Control | 6.499 | .482 | 1.000 | .000 | .030 |
| Total score (8 schemas) | 5.686 | .338 | .986 | .037 | .051 |
| | | Conditional model | | | |
| Angry Cognitions Scale (ACS) | | | | | |
| Maladaptive Processes | 9.885 | .196 | .987 | .044 | .051 |
| Adaptive Processes | 5.742 | .322 | .994 | .037 | .028 |
| Young Schema Questionnaire (YSQ-S3) | | | | | |
| Emotional Deprivation | 8.195 | .147 | .963 | .071 | .042 |
| Abandonment/Instability | 3.641 | .820 | 1.000 | .000 | .040 |
| Mistrust/Abuse | 10.531 | .160 | .984 | .049 | .048 |
| Social Isolation/Alienation | 6.782 | .451 | 1.000 | .000 | .037 |
| Defectiveness/Shame | 1.626 | .203 | .990 | .079 | .027 |

| | | | | | |
|---|---|---|---|---|---|
| Failure | 5.565 | .350 | .982 | .036 | .064 |
| Grandiosity/Entitlement | 8.194 | .146 | .955 | .070 | .044 |
| Insufficient Self-Control | 7.471 | .381 | .996 | .018 | .033 |
| Total score (8 schemas) | 8.195 | .147 | .963 | .071 | .042 |

*Note*. Maladaptive Processes include the following cognitive distortions: Misattributing Causation; Overgeneralization; Inflammatory Labelling; Demandingness; and Catastrophic Evaluations.

TG = treatment group; CG = control group; CFI = comparative fit index; RMSEA = root-mean-square error of adjustment; SRMR = square-root-mean residual.

# Estudo Empírico IV |

# The efficacy of the Growing Pro-Social Program in reducing anger, shame and paranoia over time in male prison inmates: A randomized controlled trial

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# The efficacy of the Growing Pro-Social Program in reducing anger, shame and paranoia over time in male prison inmates: A randomized controlled trial

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## Abstract

***Objective:*** This randomized controlled trial aimed to assess the efficacy of a cognitive-behavioral group program, Growing Pro-Social (GPS), in reducing anger, shame, and paranoia over time in Portuguese male prison inmates.

***Method:*** Participants were randomized to the GPS treatment (*n* = 121) or control group (*n* = 133). The State-Trait Anger Expression Inventory, the Other as Shamer Scale, and the Paranoia Scale were completed at baseline, at the middle of treatment, at posttreatment, and at 12 months' follow-up. Intervention effects were tested with latent growth curve models (LGCM).

***Results:*** At baseline, no significant differences between groups were found. Results from LGCM showed that condition was a significant predictor of change observed in all outcome measures over time. While treatment participants showed a significant increase in anger-control over time, controls presented a significant decrease over time in this same variable. For the remaining dimensions of anger, as well as for external shame and paranoia, while the treatment group showed a significant decrease over time, the control group showed a significant increase or no change.

***Conclusion:*** These results pointed out the GPS's ability to promote significant change in cognitive and emotional relevant variables associated with antisocial behavior.

*Keywords*: anger; external shame; Growing Pro-Social program; male prison inmates; paranoia.

## Introduction

The debate surrounding the effectiveness of rehabilitation efforts for criminal offenders has moved from the rather pessimistic perspective of the 1970s, exemplified best by Martinson (1974), to a more optimistic perspective driven by research from the 1980s and 1990s. A consistent theme in numerous reviews of the rehabilitation literature is the positive effects of cognitive and cognitive-behavioral approaches in the treatment of the offender population (e.g., Bonta et al., 2011; Koehler et al., 2013; Raynor, Ugwudike, & Vanstone, 2014; Trotter, 2013). For instance, Andrews and Bonta (2010) concluded from a meta-analysis of adult and juvenile correctional treatment that cognitive and behavioral methods were critical aspects of effective correctional treatment. Research reviews of cognitive-behavioral group programs for offenders have also drawn favorable conclusions (e.g., Antonio & Crossett, 2017).

In addition to providing support for particular types of programs, metanalytic evidence has highlighted certain specific features of effective treatment. Of these, the well-known Risk-Need-Responsivity (RNR) model is supported by robust empirical evidence (e.g., Andrews & Bonta, 2010). The RNR model is based in the "human service principles," which state that recidivism reduction should be achieved through some type of treatment instead of punishment. According to RNR, treatment should correspond to the offenders' risk level of reoffending, address their dynamic risk factors, and match their learning styles and abilities (Andrews, Bonta, & Wormith, 2011; Andrews & Bonta, 2010).

Cognitive-behavioral programs usually include different modules or sessions addressing cognitive, emotional, and behavioral skills, assumed to be lacking in offenders. Nevertheless, each of these skills tends to be conceptualized as independent from the others instead of seeing them as intertwined variables (Rijo et al., 2007). For instance, emotional control sessions are carried out as if emotional control was totally independent from social reasoning or interpersonal behavior (Brazão, da Motta, & Rijo, 2013). Rijo and colleagues (2007) developed a new cognitive-behavioral rehabilitation program, the Growing Pro-Social (GPS), adapting its contents and methodology to the features of the target population, and taking into account the RNR model.

GPS is based on the developments of cognitive-behavioral therapies for personality disordered individuals, namely, schema therapy (e.g., Rafaeli, Young, & Bernstein, 2011; Young, Klosko, & Weishaar, 2003), which conceptualizes antisocial behavior as the result of cognitive malfunctioning in the attribution of meaning, underlying cognitive distortions, and core cognitive structures responsible for the social information processing. GPS aims to achieve behavioral change, not only through the rehearsal of prosocial behaviors but also through the promotion of change in cognitive and emotional correlates of antisocial behavior. The program's ultimate goal is to promote change in the dysfunctional cognitive structures underlying antisocial behavior (for a review, see Brazão et al., 2013) throughout a progressive strategy of change (for a program overview, see the Interventions section).

Although a considerable amount of research has recognized the role that cognitive malfunctioning plays in the onset and maintenance of antisocial behavior, recent developments

in the cognitive-behavioral therapies highlight the importance of variables, such as anger, shame, and paranoia (in a nonclinical sense), in psychopathology (Gilbert et al., 2009; Matos & Pinto-Gouveia, 2010; Matos, Pinto-Gouveia, & Gilbert, 2013; Novaco, 2010), including antisocial and aggressive behavior (Elison, Garofalo, & Velotti, 2014; Gilbert 2009, 2010, 2014, 2017; Gold, Sullivan, & Lewis, 2011; Koltz & Gilbert, 2018; Velotti, Elison, & Garofalo, 2014).

According to the evolutionary framework, seeking dominance and displaying threat behaviors toward others can be conceptualized as a strategy to cope with the experience of shame and the consequent threat it represents to one's position in the social rank (Castilho et al., 2015; Gilbert 2009, 2010, 2014, 2017; Koltz & Gilbert, 2018). Shame has been defined as a painful and disruptive emotion because the self (and not simply the person's behavior) is negatively evaluated and scrutinized (Owen & Fox, 2011). When people feel shame about the self, they feel "small," worthless, and powerless. Shamed people also feel exposed, and although an actual observing audience need not to be present, there is often the imagery of how one's defective self would appear to others (Tangney et al., 2011). Shameproneness has been linked to early experiences of abuse, highly critical parenting, and insecure parental attachment (Gilbert 2009, 2010, 2014, 2017; Koltz & Gilbert, 2018) which, in turn, have been found to be associated with antisocial behavior (e.g., Abram et al., 2004).

It is well known that offenders tend to use aggressive behaviors (externalizing anger) as a defensive strategy against feelings of shame instead of displaying a submissive strategy (Farmer & Andrews, 2009; Gilbert, 2017; Koltz & Gilbert, 2018). Anger is also a common response to rejection by others, criticism, and social put-down (Castilho et al., 2015). From this point of view, anger can be seen as an effective coping strategy against perceived attacks to the self (Beck, 1999; Gilbert et al., 2005; Ribeiro da Silva, Rijo, & Salekin, 2015; Rijo, Oliveira, & Brazão, 2017; Shanahan, Jones, & Thomas-Peter, 2014; Thomaes et al. 2011). The perception of being inferior, incompetent, and socially devalued, which generally arises during the experience of shame (Farmer & Andrews, 2009; Thomaes et al., 2011), can lead to the expression of anger. This shame-induced anger state is often perceived as a particular anger state where hostility prevails, conceptualized as "humiliated fury" (Thomaes et al., 2011). In these cases, individuals tend to repress shame and to become angry when faced with shameful events. People who experience humiliated furry reappraise shameful events as externally caused, replacing self-blame (e.g., "What a terrible person I am for doing this") with other-blame (e.g., "What a terrible person you are for doing this to me"; Thomaes et al., 2011). Such mechanisms are quite common in offenders, in which shame is bypassed and replaced with otherdirected anger and aggression (Beck, 1999; Jones, 2014).

Several studies have found that anger is a significant predictor of aggression (e.g., Cornel, Peterson, & Richards, 1999), assaults (e.g., Novaco & Taylor, 2004), and disciplinary infractions (e.g., Marsee & Frick, 2007). A meta-analytic review which included 133 studies with prison inmates found a strong relationship between anger and violence, suggesting that anger had a significant predictive role in eliciting offending behavior (Chereji, Pintea, & David, 2012). Anger has also been implicated as a motivator for criminal activities and reoffending

(Walters, 1990) and as a personal attribute that puts an offender at a higher risk of reoffending (Andrews, 1996; Andrews & Bonta, 2010). These findings suggest that anger may be an important emotional cause of violent behavior. Therefore, anger becomes an important criminogenic need considered in treatment programs for offenders (Chereji et al., 2012).

Research also indicates a robust link between shame and tendencies to externalize blame and anger (Tangney et al., 2011), with shame-proneness being systematically associated with anger arousal, suspiciousness, resentment, irritability, propensity to blame others, and hostility (Bear et al., 2009; Lobbestael et al., 2009; Shanahan et al., 2014; Tangney, Wagner, & Gramzow, 1992). In a study with 60 male prison inmates, Wright, Gudjonsson and Young (2008) found that feelings of shame were associated with high levels of anger difficulties. In turn, Tangney and colleagues (2011) found, in a sample of 550 male prison inmates, that proneness to shame was associated with substance abuse, impulsivity, and antisocial behavior. Studies with forensic samples have also shown that shame is a significant predictor of aggressive or violent behavior, recidivism risk, and reoffending (e.g., Hosser, Windzio, & Greve, 2008; Thomaes et al., 2008). Taken together, these findings suggest that reducing offenders' propensity to experience shame may be an important focus for treatment, as shame may contribute to other psychological difficulties such as aggressiveness and anger (Wright et al., 2008), which have been conceptualized as criminogenic needs (Andrews & Bonta, 2010).

Additionally, individuals with high levels of shame tend to adopt external attributions (blaming others) as a self-preserving bias, thus triggering paranoid ideation (Castilho et al., 2015). Paranoia (in a nonclinical sense) can be conceptualized as a defense system against the perception of threats in order to protect the individual in a social context where he or she perceives him or herself as an undesirable social object, due to the loss of attractiveness of the self (De la Rubia, 2014; Gilbert, 2010, 2014; Salvatore et al., 2012). Studies within forensic samples (e.g., Chakhssi, Bernstein, & de Ruiter, 2012) pointed out that antisocial individuals tend to easily detect a hidden treat or competitor ("paranoid overcontroller mode"), being highly distrusting and hostile toward others (Joyce, Dillane, & Vasquez, 2013; Novaco, 2010). This externalization and counterattack response is mostly associated with feelings of anger and shame (Gilbert 2009, 2010, 2014, 2017; Koltz & Gilbert, 2018). A study by Castilho and colleagues (2015) showed that external shame had a significant and independent contribution to the feelings of anger and the expression of anger toward others. Results also showed that individuals with high anger-proneness tended to endorse more paranoid ideation.

Despite empirical evidence on the role that anger, shame, and paranoia may play in the origins and maintenance of criminal behavior, a great amount of research on rehabilitation programs for offenders has identified recidivism reduction as the preferred measure of its efficacy. Less is known about cognitive and emotional variables underlying behavioral change (Antonio & Crossett, 2017; Skeem, Polaschek, & Manchak, 2009), and further research is needed to assess not only the behavioral change but also the change in other variables associated with the onset and maintenance of antisocial behavior. A former pilot study on the effects of the GPS program tried to address this issue, by testing the ability of the program in reducing anger,

shame, and paranoia in male prison inmates. Data were analyzed with the Reliable Change Index (Jacobson & Truax, 1991), which assesses individual clinical change (for a detailed description on how this statistical method was used in this study, see Brazão et al., 2015a). Results showed that, while the 24 treatment participants presented clinical improvement in anger, shame, and paranoia, the majority of the 24 controls showed clinical deterioration in the same variables between baseline and posttreatment assessments. Nonetheless, this pilot study suffered from a number of methodological flaws such as the small sample size in each condition, the absence of blind assessments, and the lack of a follow-up assessment, which did not allow to draw conclusions about delayed effects and/or stability of change over time.

The present study tried to overcome limitations of previous research and consisted of a randomized controlled trial testing GPS's effects in anger, shame, and paranoia in a larger sample of male prison inmates. This study's main goal was, therefore, to assess whether male prison inmates who participated in GPS showed a decrease in anger, shame, and paranoia over time, when compared with controls. Another goal was to examine the extent to which any improvements were maintained after treatment. The association between GPS completion and change over time was also analyzed in the treatment group in order to investigate whether participants who completed the program presented higher improvements in anger, shame, and paranoia than noncompleters.

We hypothesized that GPS can reduce paranoia, shame, and anger because it engenders a less threatening view of the self and the others. After GPS treatment, participants are expected to see themselves as more worthy individuals, thus decreasing the severity and frequency of feelings of shame. If change occurs at this level, it is likely that paranoia will also decrease, as a consequence of seeing others as less threatening. Following these assumptions, we can also expect that more confident individuals (about themselves and others) should experience a decrease in the frequency and intensity of anger feelings, assuming that anger could consist, at least partially, in a strategy to cope with shame and perceived external attacks. We also expect that treatment effects would be maintained over time and that participants who completed the program would present higher improvements in anger, shame, and paranoia over time, when compared with noncompleters.

## Method

This study was designed in accordance with the Consolidated Standards of Reporting Trials (CONSORT) Statement (Moher et al., 2010) for reporting randomized trials.

### Trial design and participants

This was a randomized controlled trial with blind assessments, carried out in nine prisons in three city areas in mainland Portugal (Lisbon, Oporto, and Coimbra) and in the Madeira Island. Participants were male prison inmates from Portugal and African countries (whose official language is Portuguese) aged between 18 and 40 years old. The selection of inmates obeyed to the following exclusion criteria: (1) presence of cognitive disabilities (GPS

is not suitable for the cognitively impaired because the program encompasses the development of metacognition) or (2) psychotic symptoms (the experiential exercises used in the program are contraindicated for psychotic patients); (3) being treated for drug abuse or dependence (cessation or at least substantial reduction of drug or alcohol use must precede GPS treatment); (4) being sentenced exclusively for sexual offenses (sex offenders would benefit from more specific intervention programs, although this subgroup of offenders are more likely to present significant levels of anger, shame, and paranoia); and (5) remaining in prison less than 24 months since the beginning of the program (taking into account GPS's 12-month length and 12-month follow-up assessment). Exclusion criteria (1) to (3) were assessed by staff psychologists and/or collected from the justice report files. Female offenders were also excluded from the sample because women represent less than 6 percent of the total inmates in Portugal, and any possible idiosyncrasies from this cohort would be underrepresented.

**Sample size**. A power analysis showed that a sample of 203 inmates was necessary to detect medium effects with a significance level of .05 and a power of .90. The power analysis was conducted a priori, that is, before the study onset, and repeated measures analysis of variance (ANOVA) was planned as the data analytic strategy. However, taking into account the advantages of latent growth curve models (LGCM) over repeated measures ANOVA (see Data Analysis section), as well as the enough large sample size to perform LGCM, this methodology was selected.

**Interventions**

GPS (Rijo et al., 2007) is a manualized group rehabilitation program for juvenile (from 16 years of age) and adult offenders, either male or female, based on schema therapy (e.g., Rafaeli et al., 2011; Young et al., 2003), which conceptualizes aggressive behavioral patterns as a result of a distorted view of the self and of the others.

In an effort to improve the traditional group exercises in this kind of programs, GPS sessions include experiential exercises. Participants are encouraged to achieve insight through systematic questioning about the reactions noticed during the activities (guided discovery approach) and to apply this knowledge to real-life situations (Brazão et al., 2013; Rijo et al., 2007). The program was developed to promote gradual change in behavioral and emotional correlates, while promoting a more adaptive and prosocial information processing style. The ultimate goal of the GPS is to promote change in particular dysfunctional core beliefs about the self and the others, which underlie the social information processing of antisocial individuals (Calvete, 2008; Chakhssi et al., 2012; Gilbert & Daffern, 2013; Shorey, Anderson, & Stuart, 2014; Specht, Chapman, & Cellucci ,2009). It is expected that a change at a cognitive level (e.g., less prominence of dysfunctional core beliefs and cognitive distortions) will be followed by a change in behavioral and emotional correlates of antisocial behavior. GPS consists of 40 sessions, each lasting about 90 minutes. Sessions must be carried out by two therapists who should be skillful in schema therapy. As summarized in Table 1, sessions are grouped into five modules, preceded by an initial session for the presentation of the program. While modules 1

and 2 are focused in communication skills and interpersonal behavior, modules 3 to 5 directly address cognitive and emotional variables. GPS ends with a final session, and follow-up sessions can be carried out afterward. The extension of each module varies depending on the contents and the time needed to achieve the defined goals.

Table 1. *GPS Modules and Contents*

| Modules | Number of sessions | Contents summary |
|---|---|---|
| Initial session | 1 | Presentation of the participants, the structure and the methodology of the program. |
| 1. Human communication | 5 | The communication process and its obstacles; verbal and nonverbal communication skills, the ambiguity of human communication; the (in)congruences between digital and analogical languages. |
| 2. Interpersonal relationships | 10 | Behavioral styles (assertive, aggressive, passive and manipulative) in relationships; self-concept and interpersonal behavior; ideas about the others and interpersonal behavior; specific interpersonal contexts and assertive behavior; negotiation as a strategy to deal with conflicts. |
| 3. Cognitive distortions | 6 | Understanding cognitive distortions (thinking errors); identifying and changing cognitive distortions: Selective Abstraction, Overgeneralization, Mind Reading, Crystal Ball, Minimization, Disqualifying the Positive Experiences, Dichotomous Thinking, Labeling and Personalization. |
| 4. Function and meaning of emotions | 7 | The diversity of the emotional experience; the nature and function of emotions: sadness, shame, fear, anger, guilt, and happiness. |
| 5. Early maladaptive schemas | 10 | Early maladaptive schemas and their influence in giving meaning to reality; identifying and changing early maladaptive schemas: Failure, Social Isolation, Mistrust/Abuse, Defectiveness/Shame, Emotional Deprivation, Abandonment/Instability, Grandiosity; fighting schema's influences in thoughts, emotions, and behavior. |
| Final session | 1 | Reflection and consolidation of learning, and generalization of gains made during the program. |

*Note*. Adapted from "From multimodal programs to a new cognitive-interpersonal approach in the rehabilitation of offenders," by N. Brazão, C. da Motta and D. Rijo, 2013, *Aggression and Violent Behavior*, *18*, 640.

The treatment group attended the GPS program for about 12 months, in addition to the treatment as usual (TAU) delivered at Portuguese prisons: supervision of school frequency, occupational and job-related tasks, and sentence planning supervision over time. The control group received TAU and did not attend the GPS program or any other kind of structured intervention during the research period.

GPS is used in the Portuguese Prison system as a universal delivery program, with most prison inmates receiving the program a few months after prison intake. Offenders presenting specific criminogenic needs also receive other structured interventions after GPS completion.

**Outcome measures**

Participants completed self-report measures of anger, shame, and paranoia. Additionally, demographic and legal information were collected from prison records.

**STAXI - State-Trait Anger Expression Inventory**. STAXI (Spielberger, 1988; Portuguese version by Silva, Campos, & Prazeres, 1999) is a 44-item questionnaire divided into three parts: the first part assesses anger-state (how one feels in the present moment), the second part assesses anger-trait (how one generally feels), and the third part assesses anger-expression (how one generally reacts or behaves when feeling enraged or angry). Anger-trait encompasses two factors (temperament and angry-reaction), and anger-expression is composed by three factors (anger-in, anger-out, and anger-control). Each item is rated on a four-point scale (1 = not at all to 4 = almost always), and higher scores (resulting from the sum of the items) suggest high levels of anger (Spielberger, 1988).

In the original version, internal consistency of the different subscales ranged from .73 to .93 (Spielberger, 1988), while in the Portuguese version the same values ranged between .60 and .85 (Silva et al., 1999). In the present study, internal consistency values were .91 for anger-state, .86 for anger-trait, .81 for anger-temperament, .77 for anger-reaction, .76 for anger expression and anger-in, .80 for anger-out, and .84 for anger-control.

**OAS - Other as Shamer Scale**. OAS (Allan, Gilbert, & Goss, 1994; Portuguese version by Matos, Pinto-Gouveia, & Duarte, 2011) is an 18-item scale that assesses external shame (i.e., subject's perception of being negatively judged by others). Each item is rated on a five-point scale (0 = never to 4 = almost always) according to how frequently the individual feels she or he is being judged by others (e.g., "Other people seem me as small and insignificant"), and higher scores (resulting from the sum of the items) suggest high levels of external shame. In the original version, an exploratory factor analysis found a one-factor measurement model and good internal consistency values, either with community ($\alpha$ = .96) or clinical samples ($\alpha$ = .92; Goss, Gilbert, & Allan, 1994). In the Portuguese version, a confirmatory factor analysis supported the one-factor measurement model, with a Cronbach's a was .91 (Matos et al., 2011). In the current study, internal consistency was .86.

**PS - Paranoia Scale**. PS (Fenigstein & Vanable, 1992; Portuguese version by Lopes & Pinto-Gouveia, 2005) is a 20-item self-report measure that assesses paranoid ideation in nonclinical samples. Items are rated on a five-point Likert scale (1 = not at all applicable to 5

= extremely applicable), where higher scores (resulting from the sum of the items) suggest high paranoid ideation, namely, suspicion of conspiracy against the self, of being observed, judged, or talked behind their back, that other people or instances can exert some kind of thought control and lack of trust in others (Fenigstein & Vanable, 1992). In the original study, internal consistency was .89 in a community sample (Fenigstein & Vanable, 1992). In a Portuguese study (Barreto Carvalho et al., 2015), internal consistency was .92, whereas in the current sample internal consistency was .85.

**Procedures**

The current study was approved by the Ethics Committee of the Faculty of Psychology and Educational Sciences of the University of Coimbra where the Research Center is based. Additionally, researchers sought authorization by the Portuguese Data Protection Authority in order to assure data protection from all participants involved in the study. A list of potential participants (who did not meet the exclusion criteria) was made available to the research team by psychologists from the justice system, after approval was obtained from the Head of the General Directorate of Reintegration and Prison Services of the Portuguese Ministry of Justice. Next, a large sample of participants was randomly selected using a random number table by a research assistant who was blind to any personal information about each inmate. Then, a first meeting between the research team and the randomized inmates occurred, in which researchers invited inmates to participate voluntarily. In this meeting, researchers explained the goals of the study and presented a brief overview of the intervention program. It was also explained to inmates that their participation in the study would not impact their sentencing in any way and that they would not receive incentives for participating in the study.

Participants who agreed to participate, gave written informed consent, completed the baseline assessment and were randomly assigned to treatment conditions (treatment and control groups) using a random number table by a research assistant who was blind to any information about each participant. Afterward, the research team informed the psychologists in each prison of the result of the randomization so that GPS could be initiated. Participants in the control group were informed that they would be offered the GPS treatment after the study's completion (including the follow-up period).

Besides baseline assessment, participants completed the midtreatment assessment (after the 20th session of the program and six months after baseline), the posttreatment assessment (at the end of GPS and six months after midtreatment), and the follow-up assessment (12 months after GPS completion, while participants were still incarcerated). So, all participants (either from treatment group or control group) were assessed exactly at 0 months, 6 months, 12 months, and 24 months. Staff who conducted randomization did not serve as therapists or assessors, and assessors were blind to condition assignment. Respondent-specific codes were used to link the data from one time point to the next one.

GPS's facilitators were chosen among the psychologists who already had training and experience in delivering the program with inmates (who were not selected for this study). In

order to assure program integrity and consistency, facilitators received regular supervision by the research team (including the program's main author) during the time GPS was run in prisons. Moreover, the program's structured and manualized design ensures integrity, at least partially. It is important to add that the GPS sessions were delivered by two psychologists, which may have contributed to treatment fidelity. While one therapist was leading the session, the other one observed the implementation and helped in keeping it close to the program handbook. Quality control procedures, such as recording sessions and/or the presence of external assessors in the treatment sessions, were not allowed in prisons.

**Data analysis**

Data were analyzed with the Mplus v7.4 (Muthén & Muthén, 2010) and the IBM SPSS Statistics v22.0 software. The IBM SPSS was used for preliminary analyses that included comparisons between groups on demographic and criminal features, using independent samples t-tests or chi-square tests depending on the nature of the data. Groups were also compared on the dependent variables at baseline using independent samples t-tests. In order to assess the association between the outcome measures, SPSS was also used to perform Pearson correlations.

Mplus was used for LGCM (Duncan & Duncan, 1995). Although repeated measures statistical methods (e.g., ANOVA) can handle multiple data points, there is a growing recognition that these approaches may not be adequate when assessing change over time (Curran, Obeidat, & Losardo, 2010; Duncan & Duncan, 2009; Hesser, 2015). These traditional methods only analyze change in observed group means, thus being incapable of capturing individual differences in change (differences in trajectories are treated as error variance). Also, these methods assume that change in participants is linear. Alternatively, LGCM examine linear and nonlinear change, and individuals are allowed to differ on the rate of change in the dependent variables over time. Therefore, LGCM is a reliable method to assess individual variation in the growth of the dependent variables and to examine if treatment condition might predict changes over time (Duncan & Duncan, 1995, 2009; Malmberg et al., 2015; Muthén, 1997; Muthén & Muthén, 2010).

All LGCM were carried out in accordance with both intention-totreat and per-protocol approaches. When following an intent-to-treat approach, full information maximum likelihood estimation was used to handle missing data[19]. Chi-square (x2), comparative fit index (CFI), root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR) were used as model fit indices. Following the guidelines by Hu and Bentler (1999), a CFI $\geq .95$ combined with either RMSEA $\leq .06$ or an SRMR $\leq .09$ were considered as indicators of acceptable or good fit.

[19]The rate of missing values at midtreatment was 16.9 percent, at posttreatment was 26.8 percent, and at follow-up was 46.5 percent.

In each LGCM, the intercept (i.e., initial status) and slope (i.e., change over time) were modeled as latent variables from data at baseline (time 1), at the middle of the treatment (time 2), at the posttreatment (time 3), and at the follow-up assessment (time 4). First, unconditional models testing a linear and a nonlinear (i.e., quadratic trend) of change in the outcome measures over time were estimated separately in each group without any predictors. Effect sizes for the rate of change observed in the dependent variables in each group were computed using Cohen's d, with 0.2 indicating a small effect, 0.5 a medium effect, and 0.8 a large effect (Cohen, 1988).

After establishing the unconditional models, the association between condition and change over time was examined by including condition (control group vs. treatment group coded as 0 and 1, respectively) as a predictor of the growth factors (i.e., intercept and slope). The path from condition to intercept reflects group differences at the baseline and should be nonsignificant due to randomization. The path from condition to slope reflects group differences on the trajectory of change in the outcome measures over time. The association between GPS completion and change over time in the outcome measures was also analyzed in the treatment group by including the number of sessions (< 32 sessions vs. ≥ 32 sessions coded as 0 and 1, respectively) as a predictor of change over time. A cutoff of ≥ 32 sessions (80 percent of attendance) was used to classify participants as completers, in accordance with the guidelines by Cullen and colleagues (2012).

## Results

### Recruitment and retention

Two-hundred and seventy inmates, who did not meet the exclusion criteria, were invited to participate in this randomized trial (see Figure 1). Sixteen (5.9 percent) inmates refused to participate and 254 (94.1 percent) inmates completed the baseline assessment. Of these, 121 (47.63 percent) were randomly assigned to the GPS treatment, and 133 (52.37 percent) were randomly assigned to the control group.

From the initial 121 treatment participants, 108 (89.2 percent) completed the midtreatment assessment, 97 (80.1 percent) completed the posttreatment assessment and 69 (57 percent) completed the follow-up assessment. Only 17 (14 percent) inmates dropped out the program. The majority of losses to subsequent assessments were due to transference to another prison or parole. Seventy-nine treatment participants (65.4 percent) attended more than 32 sessions, 19 (15.7 percent) attended between 31 and 21 sessions, 12 (9.9 percent) attended between 20 and 11 sessions, and 11 (9 percent) attended less than 10 sessions. Participants attended in average 30 sessions (M = 30.18; SD = 11.45) of the program.

Of the 133 inmates randomized to the control group, 104 (85.9 percent) completed the midtreatment assessment, 89 (66.9 percent) completed the posttreatment assessment, and 67 (50.3 percent) completed the follow-up assessment.

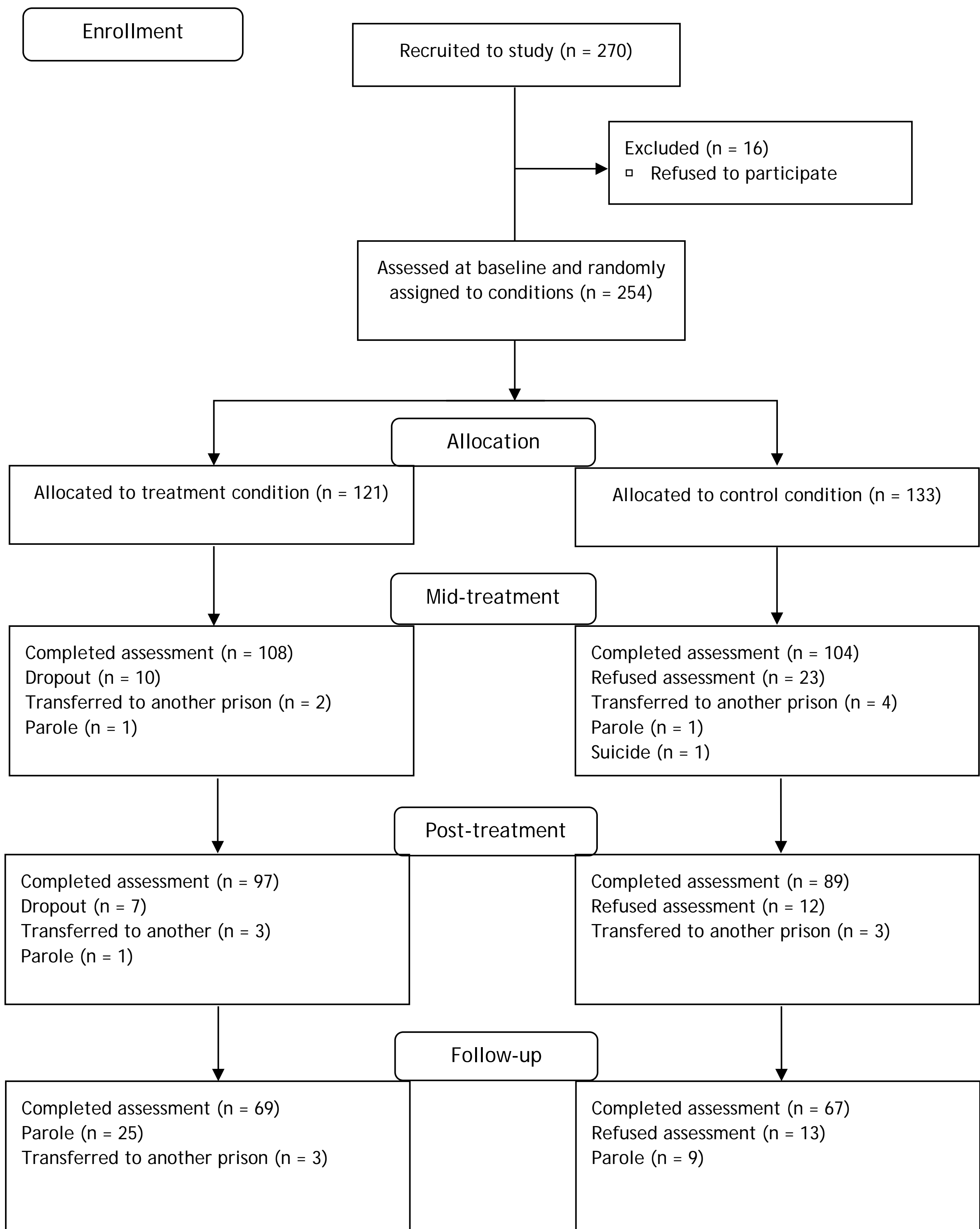


*Figure 1.* Flowchart of inmate participation

**Baseline differences**

Groups were compared on demographic features and no significant differences were found (all p > .05). In treatment and control groups, the mean age was 28.24 (SD = 6.32) and 28.74 years (SD = 6.14), respectively. The majority of participants were single (69.4 percent in the treatment group and 70.7 percent in the control group), with a low socioeconomic status (94.2 percent in the treatment group and 97 percent in the control group).[20] Regarding legal and criminal features, no significant differences were found (all p > .05). In treatment and control groups, the average sentence length was 111.53 (SD = 59.25) and 120.76 months (SD = 63.22), respectively. Even though participants were mainly first-time offenders (62.8 percent in the treatment group and 60.9 percent in the control group),[21] most of them were charged in the current conviction for having committed several crimes (56.2 percent in the treatment group and 50.4 percent in the control group). Crimes for which they were sentenced to prison were predominantly against property (55.4 percent in the treatment group and 51.1 percent in the control group), followed by crimes against people (28.7 percent in the treatment group and 31.6 percent in the control group), drug-related offenses (14.2 percent in the treatment group and 13.5 percent in the control group), and crimes against the state (1.7 percent in the treatment group and 3.8 percent in the control group).[22]

Descriptive statistics for anger, shame, and paranoia by groups are presented in Table 2. No significant differences were found between conditions at baseline, which suggested that randomization was successful.

Table 2. *Baseline Differences on the Outcome Measures by Group*

| | TG | | CG | | | | |
|---|---|---|---|---|---|---|---|
| Outcome measures | *M* | *SD* | *M* | *SD* | *t* | *p* | *Cohen's d* |
| Anger-state | 12.73 | 4.07 | 13.21 | 5.55 | .794 | .428 | 0.09 |
| Anger-trait | 18.23 | 5.33 | 18.38 | 5.73 | .206 | .837 | 0.02 |
| Temperament | 6.78 | 2.50 | 6.58 | 2.36 | .651 | .516 | 0.08 |
| Reaction | 7.91 | 2.48 | 8.23 | 2.71 | .963 | .336 | 0.12 |
| Anger-expression | 23.99 | 10.13 | 24.57 | 10.39 | .449 | .654 | 0.05 |
| Anger-in | 16.82 | 3.97 | 16.93 | 4.33 | .196 | .845 | 0.02 |
| Anger-out | 14.23 | 4.54 | 13.68 | 4.34 | .982 | .327 | 0.12 |
| Anger-control | 23.06 | 5.59 | 23.04 | 5.72 | .030 | .976 | 0.00 |

[20]Socioeconomic status (SES) was measured by inmates' profession, considering the Portuguese professions classification (Instituto Nacional de Estatística, 2011). Examples of professions in the high SES group are judges, higher education professors, or MDs; in the medium SES group are nurses, psychologists, or schoolteachers; and in the low SES group are farmers, cleaning staff, or undifferentiated workers.

[21]Inmates convicted for the first time.

[22]Crimes against property include robbery, theft, and qualified theft; Crimes against people include simple and aggravated assault, intimidation, kidnapping, attempted homicide, and homicide; and crimes against the state include counterfeiting and forgery of documents.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| External shame | 24.04 | 9.68 | 22.56 | 9.94 | .215 | .830 | 0.15 |
| Paranoia | 50.41 | 10.25 | 50.15 | 11.81 | .188 | .851 | 0.02 |

*Note*. TG = Treatment group; CG = Control Group.

**Association between the outcome measures at baseline**

As presented in Table 3, most outcome measures were moderately intercorrelated at the baseline, with the exception of anger-in and anger-control ($r = .009$), anger-control and shame ($r = -.260$), and anger-control and paranoia ($r = -.110$), which were not associated. These results indicated that the outcome measures were independent (thus not overlapping).

**Intervention effects in anger, shame, and paranoia in accordance with the intention-to-treat approach**

Firstly, distribution of normality was analyzed, and no variable had indicators of severe violations to the normal distribution (SK <|3| and Ku <|10; Kline 2005) with skewness values ranging from .31 to .70 and kurtosis values ranging from -.58 to 1.70.

Taking into account the considerable amount of missing data, a missing completely at random (MCAR) test was performed in order to test the randomness of missing values and no patterns were found in the missing data, MCAR (30) = 15.317; $p = .988$. Additionally, a chi-square test pointed out to a nonsignificant difference between the treatment and the control groups ($x2 = 0.997$; $p = .318$; Cramer's V = .063), concerning missing values.

As previously stated, unconditional models were carried out separately for each group. Afterward, conditional models with group as a predictor of the growth factors (i.e., intercept and slope) were tested. All analyses were carried out in accordance with the intention-to-treat approach.

**Unconditional models in the treatment group**. A linear and nonlinear (i.e., quadratic) trends of the unconditional models of change in anger, shame, and paranoia over time were performed. Although a significant quadratic trend was found for anger-state, it did not achieve acceptable fit. We performed a chi-square difference test and including the quadratic trend significantly worsened the model fit, $x2(5) = 39.39$, $p < .001$. For the remaining variables, none of the models showed a significant quadratic trend. As such, only the linear trend was included in the subsequent analyses, which presented good fit indices to the observed data (see Table 4).

Table 3. *Correlation Values Between the Outcome Measures*

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| (1) Anger-state | __ | | | | | | | | | |
| (2) Anger-trait | .378*** | __ | | | | | | | | |
| (3) Temperament | .323*** | .756*** | __ | | | | | | | |
| (4) Reaction | .333*** | .766*** | .535*** | __ | | | | | | |
| (5) Anger-expression | .345*** | .732*** | .666*** | .560*** | __ | | | | | |
| (6) Anger-in | .256*** | .404*** | .293*** | .394*** | .548*** | __ | | | | |
| (7) Anger-out | .312*** | .706*** | .637*** | .520*** | .732*** | .333*** | __ | | | |
| (8) Anger-control | -.191*** | -.474*** | -.491*** | -.316*** | -.754*** | .009 | -.477*** | __ | | |
| (9) External shame | .151** | .358*** | .293*** | .321*** | .313*** | .281*** | -.260 | -.154** | __ | |
| (10) Paranoia | .267*** | .527*** | .445*** | .462*** | 398*** | .476*** | .330*** | -.110 | .548*** | __ |

***p < .001

**p < .01

Table 4. *Model Fit Indices for the Unconditional Models in Treatment and Control Groups, and for the Conditional Model with Condition as Predictor*

| Outcome measures | *x2* | *x2* p | RMSEA | 90% CI for RMSEA | CFI | SRMR |
|---|---|---|---|---|---|---|
| Unconditional model in the TG | | | | | | |
| Anger-state | 5.192 | .329 | .019 | [.000, .135] | .998 | .084 |
| Anger-trait | .979 | .964 | .000 | [.000, .000] | 1.000 | .041 |
| Temperament | 2.176 | .824 | .000 | [.000, .000] | 1.000 | 1.000 |
| Reaction | 1.951 | .855 | .000 | [.000, .072] | 1.000 | .036 |
| Anger-expression | 4.632 | .462 | .000 | [.000, .128] | 1.000 | .048 |
| Anger-in | 4.380 | .496 | .000 | [.000, .125] | 1.000 | .007 |
| Anger-out | 3.943 | .557 | .000 | [.000, .118] | 1.000 | .070 |
| Anger-control | 4.325 | .503 | .000 | [.000, .124] | 1.000 | .074 |
| External shame | 6.348 | .273 | .050 | [.000, .149] | .971 | .069 |
| Paranoia | 3.807 | .577 | .000 | [.000, .116] | 1.000 | .052 |
| Unconditional model in the CG | | | | | | |
| Anger-state | 6.686 | .245 | .057 | [.000, .158] | .974 | .051 |
| Anger-trait | 4.826 | .437 | .000 | [.000, .135] | 1.000 | .041 |
| Temperament | 7.652 | .176 | .072 | [.000, .168] | .961 | .073 |
| Reaction | 5.435 | .365 | .029 | [.000, .143] | .996 | .052 |
| Anger-expression | 1.626 | .203 | .079 | [.000, .199] | .990 | .027 |
| Anger-in | 5.846 | .321 | .045 | [.000, .195] | .988 | .053 |
| Anger-out | 8.232 | .143 | .080 | [.000, .173] | .960 | .048 |
| Anger-control | 3.230 | .664 | .000 | [.000, .109] | 1.000 | .032 |
| External shame | 8.529 | .129 | .083 | [.000, .176] | .971 | .061 |
| Paranoia | 7.614 | .178 | .072 | [.000, .245] | .959 | .059 |
| Conditional model with condition as predictor | | | | | | |
| Anger-state | 10.355 | .169 | .048 | [.000, .105] | .957 | .041 |
| Anger-trait | 4.639 | .703 | .000 | [.000, .064] | 1.000 | .039 |
| Temperament | 9.129 | .243 | .038 | [.000, .098] | .988 | .062 |
| Reaction | 4.990 | .661 | .000 | [.000, .068] | 1.000 | .026 |
| Anger-expression | 5.742 | .332 | .037 | [.000, .125] | .994 | .028 |
| Anger-in | 13.462 | .061 | .066 | [.000, .124] | .971 | .036 |
| Anger-out | 10.018 | .187 | .045 | [.000, .103] | .983 | .041 |
| Anger-control | 5.849 | .557 | .000 | [.000, .076] | 1.000 | .031 |
| External shame | 13.698 | .056 | .068 | [.000, .123] | .970 | .035 |
| Paranoia | 10.531 | .160 | .049 | [.000, .121] | .984 | .048 |

*Note*. TG = treatment group; CG = control group; CFI = comparative fit index; RMSEA = root-mean-square error of adjustment; SRMR = square-root-mean residual.

The average intercept was significant for all outcome measures, indicating that the mean at baseline was significantly different from zero. The average variances of the intercept were also significant, indicating significant individual variation around the mean of self-reported anger, external shame, and paranoia at baseline. Concerning change over time, the

average slope was always significant. While anger-control increased over time, the remaining variables decreased over time. The observed effect sizes were medium or strong, except for anger-state, in which the effect size was small. In addition, individual differences around the mean growth trajectory of the outcome measures were found, except for anger-state (see Appendix A).

**Unconditional models in the control group**. Linear and quadratic trends of the unconditional models in the control group were also performed. A significant quadratic trend was found for anger-expression. However, it did not achieve acceptable fit, and including the quadratic trend significantly worsened the model, x(5) = 15.450, $p$ < .001. For the remaining variables, none of the models presented a significant quadratic trend. Therefore, only the linear trend was included in the following models, which presented good fit indices to the data (see Table 4).

The average intercept was significant for all the outcome measures, indicating that the mean at baseline was significantly different from zero. Individual differences around the mean of the outcome measures at baseline were found, as indicated by the significant intercept factor variances. Regarding change over time, and for anger-expression, anger-out, and external shame, results showed that scores on these variables increased over time. The observed effect sizes were medium. The average slope was also significant for anger-control. Nonetheless, scores on this variable decreased over time, and the effect size was medium. For the remaining variables, the average slopes were nonsignificant, suggesting no change over time. Additionally, the average variances of the slope were significant, indicating individual variation around the mean of the growth trajectories (see Appendix B).

**Conditional models with group as a predictor of the growth factors**. The conditional models with group (control vs. treatment) as a predictor of the growth factors provided good fit indices to the observed data (see Table 4).

As presented in Table 5, condition did not predict variation in the intercept, indicating that the groups did not differ in self-reported anger, shame, and paranoia at baseline. In regard to the slope factor, condition was a significant predictor of change over time observed in all outcome measures. Concerning anger control, treatment participants showed a greater increase (of 1.45 units) over time than the control group, as indicated by the B positive value. For the other dimensions of anger, the treatment group presented always a greater decrease than the control group, as indicated by the B negative values. The same tendency of results was found for external shame and paranoia, with treatment participants presenting a greater decrease over time than the control group (of 3.36 and 4.07 units, respectively).

Table 5. *Conditional Model with Condition as Predictor of the Initial Level (Intercept) and Rate of Change (Slope) in Anger, Shame and Paranoia*

| | Intercept | | Slope | |
|---|---|---|---|---|
| Outcome measures | B | *p* | B | *p* |
| Anger-state | -0.05 | .930 | -0.41 | 0.45 |
| Anger-trait | -0.10 | .880 | -1.34 | < .001 |
| Temperament | 0.20 | .513 | -0.54 | < .001 |
| Reaction | -0.27 | .411 | -0.52 | < .001 |
| Anger-expression | -0.54 | .694 | -3.49 | < .001 |
| Anger-in | -0.28 | .419 | -0.72 | .001 |
| Anger-out | 0.59 | .299 | -1.40 | < .001 |
| Anger-control | -0.16 | .834 | 1.46 | < .001 |
| External shame | 1.58 | .223 | -3.36 | < .001 |
| Paranoia | 1.03 | .497 | -4.07 | < .001 |

**Conditional models with GPS completion as predictor of the rate of change in the treatment group**. Conditional models with GPS completion (i.e., < 32 sessions vs. ≥ 32 sessions) as predictor of the rate of change in anger, shame, and paranoia were also analyzed in the treatment group. As previously specified, participants who completed at least 32 sessions were considered completers. In turn, participants who attend less than 32 sessions were considered noncompleters.

Results showed that GPS completion was a significant predictor of change over time observed in the outcome measures. Specifically, completers showed a greater increase in anger-control (B = 1.12, $p = .008$), when compared with noncompleters. Completers also showed a greater decrease in anger-state (B = -0.58, $p < .001$), anger-trait (B = -0.58, $p < .001$), temperament (B = -0.72, $p < .001$), reaction (B = -0.68, $p < .001$), anger-expression (B = -3.99, $p < .001$), anger-in (B = -0.94, $p < .001$), and anger-out (B = -1.79, $p < .001$) than noncompleters. Finally, completers showed a greater decrease in external shame (B = -4.46, $p < .001$) and paranoia (B = -5.02, $p < .001$), when compared with noncompleters.

**Intervention effects in anger, shame, and paranoia in accordance with the per-protocol approach**

In addition to the intent-to-treat analysis, latent growth curve unconditional and conditional models were carried out in accordance with the perprotocol approach in order to assess treatment effects in the participants who fulfilled the protocol. No significant differences were found between treatment and control completers on demographic and criminal features as well as on the outcome measures at the onset of the study (all $p > .05$).

**Unconditional models in the treatment group**. Concerning the rate of change observed in anger outcomes, results showed, on one hand, that anger-control increased over time (S =

0.61, $p < .001$) and, on the other hand, anger-state (S = -0.48, $p < .001$), anger-trait (S = -0.93, $p < .001$), temperament (S = -0.34, $p < .001$), reaction (S = -0.45, $p <. 001$), anger-expression (S = -2.12, $p < .001$), anger-in (S = -0.74, $p < .001$), and anger-out (S = -0.65, $p <. 001$) decreased over time in treatment participants who fulfilled the protocol. Results also showed that external shame (S = -2.48, $p < .001$) and paranoia (S = -3.81, $p < .001$) decreased over time.

**Unconditional models in the control group**. Results pointed out to nonsignificant increases in anger-state (S = 0.22, $p = .198$) and anger-in (S = 0.05, $p = .754$) in controls who fulfilled the protocol. For the anger-control, participants showed a significant decrease over time (S= -0.92, $p < .001$). For the remaining variables, participants showed a significant increase over time, namely, anger-trait (S = 0.57, $p = .003$), temperament (S = 0.23, $p = .017$), reaction (S = 0.18, $p = .033$), anger-expression (S = 1.72, $p < .001$), anger-out (S = 0.80, $p < .001$), external shame (S = 1.24, $p < .001$), and paranoia (S = 1.00, $p < .041$).

**Conditional models with group as a predictor of the growth factors**. Results showed that condition was a significant predictor of change over time observed in all the outcome measures. When compared with the control group, the treatment group showed not only a greater increase in anger-control (B = 1.53, $p < .001$) but also a greater decrease in anger-state (B = -0.63, $p = .003$), anger-trait (B = -1.53, $p < .001$), temperament (B = -0.56, $p < .001$), reaction (B = -0.64, $p < .001$), anger-expression (B = -3.90, $p < .001$), anger-in (B = -0.85, $p < .001$), anger-out (B = -1.44, $p < .001$), external shame (B = -3.74, $p < .001$), and paranoia (B = -4.84, $p < .001$) over time.

**Conditional models with GPS completion as predictor of the rate of change in the treatment group**. Results showed that GPS completion was a significant predictor of change over time observed in the outcome measures. The completers showed a greater increase in anger-control (B = 1.83, $p < .001$) and a greater decrease in the remaining variables, namely, anger-state (B = -0.31, $p = .003$), anger-trait (B = -1.34, $p < .001$), temperament (B = -0.60, $p < .001$), reaction (B = -0.45, $p < .001$), anger-expression (B = -2.33, $p < .001$), anger-in (B = -0.58, $p < .001$), anger-out (B = -1.22, $p < .001$), external shame (B = -3.71, $p < .001$), and paranoia (B = -3.44, $p < .001$).

## Discussion

While the majority of the research on the efficacy of cognitive-behavioral programs for offender rehabilitation focuses mainly on recidivism reduction as the main outcome, a recent trend (e.g., Antonio & Crossett, 2017; Skeem et al., 2009) focuses on change in cognitive and emotional correlates of antisocial behavior. Following this tendency, this randomized controlled trial studied the impact of a 40-session cognitive-behavioral group program, GPS (Rijo et al., 2007), in producing significant change in cognitive and emotional variables, which, from an evolutionary perspective, are conceptualized as relevant variables related with aggressiveness and antisocial behavior (Elison et al., 2014; Gilbert 2009, 2010, 2014, 2017; Gold et al., 2011; Koltz & Gilbert, 2018; Velotti et al., 2014). Specifically, it was assessed whether offenders who participated in GPS showed change in anger, shame, and paranoia, when

compared with the controls. It was also examined the extent to which any improvements were maintained for 12 months after treatment. The association between GPS completion and change over time was also analyzed in order to investigate whether participants who completed the GPS sessions presented higher improvements in anger, shame, and paranoia than noncompleters.

The flow of inmates' participation showed that most of the inmates randomized to GPS (70.8 percent) completed the intervention (32 or more sessions). Only a small number of inmates (14.0 percent) dropped out the program. These data suggested that GPS's length and methodology may account for the favorable program retention. Losses observed in follow-up assessments in the treatment group were mainly due to external variables (such as transference to another prison and/or parole), that researchers could not overcome. The same occurred in the control group, although a considerable percentage of inmates from this group refused to complete subsequent assessments (namely between mid and follow-up assessments). Nonetheless, and in accordance with the CONSORT guidelines (Moher et al., 2010), an intent-to-treat analysis was followed and all participants (including the noncompleters from both groups) were considered in the subsequent analyses, thus overcoming selection bias into the findings. Additionally, analyses were carried out in accordance with the perprotocol approach, in order to assess treatment effects in the participants who fulfilled the protocol.

The treatment and control group were compared on demographic and criminal characteristics, as well as in the outcome measures at baseline, and no significant differences were found. This result sustains that randomization was successful, allowing for reliable conclusions on the predictor effect of condition in the decrease of anger, shame, and paranoia over time.

Results from LGCM (in accordance with both intention-to-treat and perprotocol approaches) showed that condition was a significant predictor of change over time observed in all outcome measures, with the treatment group presenting a significant reduction in anger, shame, and paranoia, when compared with the control group. Moreover, treatment effects were maintained 12 months after GPS (while participants were still incarcerated), suggesting that those who participated in the program continued to use and consolidate the strategies learned along the intervention.

In a closer look, and concerning anger main factors—anger-state, anger-trait, and anger-expression — the treatment group presented a significant decrease over time. The same tendency was observed for anger-trait subscales — temperament and reaction—and for the anger-expression subscales — anger-in and anger-out. For the anger-control subscale, the treatment group showed a significant increase over time. The specific work done in the GPS's module 4, Function and Meaning of Emotions, may have played an important role in the changes observed in the treatment group. The main goal of this module was emotion regulation, and participants were encouraged to trigger basic emotions (including anger), to feel them in their body and relate them with real-life scenarios. By learning about the feelings and the expression of emotions, participants were invited to discover the usefulness and the diversity of the

emotional states that humans can experience. Finally, participants were challenged to assess the adequacy and usefulness of their own emotional experiences (Brazão et al., 2013; Brazão et al., 2015a; Rijo et al., 2007). We hypothesized that awareness and understanding about the function and meaning of emotions would promote emotion regulation, thus decreasing the severity and frequency of anger feelings and, consequently, increasing anger control.

In the control group, results pointed out to no significant changes in anger-state and anger-trait, temperament, reaction, and anger-in. For anger-expression and anger-out, controls showed a significant increase over time, and for anger-control, these same individuals presented a significant decrease over time. It is worth noting that the dimensions assessing the externalization of anger seemed to get worse over time in prison inmates not receiving the GPS treatment. These findings raise important questions about the impact of incarceration on inmates' psychological and emotional functioning. The deterioration observed in controls (in anger-expression, anger-out, and anger-control) over a two-year period raises the question of whether traditional prison practices work toward rehabilitation or may be bolstering psychological and emotional processes related to maladaptive behavior (Ashkar & Kenny, 2008; Constantine et al., 2012; Lambie & Randell, 2013; Morgan et al., 2012). The traditional penitentiary interventions usually delivered in Portuguese prisons may not be effective enough to promote change at this level (Brazão et al., 2015a, 2015b). From this point of view, outcomes in inmates who completed GPS may indicate that such a program can be useful in buffering a tendency to get worse over time.

LGCM also pointed out to a significant decrease of external shame and paranoia over time in the treatment group. In contrast, the control group showed no change over time in these same variables. According to the GPS theoretical assumptions, by the end of the program, participants should be able to look at themselves in a more valuable and healthy manner (Brazão et al., 2013; Rijo et al. 2007), thus decreasing the severity and intensity of shame feelings. Considering the results on the association between external shame and paranoia found by Castilho and colleagues (2015), a decrease in shame should also be accompanied by a decrease in paranoid ideation. A similar decrease in anger would also be expected, as anger could be conceptualized as a defensive strategy to cope with shame (Beck, 1999; Gilbert et al., 2005; Ribeiro da Silva et al., 2015; Rijo et al., 2017; Shanahan et al., 2014; Thomaes et al., 2011).

The decrease in paranoia observed in the treatment group may also be attributed to the fact that GPS works toward changing participants' distorted view of the others in several different manners: (1) by recognizing the subjectivity of information processing in interpersonal contexts; (2) by recognizing the frequent misattribution of others' behavior toward us, thus becoming conscious of cognitive distortions underlying the attribution of meaning to interpersonal behaviors, and (3) by changing core cognitive structures, namely, those related to a distorted view of others as malevolent and/or abusive (Brazão et al., 2013; Brazão et al., 2015b; Rijo et al., 2007). Change at this level may lead the individual to reduce paranoid

ideation through the development of less distorted or more realistic social information processing.

Finally, analyses on GPS completion as predictor of change over time in the treatment group showed that completers (i.e., participants who completed at least 32 sessions) presented a greater decrease in anger, shame, and paranoia, when compared with noncompleters (i.e., participants who attended less than 32 sessions). These findings stress the need for facilitators to engage inmates with the full treatment in order to optimize the GPS's effects. This issue is especially relevant, taking into account that research has shown that noncompleters reoffend at a higher rate than treatment completers (Bennett et al., 2007; Kroner & Takahashi, 2012; Prendergast et al., 2004).

Overall, this study confirms and extends previous findings from a former pilot study and showed that a structured cognitive-behavioral group program, such as the GPS, can produce significant changes in anger, shame, and paranoia in male prison inmates, which have been systematically associated with criminal and violent behavior, disciplinary infractions, recidivism risk, and reoffending (Andrews, 1996; Andrews & Bonta, 2010; Chereji et al., 2012; Cornel et al., 1999; Hosser et al., 2008; Marsee & Frick, 2007; Novaco & Taylor, 2004; Thomaes et al., 2008). Taking into account these findings, results in the current study may suggest that the GPS treatment could have a positive effect in crime and delinquency, namely, in criminal career desistance, by producing changes in cognitive and emotional correlates of antisocial behavior that may predispose individuals to criminal behavior and reoffending (Andrews, 1996; Andrews & Bonta, 2010). Moreover, by reducing anger, shame, and paranoia, GPS may facilitate inmate's adhesion to further treatment efforts, aiming to modify criminogenic needs in accordance with the RNR model (Andrews & Bonta, 2010). In this sense, GPS may be used in forensic settings as a first choice cognitive-behavioral program and/or combined with other treatments that directly address criminogenic needs. In fact, the GPS is used in Portuguese prisons as a universal delivery program, with inmates receiving the program a few months after prison intake. Offenders with specific criminogenic needs receive other structured interventions (addressing those same needs) after GPS completion.

It is important to add that the effects of the GPS in the reduction of criminal recidivism rates were not analyzed in this study. The positive effects of a rehabilitation program over recidivism rates are usually presented as a major requirement for the selection of effective intervention practices (e.g., McGuire 2011, 2013). In this sense, it seems of the utmost importance to test whether the positive changes in anger, shame, and paranoia result in a significant reduction of reoffending, thus contributing to criminal career desistance.

Generalization should also be made carefully because all the participants included in this study were male prison inmates. As previously specified, female prison inmates were excluded from the current study due to their small numbers. Nonetheless, and in order to assess the generalizability of the program, future GPS efficacy studies should be carried out with female offenders. Future studies are also needed with other type of offenders (e.g., juvenile offenders) and settings (e.g., community-based interventions). Multigroup invariance LGCM

tests could, then, be conducted in order to assess the predictive effect of sex (male vs. female), age (juvenile vs. adult offender), and setting (institution vs. community) on the GPS's efficacy, which will allow for reliable conclusions on the program's generalizability. Taking into account that the current sample was mainly involved in acquisitive offending, it seems relevant to test the GPS effects in violent and persistent offenders, while accounting for the risk profile of the sample (low, moderate, or high risk). The program's impact on behavioral change (e.g., in the reduction of disciplinary incidents and prison records) should also be tested in further research to ascertain if changes observed in cognitive and emotional variables are reflected in a more adjusted behavioral pattern.

Our results were based on self-report measures and the use of other assessment methods (for instance, clinical interviews focused on shame and anger feelings, as well as in paranoid ideation) should be included in future works. Taking into account the individual variability observed in the outcome measures over time in the current study, future research should test for relevant variables that could explain this variability. Personality disorders, which are well-known to be highly prevalent among male prison inmates (e.g., Brazão et al., 2015c), should be tested as predictors or moderators of treatment effects in the outcome measures. In the current study, the integrity of GPS delivery was assured by training and supervising all psychologists who run the program. In future studies, more systematic quality control procedures of the program's delivery should be implemented.

This randomized controlled trial provided support for the efficacy of GPS in producing changes in cognitive and emotional correlates of antisocial and aggressive behavior. Findings from this study are encouraging for future research, not only for future efficacy studies of the GPS but also for the development of other interventions based on the manipulation of anger, shame, and paranoia as targets of change in offenders.

## Trial Registration

The ClinicalTrials.gov ID for this research is NCT03013738. The full trial protocol can be assessed at https://clinicaltrials.gov/

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Appendix A. Unconditional model of the initial status (intercept) and the rate of change (slope) in anger, shame and paranoia in the treatment group

| | *T1* | *T2* | *T3* | *T4* | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Outcome measures | M (SD) | M (SD) | M (SD) | M (SD) | Cohen's *d* | Intercept | Slope | Intercept (V) | Slope (V) |
| Anger-state | 12.89 (4.20) | 12.54 (4.18) | 11.61 (3.09) | 11.30 (4.70) | 0.35 | 12.86*** | -0.46** | 8.63** | 0.58 |
| Anger-trait | 18.44 (5.48) | 17.56 (5.10) | 16.04 (4.78) | 13.92 (3.65) | 0.97 | 8.39*** | -0.97*** | 16.03*** | 1.02*** |
| Temperament | 6.86 (2.54) | 6.63 (2.46) | 6.00 (2.08) | 5.20 (1.52) | 0.79 | 6.88*** | -0.37*** | 3.85*** | 0.19*** |
| Reaction | 7.98 (2.54) | 7.65 (2.41) | 6.94 (2.53) | 6.07 (2.07) | 0.82 | 8.00*** | -0.43*** | 2.91*** | 0.29** |
| Anger-expression | 24.20 (10.40) | 22.55 (9.05) | 20.71 (10.32) | 15.27 (7.80) | 0.97 | 24.60*** | -2.12*** | 4.11*** | 6.81*** |
| Anger-in | 16.94 (4.11) | 15.60 (3.84) | 15.10 (4.46) | 13.30 (3.71) | 0.92 | 16.68*** | -0.75*** | 8.42*** | 1.38*** |
| Anger-out | 14.42 (4.60) | 13.97 (3.65) | 12.98 (3.45) | 11.43 (2.47) | 0.80 | 14.52*** | -0.69*** | 7.98*** | 0.81** |
| Anger-control | 23.16 (5.69) | 23.01 (5.78) | 23.38 (7.33) | 26.46 (5.10) | 0.61 | 22.84*** | 0.58** | 12.41*** | 2.64** |
| External shame | 24.49 (9.88) | 20.92 (10.27) | 19.80 (11.13) | 14.02 (10.01) | 1.05 | 24.10*** | -2.37*** | 13.68*** | 9.28*** |
| Paranoia | 50.62 (10.61) | 46.44 (10.95) | 43.73 (10.80) | 35.13 (11.76) | 1.38 | 50.53*** | -3.60*** | 13.92*** | 8.74*** |

*Note*. Intercept (V) = variance of the intercept; Slope (V) = variance of the slope.

**p < .01; ***p < .001.

Appendix B. Unconditional model of the initial status (intercept) and the rate of change (slope) in anger, shame and paranoia in the control group

| | *T1* | *T2* | *T3* | *T4* | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Outcome measures | M (SD) | M (SD) | M (SD) | M (SD) | Cohen's *d* | Intercept | Slope | Intercept (V) | Slope (V) |
| Anger-state | 13.03 (5.05) | 12.40 (4.65) | 13.22 (5.30) | 13.23 (5.77) | 0.03 | 12.76*** | 0.09 | 9.42** | 1.50** |
| Anger-trait | 18.71 (5.89) | 18.54 (5.91) | 19.21 (6.80) | 20.35 (6.96) | 0.25 | 18.51*** | 0.37** | 13.07*** | 2.51** |
| Temperament | 6.68 (2.42) | 6.70 (2.41) | 7.14 (3.04) | 7.46 (3.30) | 0.26 | 6.65*** | 0.18 | 2.88** | 0.59** |
| Reaction | 8.35 (2.48) | 8.29 (2.99) | 8.30 (2.90) | 8.83 (3.17) | 0.16 | 8.28*** | 0.08 | 5.47*** | 0.48** |
| Anger-expression | 25.39 (10.20) | 25.88 (10.26) | 27.56 (13.08) | 31.94 (14.94) | 0.51 | 25.17*** | 1.40** | 15.22*** | 13.02*** |
| Anger-in | 18.26 (4.36) | 17.66 (4.64) | 17.82 (5.35) | 18.35 (5.60) | 0.01 | 18.12*** | 0.09 | 3.44*** | 2.03*** |
| Anger-out | 13.42 (4.82) | 14.68 (4.85) | 15.41 (5.46) | 16.88 (6.20) | 0.63 | 13.82*** | 0.75*** | 5.43** | 2.06** |
| Anger-control | 22.69 (5.91) | 22.46 (5.88) | 21.67 (6.06) | 19.29 (6.38) | 0.55 | 22.97*** | -0.86*** | 12.61*** | 2.10** |
| External shame | 22.80 (10.22) | 22.85 (11.73) | 25.00 (17.62) | 27.65 (13.27) | 0.40 | 22.54*** | 0.97*** | 12.36*** | 10.07** |
| Paranoia | 50.05 (12.37) | 49.13 (13.84) | 49.56 (16.05) | 53.17 (14.91) | 0.22 | 49.62*** | 0.42 | 11.05*** | 8.30*** |

*Note*. Intercept (V) = variance of the intercept; Slope (V) = variance of the slope.

**p < .01; ***p < .001.

## Estudo Empírico V |

## Promoting emotion and behavior regulation in male prison inmates: A secondary data analysis from a randomized controlled trial testing the efficacy of the Growing Pro-Social Program

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# Promoting emotion and behavior regulation in male prison inmates: A secondary data analysis from a randomized controlled trial testing the efficacy of the Growing Pro-Social Program

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## Abstract

***Objective:*** This article describes a secondary data analysis collected from inmates who participated in an independent randomized controlled trial, testing the efficacy of the Growing Pro-Social (GPS) Program. The current study aimed to test the program's ability to increase, on one hand, cognitive reappraisal (adaptive emotion regulation strategy) and, on the other hand, decrease expressive suppression (maladaptive emotion regulation strategy) over time. It was also assessed if the GPS was capable of reducing disciplinary infractions committed by inmates over time.

***Method:*** Participants were randomized to the GPS treatment ($n$ = 121) or the control group ($n$ = 133). The Emotion Regulation Questionnaire was completed at baseline, at mid-treatment, at post-treatment and at 12-months' follow-up. Disciplinary infractions were collected from prison records during the 12 months before the beginning of the program, during the GPS's 12-month length and during the 12 months after treatment completion. Treatment effects were analyzed with latent growth curve models.

***Results:*** Concerning cognitive reappraisal, while treatment participants showed a significant increase, controls presented a decrease over time. For expressive suppression, the treatment group presented a significant decrease, and the control group showed no change over time. Treatment participants also presented a significant decrease in the number of disciplinary infractions and in the number of days in punishment, while controls showed no change or an increase over time.

***Conclusion:*** This study showed the GPS's ability to promote emotion and behavior regulation, which contributes not only to inmate's interpersonal adjustment, but also to a more efficient management of the prison system.

*Keywords*: behavior regulation; emotion regulation; Growing Pro-Social program; latent growth curve models; male prison inmates.

## Introduction

The efficacy of cognitive–behavioral group interventions in the rehabilitation of young and adult offenders has been well documented (Bonta et al., 2011; Koehler, Lösel, Akoensi, & Humphreys, 2013; Raynor, Ugwudike, & Vanstone, 2014; Trotter, 2013). Among the most disseminated programs used in the rehabilitation of inmates are the Reasoning and Rehabilitation (Ross, Fabiano, & Ross, 1989) and the Enhanced Thinking Skills (ETS; Clark, 2000). These programs have shown to be effective in reducing criminal recidivism, as well as maladaptive cognitions and antisocial behavior (Cullen et al., 2012; McDougall, Perry, Clarbour, Bowles, & Worthy, 2009).

These interventions have been identified as cognitive-restructuring programs, thus conceptualizing aggressiveness as the result of maladaptive or dysfunctional cognitions. It is well known that offenders use cognitive distortions when processing social information (e.g., Walters, 2007), and these program's ultimate goal is to promote a more adaptive social information processing, by reducing underlying cognitive distortions (Antonio & Crosset, 2017). However, a considerable amount of research (e.g., Chakhssi, Bernstein, & de Ruiter, 2012; Gilbert & Daffern, 2013) has also shown that early maladaptive schemas play a crucial role in the onset and maintenance of antisocial behavior.

Early maladaptive schemas (e.g., Rafaeli, Bernstein, & Young, 2011; Young, Klosko, & Weishaar, 2003) may be defined as negative themes about the self and the others, that have their origin in early dysfunctional interactions with significant others, who do not meet the children's core needs. Later in life, schemas can be triggered in any situation where schema-relevant information is available. Once a schema is triggered, it will guide information processing in a way that maintains and reinforces that same schema. In other words, schemas will elicit judgments, inferences, and attributions that are consistently biased in an erroneous manner (i.e., cognitive distortions). From this point of view, antisocial behavior can be conceptualized as a result of a distorted view of the self and the others, which leads to cognitive distortions in the social information processing (Brazão, da Motta, & Rijo, 2013; Brazão et al., 2015a; Brazão, Rijo, Salvador, & Pinto-Gouveia, 2017). Therefore, when trying to modify the offender's dysfunctional information processing, it seems relevant to promote change in early maladaptive schemas, which may contribute to a more longer-lasting and/or stable change in offender's cognitive functioning over time.

Although the link between early maladaptive schemas, cognitive distortions, and antisocial behavior is known, few intervention programs take into account the need for promoting change at a deeper level (such as early maladaptive schemas) in order to modify aggressive and antisocial behavior. Moreover, most programs do not identify what should be the focus of change and what actually causes changes, nor define the relation between the variables that they try to modify during intervention (Rijo et al., 2007). For instance, emotional control sessions are carried out as if emotional control was totally independent from social reasoning or interpersonal behavior (Brazão et al., 2013). There has also been a tendency to use mainly reasoning and school-like activities (e.g., paper and pencil), rather than experiential

exercises, which would be more adequate to increase self-knowledge, and promote cognitive and emotional change (Brazão et al., 2013; Rijo et al., 2007).

In order to overcome these shortcomings, Rijo and colleagues (2007) developed a new cognitive- behavioral intervention program, the GPS—Growing Pro-Social. The GPS is a structured and manualized group program grounded in schema theory and intervention methods (e.g., Rafaeli et al., 2011; Young et al., 2003), specifically designed to be used within a package of psychological interventions aiming the rehabilitation of young and adult offenders. GPS can be used as a first choice cognitive- behavioral program (to be delivered a few months after prison intake) along with other group and/or individual interventions programs addressing specific criminogenic needs. The program could also be used along with individual cognitive-behavioral therapy, taking into account the added benefits that group and individual therapy have shown when combined (e.g., O'Brien, Sullivan, & Daffern, 2016).

The GPS was designed to target maladaptive behavioral patterns, disruptive emotions, cognitive products (negative automatic thoughts), cognitive distortions (thinking errors), and early maladaptive schemas (dysfunctional core beliefs about the self and the others), which underlie the offender's social information processing. Specifically, it aims to promote emotion and behavior regulation by changing the dysfunctional cognitive correlates of antisocial behavior (for a description on how GPS targets the cognitive correlates of antisocial behavior, see Interventions section).

The majority of efficacy studies has chosen the reduction of recidivism rates as the preferred measure of the efficacy of rehabilitation programs. Although the positive effects of the intervention programs over recidivism rates have usually been presented as a major requirement for the selection of effective intervention practices (e.g., McGuire, 2011, 2013), less is known about the change in other variables that research has also found to be associated with reoffending (Antonio & Crosset, 2017; Skeem, Polaschek, & Manchak, 2009). A new trend in research has begun to identify and to assess other relevant variables as treatment outcome measures, namely cognitive and emotional correlates of antisocial behavior (Clarke, Cullen, Walwyn, & Fahy, 2010; Cullen et al., 2012; Emilsson et al., 2011; Redondo, Martínez-Catena, & Andrés-Pueyo, 2012). Following this new-wave of research, a randomized controlled trial (RCT) has been conducted in Portuguese prisons aiming to assess the efficacy of the GPS program in adult offenders. This RCT analyzed the program's ability to reduce the offender's cognitive malfunctioning, namely the use of cognitive distortions and the prominence of early maladaptive schemas (Brazão et al., 2015a, 2017). The impact of the GPS in variables that, from an evolutionary perspective, have been proposed as relevant variables associated with antisocial behavior, specifically anger, shame and paranoia, was also addressed by recent studies (Brazão et al., 2015b; Brazão, Rijo, Salvador, & Pinto-Gouveia, 2018).

Results have shown that the GPS program was effective in reducing the frequency of self-reported cognitive distortions and the prominence of early maladaptive schemas, as well as anger, shame, and paranoia. While the treatment group presented a significant decrease, controls showed no change or a worsening on those same variables over time (Brazão et al.,

2015a, 2015b, 2017, 2018). Nonetheless, these previous studies did not assess behavioral change, as is the case of disciplinary infractions committed by inmates. As noted by several authors (e.g., McGuire, 2011, 2013), the ultimate goal of an intervention program should be changing actual behavior, and this outcome should be directly observable and quantifiable. This issue seems to be especially relevant taking into account that disciplinary infractions inside prisons are highly prevalent, which reduce order, threaten the strength of security and custody, and introduce significant costs to the entire correctional systems (Auty, Cope, & Liebling, 2017; Lahm, 2008; Memory, Guo, Parker, & Sutton, 1999; Tewksburry, Connor, & Denney, 2014; Toman, Cochran, Cochran, & Bales, 2015).

Disciplinary infractions come about many forms, ranging from serious and violent acts (e.g., inmate-on-inmate and inmate-on-staff assaults) to less serious nonviolent infractions (e.g., disobeying a direct order). The usual method for managing misconduct in most prisons is to segregate the disruptive inmates from the rest of the prison population. Recent research (e.g., Morgan et al., 2016) has shown that segregation may not be as detrimental as previous studies have suggested. Nonetheless, it may still have a negative impact on inmate's mental health and well-being (Dante, 2012; Marcum, Hilinski-Rosick, & Freiburger, 2014). Taking into account these data, as well as the empirical evidence on the positive association between prison misconduct and recidivism (Dhami, Ayton, & Loewenstein, 2007; Duwe & Clark, 2011), identifying variables that contribute to disciplinary infractions seems of utmost importance (Tewksburry et al., 2014).

Recent developments on emotion-driven theories conceptualize prison misconduct as the result of emotion regulation difficulties (Fishbein et al., 2009; Roberton, Daffern, & Bucks, 2014). Emotion regulation can be defined as the attempts individuals make to maintain, inhibit and enhance the experience and expression of emotions (Bridges, Denham, & Ganiban, 2004). According to Gross and colleagues (Gross, 2013, 2014; Gross & John, 2003), individuals may cope with their emotions using either cognitive reappraisal or expressive suppression strategies. Cognitive reappraisal is considered an adaptive emotion-regulation strategy and involves reinterpreting the meaning of an event in a way that changes its emotional impact, while expressive suppression, a maladaptive emotion-regulation strategy, encompasses inhibiting emotions, as well as emotion-expressive behaviors. According to the authors, expressive suppression is less effective in altering negative emotions in comparison with cognitive reappraisal and it has been found to be associated with psychopathology, social dysfunction, depressed mood, and aggressive behavior. Cognitive reappraisal, in turn, has been found to be associated with better interpersonal outcomes and to be positively related to wellbeing.

A considerable amount of research has explored the associations between emotion regulation and aggression, and it has been found that emotion regulation difficulties tend to be associated with increased aggression (Ammerman, Kleiman, Uyeji, Knorr, & McCloskey, 2015; Cohn, Jakupcak, Seibert, Hildebrandt, & Zeichner, 2010; McLaughlin, Hatzenbuehler, Mennin, & Nolen-Hoeksema, 2011; Roll, Koglin, & Petermann, 2012; Tager, Good, & Brammer, 2010; Velotti et al., 2016). However, the majority of published studies was conducted with

adolescents. Although these studies may not generalize to the adult population, they do provide valuable evidence concerning a possible relationship between emotion regulation and aggression. A review of longitudinal studies examining this relationship in children and adolescents was undertaken by Roll and colleagues (2012), who determined that, in general, earlier emotion regulation difficulties were associated with later externalizing and aggressive behaviors. A few studies have used adult offender samples to explore the association between emotion regulation and aggressive behavior. Tager and colleagues (2010) found that intimate partnership offenders who showed emotion regulation difficulties were more likely to report having abused their partners. Roberton and colleagues (2014), in turn, showed that offenders with a maladaptive emotion regulation style reported more extensive histories of aggression than those with an adaptive emotion regulation style. These results suggest that emotion regulation difficulties may play an important role on aggressiveness and behavioral problems, thus emphasizing the potential need to include complex emotion-related modules (beyond a few strategies aiming anger control) in treatment programs for offenders (Fishbein et al., 2009; Roberton et al., 2014).

Despite available findings, and to our best knowledge, there is a lack of RCTs testing the efficacy of intervention programs in emotion and behavior regulation outcomes in adult offenders. The current study consisted of a secondary data analysis collected from inmates who participated in an independent RCT on the efficacy of the GPS program. This study added to the previous research by investigating the impact of the program in the frequency of use of two different emotion regulation strategies: cognitive reappraisal (adaptive strategy) and expressive suppression (maladaptive strategy). This study also moves beyond self-report measures by evaluating observable behavior inside prison, namely the frequency of disciplinary infractions, taken as indicators of behavior (dys)regulation. These same outcomes have not been analyzed on previous research on the GPS efficacy and, as stated above, there is a lack of RCTs analyzing change at emotion and behavioral (observable) levels in offenders.

The main goals of this study were, in a first step, to assess whether male prison inmates who participated in GPS showed, on one hand, an increase in cognitive reappraisal and, on the other hand, a decrease in expressive suppression over time, when compared to controls. In a second step, we assessed if the treatment group presented a significant reduction of disciplinary infractions while in prison (not only in the number of disciplinary infractions committed, but also in the number of days in punishment) when compared with the control group. An additional goal was to examine the extent to which any changes were maintained after treatment completion.

We hypothesized that GPS can have positive effects in emotion regulation, taking into account that the program's Module 4 – Function and Meaning of Emotions, was designed to promote emotion regulation (beyond anger control), by increasing the awareness and understanding about the function, meaning and adaptive value of emotions, and problems related to emotion dysregulation (see Interventions section). If change occurs at this level and, taking into account that prison misconduct may, at least partially, be conceptualized as

resulting from emotion regulation difficulties, it was expected that the number of disciplinary infractions and the number of days in punishment would also decrease after GPS completion. We also expected that treatment effects would be maintained over time. Finally, we expected that participants who completed the GPS treatment would present higher improvements in behavior and emotion regulation when compared with noncompleters.

## Method

### Trial design and participants

As previously specified, the current study consisted in a secondary data analysis collected from male prison inmates that participated in an independent RCT (that was designed in accordance with the CONSORT 2010 guidelines) with blind assessments. Recruitment into the original trial was conducted between 2013 and 2016 in nine prisons in three city areas in mainland Portugal (Lisbon, Oporto, and Coimbra) and in the Madeira Island. This study was registered as a randomized controlled trial (ID: NCT03013738) at ClinicalTrials.gov and was approved by the Head of the General Directorate of Reintegration and Prison Services of the Portuguese Ministry of Justice. The study was also approved by the Ethics Committee of the Faculty of Psychology and Educational Sciences of the University of Coimbra where the Research Center is based. Additionally, researchers sought authorization by the Portuguese Data Protection Authority, in order to assure data protection from all participants involved in the study.

Inclusion criteria were set for male prison inmates aged between 18 and 40 years old, taking into account that most offenders incarcerated at the onset of the RCT were within this age range. Exclusion criteria included: (a) cognitive impairment (because GPS is not suitable for the cognitively impaired); (b) psychotic disorders (the experiential exercises used in the program are contraindicated for psychotic patients); (c) being treated for substance abuse/dependence (cessation or at least substantial reduction of substances use must precede GPS treatment); (d) being sentenced exclusively for sexual offenses (sex offenders would benefit from more specific intervention programs); and (e) remaining in prison less than 24 months since the beginning of the program (taking into account GPS's 12-month length and 12-month follow-up assessment). Female offenders were also excluded from the sample because women represent less than 6% of the total inmates in Portugal, and any possible idiosyncrasies from this cohort would be underrepresented.

With regard to the sample size, a power analysis was conducted with the GPower v3.1 software (Faul, Erdfelder, Buchner, & Lang, 2009). Results showed that a sample of 203 inmates was necessary to detect medium effects with a significance level of .05 and a power of .90. The power analysis was conducted a priori, that is, before the RCT onset, and repeated measures ANOVA was planned as the data analytic strategy. However, taking into account the advantages of latent growth curve models over repeated measures ANOVA (see Data Analysis

section), as well as the enough large sample size to perform latent growth curve models, these analyzes were selected.

**Interventions**

As previously specified, the GPS is based in schema therapy (e.g., Rafaeli et al., 2011; Young et al., 2003) and one of the program's main goals encompasses the promotion of emotion and behavior regulation, by changing specific early maladaptive schemas, cognitive distortions and cognitive products underlying the offenders' social information processing. GPS is a manualized program of forty 90-min sessions which runs on a weekly basis. Sessions must be delivered by two therapists who should be skillful in cognitive– behavioral techniques and schema therapy.

The GPS's structure follows a progressive strategy of change, which begins by: (a) increasing knowledge about the nature and ambiguities of human communication, (b) changing maladaptive behavioral patterns in specific interpersonal contexts, (c) learning about cognitive distortions and counteracting their influence in the attribution of meaning to events, (d) experiencing and understanding the function and meaning of emotions and their influence on human behavior, and (e) learning about early maladaptive schemas and fighting against their influence on thoughts, emotions and behaviors. This gradual strategy of change requires the program to be delivered in a predefined sequence of five modules (preceded by an initial session for the presentation of the program): (a) human communication, (b) interpersonal relationships, (d) cognitive distortions, (d) function and meaning of emotions, and (e) early maladaptive schemas (see Table 1). GPS ends with a final session, and follow-up sessions can be carried out afterward.

Modules 1 and 2 are focused in communication and interpersonal skills. The main goal of these sessions is to increase participants' awareness about the ambiguity of human communication and the subjectivity of information processing in interpersonal contexts (although not addressing the issue of cognitive distortions and/or early maladaptive schemas). In Module 1, participants learn about the communication processes and are challenged to identify its obstacles (e.g., the incongruences between verbal and nonverbal language) and to cope with those same obstacles in a healthy and prosocial way. In Module 2, the participants are guided to discover the advantages of assertiveness over aggressiveness, and they are challenged to behave assertively in specific interpersonal contexts (e.g., saying no, asking for help, apologizing) and to use negotiation skills to cope with interpersonal conflicts.

In turn, Modules 3, 4, and 5 directly address cognitive and emotional correlates of antisocial behavior. In Module 3, participants are encouraged to understand the way our mind processes social information. Common thinking errors (cognitive distortions) are identified, and participants are trained to think in a more realistic way about relevant daily events. In Module 4, participants are guided to understand the function and meaning of emotions, namely its adaptive value. Participants are also challenged to understand the link between their problems and emotion regulation difficulties. In Module 5, early maladaptive schemas are identified as

well as their influence over the attribution of meaning to events and the triggering of disruptive emotions. Participants are encouraged to fight against their own schemas, diminishing the schema's influence over thoughts, emotions, and behavior.

All sessions include experiential exercises, and participants are encouraged to achieve insight through systematic questioning about the reactions noticed during activities (guided discovery approach), and to apply this knowledge to real-life scenarios. Homework assignments between sessions are also included, in which participants are asked to use the strategies learned in everyday life situations in the following week.

The treatment group attended the GPS program for about 12 months, in addition to the treatment as usual (TAU) delivered at Portuguese prisons: supervision of school frequency, occupational and job-related tasks, sentence planning supervision over time, and counseling by a psychologist in a regular basis (once per week). Participants in the control group received TAU and did not attend the GPS program or any other kind of structured intervention during the research period.

Table 1. *GPS Modules and Contents*

| Modules | Number of sessions | Contents summary |
|---|---|---|
| Initial session | 1 | Presentation of the participants, the structure and the methodology of the program. |
| 1. Human communication | 5 | The communication process and its obstacles; verbal and nonverbal communication skills, the ambiguity of human communication; the (in)congruences between digital and analogical languages. |
| 3. Interpersonal relationships | 10 | Behavioral styles (assertive, aggressive, passive and manipulative) in relationships; self-concept and interpersonal behavior; ideas about the others and interpersonal behavior; specific interpersonal contexts and assertive behavior; negotiation as a strategy to deal with conflicts. |
| 4. Cognitive distortions | 6 | Understanding cognitive distortions (thinking errors); identifying and changing cognitive distortions: Selective Abstraction, Overgeneralization, Mind Reading, Crystal Ball, Minimization, Disqualifying the Positive Experiences, Dichotomous Thinking, Labeling and Personalization. |
| 5. Function and meaning of emotions | 7 | The diversity of the emotional experience; the nature and function of emotions: sadness, shame, fear, anger, guilt, and happiness. |

| | | |
|---|---|---|
| 6. Early maladaptive schemas | 10 | Early maladaptive schemas and their influence in giving meaning to reality; identifying and changing early maladaptive schemas: Failure, Social Isolation, Mistrust/Abuse, Defectiveness/Shame, Emotional Deprivation, Abandonment/Instability, Grandiosity; fighting schema's influences in thoughts, emotions, and behavior. |
| Final session | 1 | Reflection and consolidation of learning, and generalization of gains made during the program. |

*Note*. Adapted from "From multimodal programs to a new cognitive-interpersonal approach in the rehabilitation of offenders," by N. Brazão, C. da Motta and D. Rijo, 2013, *Aggression and Violent Behavior*, *18*, 640.

**Outcome measures**

Participants completed a self-report measure of emotion regulation. Disciplinary infractions committed by each inmate were collected from prison records. Additionally, sociodemographic and legal data on participants were collected from prison staff members.

**ERQ—Emotion Regulation Questionnaire** (Gross & John, 2003; Portuguese version by Dinis & Pinto-Gouveia, 2007). ERQ is a 10-item scale designed to measure the respondents' tendency to regulate their emotions in two ways: cognitive reappraisal (e.g., "When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm") and expressive suppression (e.g., "When I am feeling positive emotions, I am careful not to express them"). Respondents answer each item on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The original version of the ERQ presented good internal consistency values, with alphas of .79 for the cognitive reappraisal subscale and .73 for the expressive suppression subscale (Gross & John, 2003). In the Portuguese version, the Cronbach's alpha was .80 for both cognitive reappraisal and expressive suppression (Dinis & Pinto-Gouveia, 2007). In the current study, internal consistency values were .76 for cognitive reappraisal and .72 for expressive suppression.

Participants completed the ERQ at baseline, after the twentieth session of the program (mid-treatment assessment), at the end of treatment and at 12 months' post-treatment (follow-up assessment).

**Disciplinary infractions grid.** A grid was developed by researchers in order to collect the following data form prison records: the total number of disciplinary infractions (e.g., work absence, defiant/oppositional behavior, aggressive and violent behavior, destruction of prison property, alcohol/drug-related offenses) committed by each inmate, as well as the total number of days of the punitive measures applied by the prison administration. These data were collected for three time-intervals: during the 12 months before the beginning of the program, during the GPS's 12-month length, and also during the 12 months after GPS completion. The

average number of disciplinary infractions and the average number of days in punishment for each time-interval were computed and taken as indicators of behavior (dys)regulation.

**Procedures**

All potential participants (who did not meet the exclusion criteria) were identified by psychologists from the justice system. Afterward, a large sample of participants was randomly selected using a random number table by a research assistant who was blind to any personal information about each inmate. Then, a first meeting between the research team and the randomized inmates occurred, in which researchers invited inmates to participate voluntarily. In this meeting, researchers explained the goals of the study and presented a brief overview of the intervention program. It was also explained to inmates that their participation in the study would not impact their sentencing in any way.

Participants who agreed to participate, gave written informed consent, completed the ERQ at baseline assessment, and were randomly assigned to treatment conditions (treatment and control groups) using a random number table by a research assistant who was blind to any information about each participant. Afterward, the research team informed the psychologists in each prison of the result of the randomization so that GPS could be initiated. In total, nine GPS groups were run (one group in each prison, with eight to 15 participants), and groups meet once a week. Participants in the control group were informed that they would be offered the GPS treatment after the study's completion (after the end of the follow-up period).

Staff who conducted randomization did not serve as therapists or assessors, and assessors were blind to condition assignment. Disciplinary infractions were collected by independent research assistants who were blind to group assignment or any personal information of participants.

GPS's facilitators were chosen among the psychologists who already had training and experience in delivering the program with inmates. In order to assure program integrity and consistency, facilitators received training and regular supervision by the research team (including the program's main author) during the time GPS was run in prisons. Moreover, the program's structured and manualized design contributes to treatment integrity once every procedure and guidance is offered in detail. As a strategy to increase treatment integrity, the GPS sessions were carried out by two therapists (a male and a female therapist for each group). While one therapist was leading the session, the other one observed the implementation and helped in keeping it close to the program handbook. This second therapist only intervened when the first one deviated from the protocol, and an established codebook for helping this therapist determine what counted as a deviation (e.g., discussing topics not related or irrelevant to the session's goals) was provided in the GPS's handbook. Moreover, protocol deviation was one of the topics covered in the program's training and supervision. Quality control procedures, such as recording sessions and/or the presence of external assessors in the GPS sessions, were not allowed in prisons.

**Data analysis**

Data analyses were conducted with the Mplus v7.4 (Muthén & Muthén, 2010) and the IBM SPSS Statistics v22.0 software. The IBM SPSS was used for comparisons between the treatment and the control group on demographic and criminal characteristics, using independent-samples *t* tests or chi-square tests depending on the nature of the data. Groups were also compared on the dependent variables at baseline, using independent-samples *t* tests.

Treatment effects were tested with latent growth curve models (LGCM; Duncan & Duncan, 1995), using Mplus. Although repeated measures statistical methods (e.g., ANOVA) can handle multiple data points, there is a growing recognition that these approaches may not be adequate when assessing change over time (Curran, Obeidat, & Losardo, 2010; Duncan & Duncan, 2009; Hesser, 2015). These traditional methods only analyze change in observed group means, thus being incapable of capturing individual differences in change (differences in trajectories are treated as error variance). Also, these methods assume that change in participants is linear. Alternatively, LGCM analyze both linear and nonlinear change, and individuals are allowed to differ on the rate of change in the dependent variables over time. Therefore, LGCM is a reliable method to assess individual variation in the growth of the dependent variables, and to examine if treatment condition might predict changes over time (Duncan & Duncan, 1995, 2009; Malmberg et al., 2015; Muthén, 1997; Muthén & Muthén, 2010).

All LGCM were carried out in accordance with both intention-to-treat and per-protocol approaches. For the emotion regulation outcomes (i.e., cognitive reappraisal and expressive suppression), the intercept (i.e., initial status) and slope (i.e., change over time) were modeled as latent variables from data at baseline (Time 1), at the middle of the treatment (Time 2), at the post-treatment (Time 3), and at the follow-up assessment (Time 4). For the behavior regulation outcomes (i.e., average number of disciplinary infractions and average days in punishment), the intercept and slope were modeled as latent variables from data during the 12 months before the beginning of the treatment (Time 1), during the GPS's 12-month length (Time 2) and also during the 12 months after treatment completion (Time 3). For all outcome measures, unconditional models testing a linear and a nonlinear (i.e., quadratic trend) of change in the outcome measures over time were estimated separately in each group without any predictors. Effect sizes for the rate of change observed in the dependent variables in each group were computed using Cohen's *d*, with 0.2 indicating a small effect, 0.5 a medium effect, and 0.8 a large effect (Cohen, 1988).

After establishing the unconditional models, the association between condition and change over time was examined by including condition (control group vs. treatment group coded as 0 and 1, respectively) as a predictor of the growth factors (i.e., intercept and slope). The path from condition to intercept reflects group differences at the baseline and should be nonsignificant due to randomization. The path from condition to slope reflects group differences on the trajectory of change in the outcome measures over time. The association between treatment dosage and change over time in the outcome measures was also analyzed in the treatment group by including the number of sessions (< 32 sessions vs. ≥ 32 sessions coded

as 0 and 1, respectively) as a predictor of change over time. A cut-off of ≥ 32 session (80% of attendance) was used to classify participants as completers, in accordance with the guidelines by Cullen and colleagues (2012).

When following an intent-to-treat approach, full information maximum likelihood estimation was used to handle missing data according to a proposal by Muthén and Muthén (2010). Chi-square (x2), comparative fit index (CFI), root-mean square error of approximation (RMSEA), and the standardized root-mean square residual (SRMR) were used as model fit indices. In accordance with the guidelines by Hair, Black, Babin, and Anderson (2005), and taking into account the sample size (< 250), a CFI >.95 combined with either RMSEA < .08 or a SRMR < .08 were considered as indicators of acceptable/good fit.

## Results

### Recruitment and retention

Nine Portuguese prisons, including 270 male prison inmates were invited to participate in this study (see Figure 1). Sixteen (5.9%) inmates declined participation, and a total of 254 (94.1%) inmates completed the baseline assessment. Of these, 121 (47.63%) were randomly assigned to the GPS treatment and 133 (52.37%) were randomly assigned to the control group.

From the initial 121 treatment group, 108 (89.2%) completed the mid-treatment assessment, 97 (80.16%) completed the posttreatment assessment, and 69 (57.0%) completed the follow-up assessment. Only 17 (14.0%) inmates dropped out the program. The majority of losses to subsequent assessments was due to transference to another prison or parole. Seventy-nine treatment participants (65.4%) attended more than 32 sessions, 19 (15.7%) attended between 31 and 21 sessions, 12 (9.9%) attended between 20 and 11 sessions, and 11 (9.0%) attended less than 10 sessions. Participants attended in average 30 sessions (*M* = 30.18; *SD* = 11.45) of the program.

Of the 133 inmates assigned to the control group, 104 (85.9%) completed the mid-treatment assessment, 89 (66.9%) completed the post-treatment assessment, and 67 (50.3%) completed the follow-up assessment.

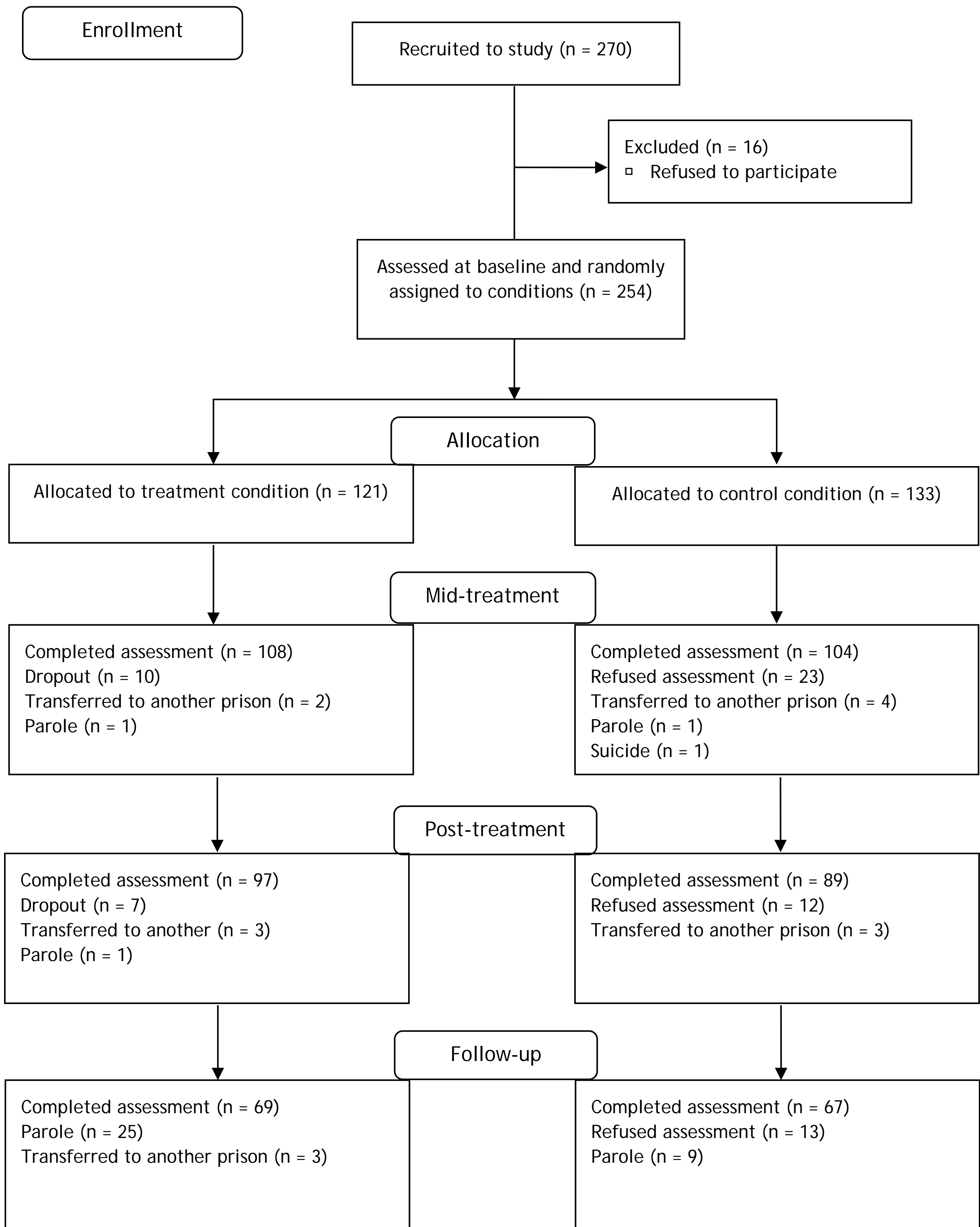


*Figure 1.* Flowchart of inmate participation

**Baseline differences**

Groups were compared on demographic features, and no significant differences were found (all $p > .05$). The mean age was 28.24 years ($SD = 6.32$) in the treatment group and 28.74 years ($SD = 6.14$) in the control group. Most participants were single (69.4% in the treatment group and 70.7% in the control group), with a low socioeconomic status (94.2% in the treatment group and 97.0% in the control group).

Regarding legal and criminal features, no significant differences were found (all $p >$ .05). The average sentence length was 111.53 months ($SD = 59.25$) in the treatment group and 120.76 months *SD* _ 63.22) in the control group. The majority of participants committed several crimes (56.2% in the treatment group and 50.4% in the control group) and were first-time offenders (62.8% in the treatment group and 60.9% in the control group). Crimes for which they were sentenced to prison were predominantly against property, followed by crimes against people, drug-related offenses, and crimes against the State (e.g., counterfeiting and forgery of documents).

Baseline differences between groups were also tested for the outcome measures (see Table 2). No differences were found between conditions at baseline, thus indicating that randomization was successful.

**Table 2**. *Baseline Differences on the Outcome Measures by Group*

| | *TG* | | *CG* | | | | |
|---|---|---|---|---|---|---|---|
| Outcome measures | *M* | *SD* | *M* | *SD* | *t* | 95% CI | Cohen's *d* |
| Emotion regulation | | | | | | | |
| Cognitive Reappraisal | 26.19 | 8.38 | 26.82 | 6.89 | . 322 | [-1.88, 1.35] | 0.03 |
| Expressive Suppression | 16.19 | 5.52 | 17.45 | 4.86 | 1.920 | [-2.53, .031] | 0.24 |
| Behavioral regulation | | | | | | | |
| Number of disciplinary infractions | 2.00 | 2.87 | 2.16 | 3.85 | .902 | [-1.01, .682] | 0.04 |
| Number of days in punishment | 14.02 | 8.70 | 12.92 | 2.84 | 1.524 | [-.910, 711] | 0.16 |

*Note*. All t-tests were non-significant.

TG = treatment group; CG = control group; CI = confidence interval.

**Intervention effects in emotion and behavior regulation in accordance with the intention-to-treat approach**

As previously stated, unconditional models were carried out separately for each group. Afterward, conditional models with group as a predictor of the growth factors (i.e., intercept and slope) were tested. All analyses were carried out in accordance with the intention-to-treat approach.

**Unconditional models in the treatment group.** A linear and nonlinear (i.e., quadratic) trend of the unconditional models of change in emotion (i.e., cognitive reappraisal and expressive suppression) and behavior regulation (i.e., average number of disciplinary infractions and average days in punishment) were carried out. None of the models presented a

significant quadratic trend. Therefore, only the linear trend was included in the subsequent analyses, which presented good fit indices to the observed data (see Table 3).

Table 3. *Model Fit Indices for the Unconditional Models in Treatment and Control Groups, and for the Conditional Models with Condition and Treatment Dosage as Predictors*

| Outcome measures | *x2* | *x2* p | RMSEA | 90% CI for RMSEA | CFI | SRMR |
|---|---|---|---|---|---|---|
| Unconditional model in the TG | | | | | | |
| Emotion Regulation | | | | | | |
| Cognitive Reappraisal | 6.021 | .304 | .049 | [.000, .164] | .977 | .064 |
| Expressive Suppression | .240 | .625 | .000 | [.000, .200] | 1.000 | .009 |
| Behavior Regulation | | | | | | |
| Number of disciplinary infractions | 7.614 | .178 | .072 | [.000, .258] | .959 | .059 |
| Number of days in punishment | 1.412 | .239 | .058 | [.000, .122] | .997 | .028 |
| Unconditional model in the CG | | | | | | |
| Emotion Regulation | | | | | | |
| Cognitive Reappraisal | 1.664 | .197 | .081 | [.000, .291] | .980 | .029 |
| Expressive Suppression | 6.021 | .304 | .049 | [.000, .164] | .977 | .064 |
| Behavior Regulation | | | | | | |
| Number of disciplinary infractions | 1.371 | .927 | .000 | [.000, .065] | 1.000 | .037 |
| Number of days in punishment | .443 | .994 | .000 | [.000, .061] | 1.000 | .014 |
| Conditional model with condition as predictor | | | | | | |
| Emotion Regulation | | | | | | |
| Cognitive Reappraisal | 5.565 | .350 | .036 | [.000, .152] | .982 | .064 |
| Expressive Suppression | 5.686 | .338 | .037 | [.000, .158] | .986 | .051 |
| Behavior Regulation | | | | | | |
| Number of disciplinary infractions | 1.641 | .440 | .000 | [.000, .117] | 1.000 | .018 |
| Number of days in punishment | 1.288 | .525 | .000 | [.000, .110] | 1.000 | .016 |
| Conditional model with treatment dosage as predictor | | | | | | |
| Emotion Regulation | | | | | | |
| Cognitive Reappraisal | .862 | .353 | .000 | [.000, .220] | 1.000 | .021 |
| Expressive Suppression | 1.238 | .265 | .042 | [.000, .236] | .999 | .027 |
| Behavior Regulation | | | | | | |
| Number of disciplinary infractions | 1.253 | .534 | .000 | [.000, .148] | 1.000 | .022 |
| Number of days in punishment | 3.094 | .212 | .063 | [.000, .193] | .995 | .036 |

*Note*. TG = treatment group; CG = control group; CFI = comparative fit index; RMSEA = root-mean-square error of adjustment; SRMR = square-root-mean residual.

As reported in Table 4, results in the treatment group showed that the average intercept was significant for all the outcome measures, indicating that the mean at baseline was significantly different from zero. With the exception of cognitive reappraisal, the average variances of the intercept were also significant, indicating significant individual variation around the mean of the outcome measures at baseline. Concerning change over time, and for cognitive reappraisal and expressive suppression, the average slopes were significant. While

cognitive reappraisal increased over time, expressive suppression decreased over time. The observed effect sizes were small for cognitive reappraisal and large for expressive suppression. The average slopes were also significant for the number of disciplinary infractions and number of days in punishment, with both variables presenting a decrease over time. The effect size was medium for the number of disciplinary infractions and large for the number of days in punishment. In addition, individual differences around the mean of the growth trajectory of all outcome measures were found, except for cognitive reappraisal.

**Unconditional model in the control group.** Similarly to what was observed in the unconditional models in the treatment group, unconditional models testing a quadratic trend in the control group did not present acceptable fit indices to the observed data. So, only the linear trend was included in the subsequent analyses, which presented good fit indices to the data (see Table 3).

As reported in Table 5, the average intercept was significant for all the outcome measures, indicating that the mean at baseline was significantly different from zero. With the exception of cognitive reappraisal, individual differences around the mean of the outcome measures at baseline were found, as indicated by the significant intercept factor variances. Regarding change over time, and for cognitive reappraisal, the significant slope showed that scores on this variable decreased over time, and the observed effect size was medium. For the expressive suppression and the average number of disciplinary infractions, the slope was nonsignificant, showing no change over time. The average days in punishment increased over time (as indicated by the significant slope), and the observed effect size was large. Additionally, the average variances of the slopes were significant, indicating individual variation around the mean of the growth trajectories of all outcome measures.

**Conditional models with group as a predictor of the growth factors.** The conditional models with group (control vs. treatment) as a predictor of the growth factors provided good fit indices to the observed data (see Table 3).

As presented in Table 6, condition did not predict variation in the intercept, indicating that the groups did not differ in the outcome measures at baseline. Regarding the slope factor, condition was a significant predictor of change over time observed in all the outcome measures. Specifically, the treatment group showed a greater increase (of 2.09 units) in cognitive reappraisal than the control group, as indicated by the positive B value. Treatment participants also showed a greater decrease (of almost two units) in expressive suppression, as indicated by the negative B value. Finally, the treatment group presented a greater decrease in the number of disciplinary infractions (of 1.80 units), as well as in the number of days in punishment (of 8.26 units), when compared to the control group.

Table 4. *Unconditional Model of the Initial Status (Intercept) and the Rate of Change (Slope) in Emotion and Behavior Regulation in the Treatment Group*

| Outcome measures | T1 | T2 | T3 | T4 | Cohen's *d* | Intercept | Slope | Intercept (V) | Slope (V) |
|---|---|---|---|---|---|---|---|---|---|
| | M (SD) | M (SD) | M (SD) | M (SD) | | | | | |
| Emotion Regulation | | | | | | | | | |
| Cognitive Reappraisal | 26.19 (8.38) | 27.57 (6.90) | 28.50 (7.91) | 28.56 (6.16) | 0.32 | 28.52*** | 2.46** | 14.99 | 3.87 |
| Expressive Suppression | 16.19 (5.52) | 16.27 (5.16) | 14.50 (5.43) | 9.84 (4.87) | 1.21 | 16.90*** | -1.63*** | 7.81*** | 1.97** |
| Behavior Regulation | | | | | | | | | |
| Number of disciplinary infractions | 2.00 (2.87) | 0.77 (1.76) | 0.33 (1.28) | - | 0.75 | 1.59*** | -0.62*** | 3.81*** | 0.74*** |
| Number of days in punishment | 14.02 (8.70) | 7.03 (5.93) | 2.30 (7.71) | - | 1.42 | 13.93*** | -5.67*** | 15.96*** | 16.95*** |

*Note*. Emotion regulation outcome measures were collected in four timepoints: pre-treatment (T1), mid-treatment (T2), post-treatment (T3) and follow-up (T4). Effect sizes (Cohen's *d*) were calculated for the difference between T1 and T4. Behavior regulation outcome measures were collected for three time-intervals: during the 12 months before the beginning of the program (T1), during the GPS's 12-month length (T2) and during the 12 months after GPS completion (T3). Effect sizes (Cohen's *d*) were calculated for the difference between T1 and T3.

Intercept (V) = variance of the intercept; Slope (V) = variance of the slope.

**p < .01; ***p < .001.

Table 5. *Unconditional Model of the Initial Status (Intercept) and the Rate of Change (Slope) in Emotion and Behavior Regulation in the Control Group*

| Outcome measures | T1 M (SD) | T2 M (SD) | T3 M (SD) | T4 M (SD) | Cohen's *d* | Intercept | Slope | Intercept (V) | Slope (V) |
|---|---|---|---|---|---|---|---|---|---|
| Emotion Regulation | | | | | | | | | |
| Cognitive Reappraisal | 26.82 (6.89) | 26.39 (7.05) | 25.30 (9.27) | 21.37 (8.99) | 0.68 | 22.24*** | -2.17*** | 15.04 | 6.70** |
| Expressive Suppression | 17.45 (4.86) | 18.09 (5.56) | 17.10 (5.51) | 18.26 (4.97) | 0.16 | 17.53*** | 0.11 | 12.08*** | 2.01** |
| Behavior Regulation | | | | | | | | | |
| Number of disciplinary infractions | 2.16 (3.85) | 2.63 (4.82) | 3.03 (4.88) | - | 0.19 | 2.16*** | 0.45 | 10.99*** | 4.32*** |
| Number of days in punishment | 12.92 (2.84) | 13.69 (2.44) | 16.43 (3.55) | - | 1.70 | 10.92*** | 2.75*** | 18.92*** | 17.08*** |

*Note*. Emotion regulation outcome measures were collected in four timepoints: pre-treatment (T1), mid-treatment (T2), post-treatment (T3) and follow-up (T4). Effect sizes (Cohen's *d*) were calculated for the difference between T1 and T4. Behavior regulation outcome measures were collected for three time-intervals: during the 12 months before the beginning of the program (T1), during the GPS's 12-month length (T2) and during the 12 months after GPS completion (T3). Effect sizes (Cohen's *d*) were calculated for the difference between T1 and T3.

Intercept (V) = variance of the intercept; Slope (V) = variance of the slope.

**p < .01; ***p < .001.

Table 6. *Conditional Model with Condition as Predictor of the Initial Level (Intercept) and Rate of Change (Slope) in Emotion and Behavior Regulation*

| | *Intercept* | | *Slope* | |
|---|---|---|---|---|
| Outcome measures | B | *P* | B | *p* |
| Emotion Regulation | | | | |
| Cognitive Reappraisal | -1.37 | .110 | 2.09 | < .001 |
| Expressive Supression | -0.79 | .245 | -1.80 | < .001 |
| Behavior Regulation | | | | |
| Number of disciplinary infractions | -0.23 | .574 | -1.30 | < .001 |
| Number of days in punishment | 3.03 | .129 | -8.26 | < .001 |

**Conditional models with treatment dosage as predictor of the rate of change in the treatment group.** Conditional models with treatment dosage (i.e., < 32 sessions vs. ≥ 32 sessions) as predictor of the rate of change in emotion and behavior regulation were also analyzed in the treatment group. As previously specified, participants that completed at least 32 sessions were considered completers. In turn, participants that attend less than 32 sessions were considered noncompleters.

All conditional models presented good fit indices to the data (see Table 3). Results showed that treatment dosage was a significant predictor of change over time observed in the outcome measures. Specifically, completers showed a greater increase in cognitive reappraisal (B = 2.12, $p$ = .008), and a greater decrease in expressive suppression (B = -2.99, $p$ = .023), number of disciplinary infractions (B = -1.18, $p < .001$), and number of days in punishment (B = -4.56, $p < .001$), when compared with noncompleters.

**Intervention effects in emotion and behavior regulation in accordance with the per-protocol approach**

In addition to the intent-to-treat analysis, latent growth curve unconditional and conditional models were also carried out in accordance with the per-protocol approach.

**Unconditional models in the treatment group.** Concerning the rate of change observed in emotion regulation outcomes, results showed, on one hand, that cognitive reappraisal increased over time (S = 2.05, $p < .001$) and, on the other hand, expressive suppression decreased over time (S = -1.94, $p < .001$) in treatment participants who fulfilled the protocol. Regarding behavior regulation outcomes, results showed that the number of disciplinary infractions (S = -0.57, $p < .001$), as well as the number of days in punishment (S = -5.87, $p < .001$) decreased over time.

**Unconditional models in the control group.** For the emotion regulation outcomes, results pointed out to a significant decrease in cognitive reappraisal (S = 2.41, $p < .001$) in controls who fulfil the protocol. Concerning the expressive suppression, the slope was

nonsignificant (S = 0.29, $p$ = .191), showing no change over time. For the behavior regulation outcomes, while the number of disciplinary infractions showed no change over time (S = 0.57, $p$ = .227), the number of days in punishment increased over time (S = 3.29, $p$ = .008).

**Conditional models with group as a predictor of the growth factors.** Results showed that condition was a significant predictor of change over time observed in all the outcome measures. When compared with the control group, the treatment group showed, not only a greater increase in cognitive reappraisal (B = 2.34, $p < .001$), but also a greater decrease in expressive suppression (B = -2.24, $p < .001$), number of disciplinary infractions (B = -1.49, $p < .001$), and number of days in punishment (B = -8.49, $p < .001$) over time.

**Conditional models with treatment dosage as predictor of the rate of change in the treatment group.** Results showed that treatment dosage was a significant predictor of change over time observed in the outcome measures. The completers showed a greater increase in cognitive reappraisal (B = 1.83, $p < .001$), and a greater decrease in expressive suppression (B = -2.07, $p < .001$), number of disciplinary infractions (B = -1.54, $p < .001$), and number of days in punishment (B = -4.52 $p < .001$) when compared with noncompleters.

## Discussion

A randomized controlled trial has been conducted in Portuguese prisons in order to assess the efficacy of the Growing Pro-Social (GPS) program with male prison inmates. Previous studies (Brazão et al., 2015a, 2015b, 2017, 2018) have already confirmed the GPS efficacy in reducing cognitive distortions and the endorsement of early maladaptive schemas, as well as anger, shame, and paranoia. However, these studies did not assess behavioral change, namely disciplinary infractions committed by inmates, or emotion regulation outcomes that research has shown to be associated with prison misconduct (Fishbein et al., 2009; Roberton et al., 2014). Moreover, these same studies relied only on self-report methods, thus, not including observable outcome measures. The current study tried to address this issue and consisted in a secondary data analysis collected from inmates who participated in the RCT.

This study's main goal was to test the efficacy of the GPS program in promoting emotion and behavior regulation in male prison inmates. Specifically, it was tested the program's ability to, on one hand, increase cognitive reappraisal (adaptive emotion regulation strategy) and, on the other hand, decrease expressive suppression (maladaptive emotion regulation strategy) over time. It was also assessed the GPS impact in reducing disciplinary infractions (the number of disciplinary infractions and the number of days in punishment) committed by inmates. To our best knowledge, this was the first study to test the efficacy of a structured cognitive-behavioral group program in promoting emotion regulation (beyond anger control) and behavior regulation, adding to self-report measures direct and observable behavior.

Data on recruitment and retention, showed that most treatment participants completed the program. It is noteworthy that only a small number of inmates dropped out the program, suggesting that GPS's length and methodology accounted for the favorable program retention. Attrition rates in the treatment group were mainly due to external variables (e.g.,

transference to another prison, parole) that researchers could not control. The same tendency was observed in the control group, although a considerable number of inmates refused to complete assessments. Taking into account that including only completers in the analyses would introduce bias into the findings (Antonio & Crosset, 2017), an intent-to-treat analysis was followed and all participants (including the noncompleters) were included in subsequent analyses. Nonetheless, analyses were also carried out in accordance with the per-protocol approach, in order to assess treatment effects in the participants who fulfilled the protocol.

Comparisons between the treatment and the control group on demographic and criminal features revealed nonsignificant differences between conditions. The same result was obtained when comparing groups in the outcome measures at baseline. These results sustained that the process of randomization was successful, which allowed for reliable conclusions on the predictor effect of condition on the rate of change observed in emotion and behavior regulation over time.

Results from latent growth curve models (in accordance with both intention-to-treat and per-protocol approaches) showed that condition was a significant predictor of change over time observed in all outcome measures. Concerning emotion regulation, and for cognitive reappraisal, while the treatment group showed a significant increase, controls presented a decrease over time. A different tendency was observed for expressive suppression, that is, while the treatment group presented a significant decrease, the control group showed no change over time. These results support the assumption that GPS is capable of promoting emotion regulation, which is one of the program's main goal (although this goal is pursued throughout all modules, it is specially addressed during the Module 4, Function and Meaning of Emotions). In these sessions, participants were guided to discover the richness and diversity of the human emotional experience, looking at emotions as serving an evolutionary purpose. All emotions were conceptualized as adaptive and useful for human survival, and for the adaptation of any human being throughout the life span. In this sense, there are no negative emotions, but instead, emotional responses that should be adjusted to specific contextual needs. By leading participants in the experience of different emotions, and increasing knowledge about their usefulness, GPS tries to promote emotion regulation in everyday life situations (Brazão et al., 2013; Rijo et al., 2007). This specific work may be responsible, on one hand, for an increased cognitive reappraisal which involves constructing a potentially emotion-eliciting situation in a way that changes its emotional impact, and on the other hand, for a decreased expressive suppression in which the individual inhibits emotion-expressive behaviors (Gross, 2013, 2014; Gross & John, 2003).

The stability or worsening observed for emotion regulation strategies over time in controls may be explained by the inmate's dysfunctional beliefs about emotions, namely beliefs stating that expressing emotions could be dangerous because it sends a message of weakness and vulnerability to others, thus becoming potential victims of abuse by other inmates or even correctional officers. These dysfunctional beliefs may be reinforced by the current aggressive status of prison interpersonal culture (e.g., Dante, 2012). In this sense, inhibiting emotions and

emotion-expressive behaviors could be an adaptive response to a perceived harsh environment. In contrast, results in the treatment group suggested that GPS may have had a positive effect in these dysfunctional beliefs, thus promoting emotion regulation and interpersonal adjustment inside prison.

Concerning behavior regulation, results showed that the number of disciplinary infractions and the number of days in punishment significantly decreased over time in the treatment group. In turn, the control group showed no change or a worsening in those same variables over time. These results pointed out the GPS's ability to reduce, not only disciplinary infractions committed by inmates, but also the number of days inmates were in punishment. Therefore, GPS achieved the ultimate goal of any intervention program that, as pointed by several authors (e.g., McGuire, 2011, 2013), should be changing actual behavior. Further, these outcomes were directly observable and quantifiable, thus not relying on self-report measurement methods.

Considering the empirical evidence on the association between aggressiveness and emotion regulation difficulties (Ammerman et al., 2015; Cohn et al., 2010; McLaughlin et al., 2011; Roll et al., 2012; Tager et al., 2010; Velotti et al., 2016), these results are concurrent with findings in emotion regulation outcomes, which stressed the need to address both behavior and emotion regulation in treatment programs for offenders (Fishbein et al., 2009; Roberton et al., 2014). Moreover, improvements for both emotion and behavior regulation outcomes were maintained over time (12 months after GPS completion), suggesting that those who participated in the program continued to use and consolidate the strategies learned along the intervention. Promoting behavior and emotion regulation seems paramount, taking into account that behavior and emotion regulation difficulties may compromise inmate's adhesion to penitentiary treatment (Brazão, da Motta, Rijo, & Pinto-Gouveia, 2015). The implications of the reported results are of considerable relevance to the current practices in the justice system. Fewer disciplinary infractions and, consequently, fewer days in punishment (or in segregation, if the inmate committed a violent offense) have been found to be associated with increased offender's mental health and well-being (Dante, 2012; Marcum et al., 2014). Beyond these issues related directly to inmates, correctional institutions largely devoid of inmate misconduct may also feature more efficient management. Staff members may be less burdened with detection, documentation, and resolution of inmate disciplinary infractions, which may allow them to become more productive by devoting more time to additional responsibilities (Tewksburry et al., 2014). This may contribute to reducing costs associated with employing large numbers of correctional officers and may offset the negative impact of high staff member turnover rates (Auty et al., 2017; Memory et al., 1999). Safer correctional institutions are also likely to be more attractive workplaces to both current and future prison employees (Marcum et al., 2014). Moreover, fewer incidents of inmate misconduct may lead to reduced costs associated with the negative repercussions of such behavior, such as inmate and staff member injury and destruction of prison property and infrastructure (Tewksburry et al., 2014). Finally, penitentiary treatment resort less to punitive strategies that a considerable amount of research

has shown to be associated with increased recidivism (Andrews & Bonta, 2010a, 2010b; Bonta et al., 2011; Bonta & Wormith, 2013; McGuire, 2011, 2013).

Results on the control group (who showed no change in the number of disciplinary infractions and a worsening in the number of days in punishment) suggested that the treatment as usual in Portuguese prisons may not be effective enough to promote a desirable change at this level, which raises the question of whether treatment as usual work toward rehabilitation or may be bolstering psychological and emotional processes related to maladaptive behavior (Ashkar & Kenny, 2008; Constantine et al., 2012; Lambie & Randell, 2013; Morgan et al., 2012). In contrast, results in the treatment group support the idea that it is possible to achieve emotion and behavioral (observable) change with structured interventions (Andrews & Bonta, 2010a, 2010b; Bonta & Wormith, 2013; Holin, Palmer, & Hatcher, 2013; McGuire, 2011, 2013), and that the GPS is an appropriate intervention program in changing emotion and behavioral patterns underlying aggressiveness.

Finally, analyses on treatment dosage as predictor of change over time in the treatment group showed that completers (i.e., participants that completed at least 32 sessions) presented, on one hand, a greater increase in cognitive reappraisal and, on the other hand, a greater decrease in expressive suppression when compared with noncompleters (i.e., participants that attended less than 32 sessions). Results also showed that completers showed a greater decrease in the number of disciplinary infractions, as well as in the number of days in punishment, when compared with noncompleters. These findings stress the need for facilitators to engage inmates with the full treatment, in order to optimize the GPS's effects. This issue is especially relevant, taking into account that research has shown that noncompleters reoffend at a higher rate than treatment completers (Bennett, Stoops, Call, & Flett, 2007; Kroner & Takahashi, 2012; Prendergast, Hall, Wexler, Melnick, & Cao, 2004).

One limitation of the current study has to do with the fact that no systematic quality control procedures of the program's delivery were carried out. As previously stated, recording sessions or the presence of external assessors in sessions were not allowed in prisons. Researchers tried to overcome this issue by training and supervising the GPS's facilitators during 12 months (program's length). Moreover, the GPS's structured and manualized design, as well as the simultaneous presence of two experienced therapists in sessions ensured, at least partially, treatment fidelity.

Further research is need in order to advance current knowledge about GPS's effects over emotion and behavior regulation. Future studies on causal mechanisms of change that inform about the mechanisms of change underlying the improvements observed in emotion and behavior regulation seems of the utmost importance. Taking into account the individual variability of change observed in emotion and behavior regulation over time in the current study, future studies should test for relevant variables that could explain this same variability. Testing moderators of treatment effects is another relevant topic to be addressed in further research. The effects of the GPS over criminal recidivism rates should also be addressed in future studies. Finally, replication of the present findings with other type of offenders (e.g.,

older male prison inmates — taking into account that the current study only included young adult offenders, aged between 18 and 40 years old — female offenders, juvenile offenders) and/or in other settings (e.g., community-based interventions), as well as in other countries, should be addressed in a way to warrant the generalizability of the current findings and confirm the GPS's positive effects. When delivering the GPS program with young and female offenders, the program's structure, modules and contents should be maintained. However, the language (especially in the case of young offenders), as well as the experiential exercises and practices should be adapted to the characteristics of these subgroups of offenders.

Overall, findings presented in this article sustained that the GPS program was effective in promoting emotion regulation, which have been identified as a relevant outcome to be addressed in treatment programs for offenders (Fishbein et al., 2009; Roberton et al., 2014). GPS also proved to be effective in reducing prison misconduct and disciplinary infractions, which contributes to a better interpersonal adjustment of inmates during imprisonment, as well as to a more efficient management of the prison system.

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## Estudo Empírico VI |

## Personality pathology profiles as moderators of the Growing Pro-Social Program outcomes on cognitive, emotion and behavior regulation in male prison inmates

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# Personality pathology profiles as moderators of the Growing Pro-Social Program outcomes on cognitive, emotion and behavior regulation in male prison inmates

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## Abstract

***Objective:*** This study consisted in a secondary analysis collected from inmates who participated in an independent randomized controlled trial, testing the effects of the Growing Pro-Social (GPS) Program. The current study assessed Personality Disorders as moderators of the GPS effects in cognitive malfunctioning, emotion regulation strategies and prison misconduct in male prison inmates.

***Method:*** Participants were 254 inmates randomly assigned to the GPS (n = 121) or the control group (n = 133). Participants completed self-report measures at four time-points and were interviewed with the SCID-II at baseline. Prison misconduct was collected from prison records.

***Results:*** Latent Profile Analysis identified four different personality pathology profiles. Mixed ANOVAs showed non-significant time x condition x personality pathology profiles effects, showing that change on the outcome measures was not affected by personality pathology.

***Conclusion:*** Findings suggested that severely disturbed inmates could benefit from the GPS program, which stresses the need to provide appropriate treatment to offenders.

*Keywords*: Growing-Pro-Social Program; male prison inmates; personality disorders; treatment moderators.

## Introduction

Prison inmates are known to be a population with a high prevalence of personality disorders (Brazão, da Motta, Rijo, & Pinto-Gouveia, 2015). The association between personality disorders and violent offenses is widely known and reported in several studies (Duggan & Howard, 2009; Gilbert & Daffern, 2011; Roberts & Coid, 2010; Short, Lennox, Stevenson, Senior, & Shaw, 2012; Warren & South, 2009; Yu, Geddes, & Fazel, 2012). Research with clinical and forensic samples has found that personality disorders, especially antisocial and borderline personality disorders, are predictors of violent behavior (e.g., Thornton, Graham-Kevan, & Archer, 2010). There is also emprical evidence that antisocial and impulsive personality traits are substancial risk factors for criminal recidivism among male adult offenders (Kennealy, Skeem, Walters, & Camp, 2010; Walters & Heilbrun, 2010; Walters, Knight, Grann, & Dahle, 2008).

Although personality pathology assessment procedures within forensic settings are emphasized in different clinical recommendations and checklists (Kropp, Hart, Webster, & Eaves, 1995; Tardiff, 2001; Webster, Douglas, Eaves, & Hart, 1997), it is still unclear to what extent personality disorders are acknowledged and recognized by prison health care services. Consequently, the opportunity to treat and rehabilitate personality-disordered inmates is often lost as a consequence of the lack of effective screening procedures or failure to provide an adequate intervention to inmate's mental health problems (Brazão et al., 2015a).

Most research has identified criminal recidivism reduction as the primary outcome of the efficacy of rehabilitation programs. Although the positive effects of the intervention programs over recidivism rates have usually been presented as a major requirement for the selection of effective intervention practices (e.g., McGuire, 2011, 2013), less is known about the change in other variables that research has also found to be associated with re-offending (Antonio & Crossett, 2017; Skeem, Polaschek, & Manchak, 2009), namely personality disorders (Gilbert & Daffern, 2013). A new trend in research has begun to identify and to assess other relevant variables as treatment outcome measures, namely cognitive and emotional correlates of antisocial behavior (Clarke, Cullen, Walwyn, & Fahy, 2010; Cullen et al., 2012; Emilsson et al., 2011; Redondo, Martínez-Catena, & Andrés-Pueyo, 2012).

In line with this new-wave of research, a randomized controlled trial (RCT) has been conducted in Portuguese prisons aiming to assess the efficacy of the Growing Pro-Social program (GPS; Rijo et al., 2007) in adult offenders. The GPS is a structured and manualized group program grounded in schema theory and intervention methods (e.g., Rafaeli, Bernstein, & Young, 2011; Young, Klosko, & Weishaar, 2003), designed to target offender's maladaptive behavioral patterns, disruptive emotions, and cognitive malfunctioning (cognitive distortions and early maladaptive schemas). Specifically, it aims to promote emotion and behavior regulation by changing the dysfunctional cognitive correlates of antisocial behavior (for a detailed description of the program, see the interventions section).

As previously specified, GPS is strongly based in schema therapy which was specifically designed for individuals with severe personality pathology, taking into account the poor

response that these patients tend to present to standard cognitive therapy (Beck, Davis, & Freeman, 2015; Rafaeli et al., 2011; Young et al., 2003). Schema therapy main goal is to promote change in dysfunctional core beliefs about the self and the others, i.e., early maladaptive schemas. Early maladaptive schemas – EMSs (Rafaeli et al., 2011; Young et al., 2003) have been defined as dysfunctional cognitive structures, developed in the early stages of life from toxic experiences with significant others. EMSs tend to remain unchanged over one's lifetime due to the individual's maintenance, avoidance, and compensation processes (for a review, see Rafaeli et al., 2011). EMSs have been studied as core cognitive constructs explaining the origins and maintenance of personality disorders (e.g., Carr & Francis, 2010; Lobbestael & Arntz, 2010; Razavi, Soltaninezhad, & Rafiee, 2012), including antisocial personality disorder. A study with personality disordered offenders (Chakhssi, Bernstein, & de Ruiter, 2012) found that mistrust/abuse and insufficient self-control EMSs were significantly related to antisocial behavior and psychopathy. In turn, Gilbert and Daffern (2013), found in an offender population a positive association between antisocial features and the impaired limits EMSs domain and between borderline symptoms and the disconnection/rejection EMSs domain. A more recent study (Shorey, Anderson, & Stuart, 2014) showed that schemas belonging to the disconnection/rejection domain, which includes mistrust/abuse, abandonment, emotional deprivation, defectiveness/shame and social isolation schemas, were positively associated with increased antisocial behavior. These results suggest that specific EMSs play an important role on the cognitive basis of antisocial personality disorder. Thus, EMSs should be selected as targets of change when intervening with offenders. Schema therapy has proven to be effective in reducing severe personality disorders malfunctioning (Farrell, Shaw, & Webber, 2009; Giesen-Bloo et al., 2006; Nadort et al., 2009; van Asselt et al., 2008), namely in male prison inmates. Keulen-de Vos, Bernstein and Arntz (2013) have made recommendations for the adaptation of schema therapy in forensic settings, and preliminary results of a multicenter randomized controlled trial in the Netherlands showed that schema therapy was capable of reducing recidivism risk and promoting re-integration into the community in antisocial, borderline, narcissistic and paranoid disordered offenders (Bernstein et al., 2012).

Emotion regulation difficulties have been associated with the prominence of EMSs, taking into account that, when activated, EMSs trigger patterns of intense disruptive emotions (Rafaeli et al., 2011; Young et al., 2003). Furthermore, research has shown that emotion regulation difficulties are associated with personality disorders, (Glenn & Klonsky, 2009; Putman & Silk, 2005; Stepp et al., 2014), and aggressive behavior (Ammerman, Kleimman, Uyeji, Knorr, McCloskey, 2015; Veloti et al., 2016). Tager and colleagues (2010) found that intimate partnership offenders with emotion regulation difficulties were more likely to abuse their partners. In turn, Roberton and colleagues (2014), showed that emotion dysregulated offenders reported more extensive histories of aggression than those with an adaptive emotion regulation style. More recently, emotion regulation difficulties have been proposed as underlying mechanisms within aggressiveness and institutional violence. Disciplinary infractions inside prisons are highly prevalent, which reduce order, threaten the security and custody, and

introduce significant costs to the entire correctional systems (Auty, Cope, & Liebling, 2017; Toman, Cochran, Cochran, & Bales, 2015). Taken together, these findings suggest that emotion regulation difficulties may play an important role on institutional violence, thus emphasizing the potential need to include complex emotion-related modules in treatment programs for offenders (Fishbein et al., 2009; Roberton et al., 2014). Moreover, personality disorders have been strongly associated with institutional violence and prison misconduct (Chakhssi et al., 2012; Kennealy, Skeem, Walters, & Camp, 2010; Walters & Heilbrun, 2010), which, in turn, compromises adhesion to the penitentiary treatment (Brazão et al., 2015a). Thus, it seems crucial to provide appropriate treatment to personality disordered inmates, in order to optimize the rehabilitation efforts.

The RCT on the GPS showed that the GPS program was effective in reducing the frequency of self-reported cognitive distortions and the prominence of early maladaptive schemas, as well as anger, shame and paranoia (Brazão et al., 2015b, 2015c, Brazão, Rijo, Salvador, & Pinto-Gouveia, 2017, 2018a). The GPS has also proven to be effective in reducing emotion regulation difficulties and disciplinary infractions inside prison (Brazão, Rijo, Salvador, & Pinto-Gouveia, 2018b). Nonetheless, these studies did not assess treatment moderators. As noted by different authors (e.g., Mascha, Dalton, Kurz, & Saager, 2013; Moldovan & Pintea, 2015), clinical research is about more than establishing that an effect exists. It is just important to identify treatment moderators (Hayes & Rockwood, 2017). Treatment moderators clarify for whom and under what conditions the treatment works. They can be helpful, for instance, in choosing inclusion and exclusion criteria and identifying which patients might be more or less responsive to the delivered treatment. Information of moderators can thus guide differential treatment selection and planning (Manders, Dekovié, Asscher, van der Lan, & Prins, 2013).

Despite extensive research on the prevalence of personality disorders in prison inmates and empirical data suggesting that individuals with severe personality pathology are less responsive to treatment (Beck et al., 2015; Levenson, Wallace, Fournier, Rucci, Frank, 2012; Moran & Crawford, 2013; Rafaeli et al., 2011) and are more likely to re-offend (Kennealy et al., 2010; Walters & Heilbrun, 2010; Walters et al., 2008), there is a lack of studies/RCTs testing personality disorders as moderators of treatment effectiveness in offenders. The current study intended to fill this gap and consisted of a secondary data analysis collected from inmates who participated in an independent RCT on the efficacy of the GPS program. This study added to the previous research by examining the role of personality disorders as moderators of the GPS effects in cognitive malfunctioning (cognitive distortions and early maladaptive schemas), emotion regulation strategies (expressive suppression and cognitive reappraisal) and prison misconduct (number of disciplinary infractions and number of days in punishment) over time in male prison inmates. Inmates with severe personality pathology were expected to be less responsive to the GPS treatment and, consequently, would present lower improvements on cognitive, emotion and behavior regulation, when compared with inmates with mild and/or moderate personality pathology. Additionally, controls with severe personality pathology were

expected to present a worsening on cognitive, emotion and behavior regulation over time, when compared with controls with mild and/or moderate personality pathology.

## Method

### Trial design and participants

Data were collected in the context of a large randomized controlled trial, aimed to assess the GPS efficacy. A detailed description about sample characteristics, study design, interventions, and main treatment outcomes findings is provided elsewhere (Brazão et al., 2017, 2018a, 2018b). The study was conducted in nine Portuguese prisons and included 254 male prison inmates aged between 18 and 40 years old. The initial selection of participants obeyed to the following exclusion criteria: (1) cognitive impairment (because GPS is not suitable for the cognitively-impaired); (2) psychotic disorders (the experiential exercises used in the program are contraindicated for psychotic patients); (3) being treated for substance abuse/dependence (cessation or at least substantial reduction of substances use must precede GPS treatment); (4) being sentenced exclusively for sexual offenses (sex offenders would benefit from more specific intervention programs); and (5) remaining in prison less than 24 months since the beginning of the program (taking into account GPS's 12-month length and 12-month follow-up assessment). Female offenders were also excluded from the sample because women represent less than 6% of the total inmates in Portugal, and any possible idiosyncrasies from this cohort would be underrepresented.

**Sample size.** A power analysis was conducted with the G*Power v3.1 software (Faul, Erdfelder, Buchner, & Lang, 2009). Results showed that a sample of 203 inmates was necessary to detect medium effects with a significance level of .05 and a power of .90.

### Interventions

GPS is a manualized program of 40, 90-minute, sessions which runs on a weekly basis. Sessions must be delivered by two therapists who should be skillful in cognitive-behavioral techniques and schema therapy. The GPS's structure follows a progressive strategy of change, which begins by: (1) increasing knowledge about the nature and ambiguities of human communication, (2) changing maladaptive behavioral patterns in specific interpersonal contexts, (3) learning about cognitive distortions and counteracting their influence in the attribution of meaning to events, (4) experiencing and understanding the function and meaning of emotions and their influence on human behavior, and (5) learning about early maladaptive schemas and fighting against their influence on thoughts, emotions and behaviors. This gradual strategy of change requires the program to be delivered in a predefined sequence of five modules (preceded by an initial session for the presentation of the program): (1) human communication, (2) interpersonal relationships, (3) cognitive distortions, (4) meaning and function of emotions, and (5) early maladaptive schemas (see Table 1). GPS ends with a final session, and follow-up sessions can be carried out afterwards.

Table 1. *GPS Modules and Contents*

| Modules | Number of sessions | Contents summary |
| --- | --- | --- |
| Initial session | 1 | Presentation of the participants, the structure and the methodology of the program. |
| 1. Human communication | 5 | The communication process and its obstacles; verbal and nonverbal communication skills, the ambiguity of human communication; the (in)congruences between digital and analogical languages. |
| 2. Interpersonal relationships | 10 | Behavioral styles (assertive, aggressive, passive and manipulative) in relationships; self-concept and interpersonal behavior; ideas about the others and interpersonal behavior; specific interpersonal contexts and assertive behavior; negotiation as a strategy to deal with conflicts. |
| 3. Cognitive distortions | 6 | Understanding cognitive distortions (thinking errors); identifying and changing cognitive distortions: Selective Abstraction, Overgeneralization, Mind Reading, Crystal Ball, Minimization, Disqualifying the Positive Experiences, Dichotomous Thinking, Labeling and Personalization. |
| 4. Function and meaning of emotions | 7 | The diversity of the emotional experience; the nature and function of emotions: sadness, shame, fear, anger, guilt, and happiness. |
| 5. Early maladaptive schemas | 10 | Early maladaptive schemas and their influence in giving meaning to reality; identifying and changing early maladaptive schemas: Failure, Social Isolation, Mistrust/Abuse, Defectiveness/Shame, Emotional Deprivation, Abandonment/Instability, Grandiosity; fighting schema's influences in thoughts, emotions, and behavior. |
| Final session | 1 | Reflection and consolidation of learning, and generalization of gains made during the program. |

*Note*. Adapted from "From multimodal programs to a new cognitive-interpersonal approach in the rehabilitation of offenders," by N. Brazão, C. da Motta and D. Rijo, 2013, *Aggression and Violent Behavior*, *18*, 640.

In Module 1, participants learn about the communication processes, are challenged to identify its obstacles (e.g., the incongruences between verbal and non-verbal language), and to cope with those same obstacles in a healthy and prosocial way. In Module 2, the participants are guided to discover the advantages of assertiveness over aggressiveness, and they are challenged to behave assertively in specific interpersonal contexts (e.g., saying no, asking for help, apologizing) and to use negotiation skills to cope with interpersonal conflicts. In Module 3, participants are encouraged to understand the way our mind processes social information. Cognitive distortions are identified, and participants are trained to think in a more realistic way about relevant daily events. In Module 4, participants are guided to understand the function and meaning of emotions, namely its adaptive value. Participants are also challenged to understand the link between their problems and emotion regulation difficulties. In Module 5, early maladaptive schemas are identified as well as their influence over the attribution of meaning to events and the triggering of disruptive emotions. Participants are encouraged to fight against their own schemas, diminishing the schema's influence over thoughts, emotions and behavior.

All sessions include experiential exercises, and participants are encouraged to achieve insight through systematic questioning about the reactions noticed during activities (guided discovery approach), and to apply this knowledge to real life scenarios. Homework assignments between sessions are also included, in which participants are asked to use the strategies learned in everyday life situations in the following week.

The treatment group attended the GPS program for about 12 months, in addition to the Treatment As Usual (TAU) delivered at Portuguese prisons: supervision of school frequency, occupational and job-related tasks, sentence planning supervision over time, and counselling by a psychologist in a regular basis (once per week). Participants in the control group received TAU and did not attend the GPS program or any other kind of structured intervention during the research period.

**Outcome measures**

In order to assess the GPS efficacy on cognitive and emotion regulation, participants completed self-report measures of maladaptive/adaptive thinking, early maladaptive schemas and emotion regulation strategies in four time-points: baseline, mid-treatment (after the 20$^{th}$ session of the program), post-treatment, and follow-up (12 months after GPS completion). Assessors did not serve as therapists (and vice-versa) in the trial and were blind to condition assignment or any personal information of participants.

**ACS – Angry Cognitions Scale.** The ACS (Martin & Dahlen, 2007; Portuguese version by Leal, 2008): it includes 54 items distributed across nine scenarios (e.g., "'You are waiting in a long line at the grocery store when another person enters the line in front of you''). Participants are asked to imagine that the situation described in each scenario had just happened to them, and then are presented with six items referring to different thoughts that could arise during the situation that correspond to the five thinking errors or cognitive distortions, namely: (1)

Misattributing Causation; (2) Overgeneralization; (3) Inflammatory Labeling; (4) Demandingness; and (5) Catastrophic Evaluation (for a definition of each one of these errors, see Martin & Dahlen, 2007). The remaining item in each scenario refers to Adaptive Processes (adaptive thinking). Each item is rated on a five-point Likert-type scale (1 = *very unlikely* to 5 = *very likely*).

The original version of the ACS presented good internal consistency values, with alphas ranging between .82 and .91 for each of the five thinking errors subscales, and an alpha of .79 for the subscale corresponding to Adaptive Processes (Martin & Dahlen, 2007). In a Portuguese study with male prison inmates, only two factors were identified – Maladaptive Processes and Adaptive Processes, with Cronbach's alphas of .93 and .77, respectively (Leal, 2008).

In the current study, the Maladaptive Processes factor presented an alpha of .94. and the Adaptive Processes an alpha of .78.

**YSQ-S3 – Young Schema Questionnaire.** The YSQ-S3 (Young, 2005; Portuguese version by Pinto-Gouveia, Rijo, & Salvador, 2006) is a self-report measure with 90 items that assesses the 18 EMSs proposed by Young (1990). Each EMS is evaluated with a set of five items listed randomly, which the respondent rates using a Likert-type scale from 1 (*completely untrue to me)* to 6 (*describes me perfectly*). The YSQ-S3 has been widely investigated and has shown good psychometric properties (e.g., Rijkeboer, Bergh, & Bout, 2005). In the Portuguese version, a structure of 18 factors with moderate item-total correlations and high internal consistency (α = .97) was found (Rijo, 2009, 2017).

In the present study, only the eight EMSs proposed as underlying antisocial behavior by the GPS theoretical model (Rijo et al., 2007) were considered. The total score (resulting from the sum of the eight EMSs) internal consistency was .89. As for the specific EMSs, the internal consistency was .83 for emotional deprivation, .78 for abandonment/instability, .84 for mistrust/abuse, .78 for social isolation/alienation, .76 for defectiveness/shame, .81 for failure, .89 for grandiosity/entitlement and, finally, .75 for insufficient self-control/self-discipline.

**ERQ – Emotion Regulation Questionnaire.** The ERQ (Gross & John, 2003; Portuguese version by Dinis & Pinto-Gouveia, 2007) is a 10-item self-report questionnaire that assesses two different emotion regulation strategies: cognitive reappraisal (e.g., "When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm") and expressive suppression (e.g., "I control my emotions by not expressing them"). Respondents answer each item on a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). The original version of the ERQ presented good internal consistency values, with alphas of .79 for the cognitive reappraisal subscale and .73 for the expressive suppression subscale (Gross & John, 2003). In the Portuguese version, the Cronbach's alpha was .80 for both cognitive reappraisal and expressive suppression (Dinis & Pinto-Gouveia, 2007). In the current study, internal consistency values were .76 for cognitive reappraisal and .72 for expressive suppression.

**Disciplinary infractions grid**. In order to assess the GPS efficacy in reducing disciplinary infractions (observable behavior), researchers developed a grid and collected the following

data from prison records: total number of disciplinary infractions (e.g., work-absence, defiant/oppositional behavior, aggressive and violent behavior, destruction of prison property, alcohol/drug-related offenses) committed by each inmate; and the total number of days each inmate was in punishment. These data were collected for three time-intervals: during the 12 months before the beginning of the GPS sessions, during the program's 12-month length and during the 12 months after treatment completion. The average number of disciplinary infractions and the average number of days in punishment for each time-interval were computed and taken as indicators of behavior (dys)regulation.

### Moderator measure

In order to investigate personality disorders as treatment moderators, participants from treatment and control groups were interviewed with the SCID-II – Structured Clinical Interview for DSM-IV Axis II Personality Disorders (First, Gibbon, Spitzer, Williams, & Benjamim, 1997; Portuguese version by Pinto-Gouveia, Matos, Rijo, Castilho, & Salvador, 1999) at baseline.

The SCID-II is a semi-structured diagnostic interview which assesses 10 Axis II Personality Disorders from the DSM-IV (APA, 2000), and the Depressive and Passive-Aggressive Personality Disorders (included in DSM-IV's appendix). It can be used to diagnose Axis II Disorders categorically (present or absent) and dimensionally (according to the number of criteria met for each diagnosis). The SCID-II also provides a summary with a pathology profile of scores over the assessed Personality Disorders, allowing the interviewer to decide which disorder should be the major focus of clinical attention (main diagnosis).

In the current study, dimensional PD scores were calculated by summing up the items answered with 'present' for each PD, dismissing items that were scored 'uncertain' or 'absent'. Due to time and economic restrictions, PD diagnoses were only assessed by one rater, so inter-rater reliability could not be tested. In order to minimize possible bias, assessors had experience in the assessment and treatment of personality disorders in antisocial individuals and received regular supervision during the time SCID-II was administered in prisons.

### Procedures

As previously specified, the current study consisted in a secondary data analysis collected from inmates that participated in a randomized controlled trial, that was designed in accordance with the CONSORT guidelines (Moher et al., 2010) and registered at ClinicalTrials.gov (ID: NCT03013738). The study was also approved by the Ethics Committee of the Faculty of Psychology and Educational Sciences of the University of Coimbra where the Research Center is based. Additionally, researchers sought authorization by the Portuguese Data Protection Authority, in order to assure data protection from all participants involved in the study.

After the approval by the Head of the General Directorate of Reintegration and Prison Services of the Portuguese Ministry of Justice, a large sample of participants was randomly selected using a random number table by a research assistant who was blind to any personal

information about each inmate. Then, a meeting between the research team and the randomized inmates occurred, in which researchers explained the goals of the study, presented a brief overview of the treatment program and invited inmates to participate voluntarily.

Participants who agreed to participate, gave written informed consent, completed the self-report measures and the SCID-II at baseline assessment, and were randomly assigned to treatment conditions (treatment and control groups) using a random number table by a research assistant who was blind to any information about each participant. Afterwards, the research team informed the psychologists in each prison of the result of the randomization so that GPS could be initiated.

GPS's facilitators received training and regular supervision by the research team (including the program's main author) during the time GPS was run in prisons. As a strategy to increase treatment integrity, the GPS sessions were carried out by two therapists. While one therapist was leading the session, the other one observed the implementation and helped in keeping it close to the program handbook. This second therapist only intervened when the first one deviated from the protocol, and an established codebook for helping this therapist determine what counted as a deviation (e.g., discussing topics not related or irrelevant to the session's goals) was provided in the GPS's handbook. Quality control procedures, such as recording sessions and/or the presence of external assessors in the GPS sessions, were not allowed in prisons.

**Data analysis**

Data analyses were carried out in accordance with the intention-to-treat analysis. Preliminary analyses included comparisons between the treatment and control groups on the prevalence of personality disorders (i.e., frequency of global prevalence, main diagnosis and number of diagnosis), which were conducted with chi-square statistics (taking into account the nature of the data) using the IBM SPSS Statistics v22.0. Then, Mplus v7.4 was used to conduct Latent Profile Analysis (LPA), in order to identify different personality pathology profiles based on: (1) the number of diagnostic criteria met for Antisocial Personality Disorder and (2) the number of Personality Disorders diagnosed in each participant.

LPA is a variant of Latent Variable Mixture Modeling, i.e., a person-centered analytic tool, which focuses on similarities and differences among people on observed continuous variables (McLachlan & Peel, 2004). The first step on LPA was to determine the number of classes with well-defined differentiated profiles, starting with a one-class model. The number of classes was then increased until there was no further improvement in the model (Lubke & Muthén, 2007). To avoid Local Likelihood Maxima, we increased the sets of random start values to 3000 and the number of iterations to 100, always checking the replicability of best log likelihood value (Morin, 2016). The adjustment of the models and the decision about model selection was judged in accordance with the guidelines by Ram and Grimm (2009). Firstly, we examined the output of each model estimated and searched for potential problems or inconsistencies. Secondly, we compared models with different numbers of classes using

Information Criteria (IC) based fit statistics; i.e., Bayesian Information Criteria (BIC; Schwartz, 1978), Akaike Information Criteria (AIC; Akaike, 1987), and Sample-Size-Adjusted BIC (SSA-BIC; Sclove, 1987). Lower values on these fit statistic indices (especially on BIC; Nylund, Asparouhov, & Muthen, 2007) indicate better model fit. Thirdly, we examined Entropy values, which assess the accuracy with which models classify individuals into their most likely class. Entropy ranges from 0 to 1, with values superior to .70 indicating clear classification and greater power to predict class membership (Muthen, 2001). Fourthly, we tested the statistical significance to determine whether a more complex model (*k* classes) was able to fit the data significantly better than a more parsimonious model (*k* – 1 classes), by using the Lo-Mendell-Rubin test (LMR; Lo-Mendell-Rubin, 2001) and the Bootstrap Likelihood Ratio Test (BLRT; McLachlan & Peel, 2004). Non-significant *p*-values, both in the LMR and in the BLRT tests, indicate that a model with one fewer class is preferred. Fifthly, we considered the sample size of the smallest class, specifically, models with a class < 1% and/or numerically n < 25 members should be rejected (Bauer & Curran, 2004). Finally, and taking into account that LPA is a probabilistic approach, we also considered average probabilities of class membership equal to or larger than .80 (Rost, 2006), which indicate a good class solution.

Following the LPA procedure in which four personality pathology profiles were found (see Results section), and in order to investigate personality disorders as moderators of the GPS effects on cognitive, emotion and behavior regulation, mixed ANOVAs with time as the within-group factor and condition and personality pathology profiles as the between-group factors were carried out using the IBM SPSS software. Analyses yielding a significant time x condition x personality pathology profiles effect on the outcome measure indicated that personality pathology was a moderator. Effect sizes were computed using partial eta squares ($\eta^2_p$), with $\eta^2_p$ = .01 referring to a small effect size, .06 to a medium effect size and .14 to a large effect size (Tabachnick & Fidell, 2013).

## Results

### Recruitment and retention

Using CONSORT criteria (Moher et al., 2010), a flow diagram of inmate participation was created (see Figure 1). From the 270 male prison inmates that were invited to participate voluntarily, 16 (5.9%) declined to participate and 254 (94.1%) were randomly assigned to treatment and control groups. Of the 121 inmates randomized to GPS, 69 (57.0%) completed the protocol (i.e., baseline, mid-treatment, post-treatment and follow-up assessments). Only 17 (14.0%) inmates dropped out the program, and attrition rates were mainly due to transference to another prison or parole. From the 121 treatment participants, 78 (70.6%) attended more than 32 sessions[23], 18 (14.8%) attended between 31 and 21 sessions, 12 (9.9%)

[23]A cut-off of ≥ 32 session (80% of attendance) was used to classify participants as completers, following the recommendations by Cullen and colleagues (2012).

attended between 20 and 11 sessions, and eight (4.7%) attended less than 10 sessions. Inmates attended in average 30 sessions (M=30.18; SD=11.45) of the program. From the 133 controls, 67 (50.3%) fulfilled the protocol. As in the treatment group, attrition rates were due to transference to another prison or parole, although a considerable number of controls refused to complete assessments (namely between the mid-treatment and follow-up assessments). There was no difference in the distribution of completer categories (completer *vs* non-completer) across the groups ($\chi^2$ = .997; *p* = .318; *Cramer's V* = 0.06).

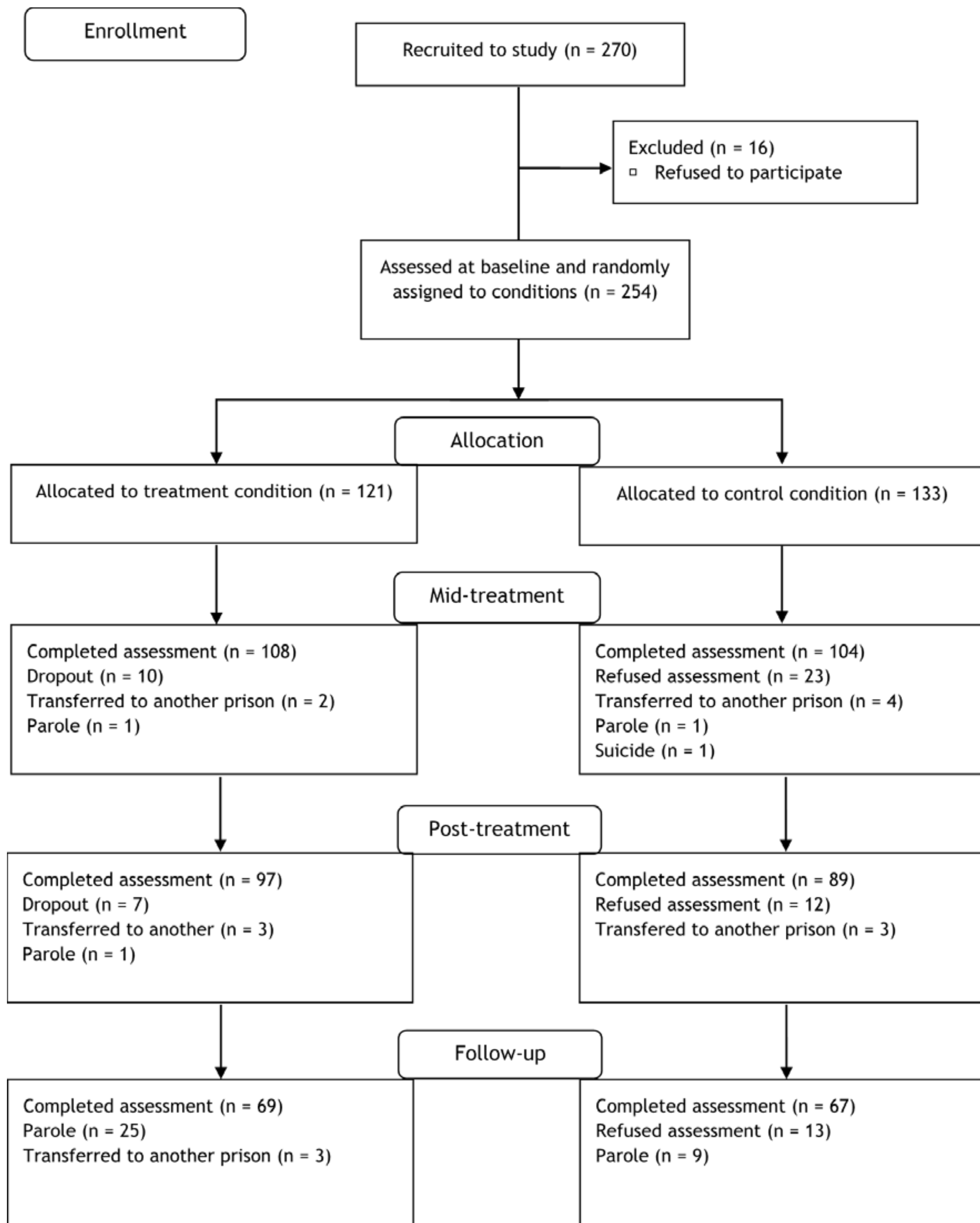


*Figure 1.* Flowchart of inmate participation

**Baseline differences**

The treatment and the control group were compared on demographic and criminal characteristics, and no significant differences were found (all $p > .05$). Most inmates were 28 years of age, were single and came from a low socioeconomic status. Although participants were mainly first-time offenders, most of them were charged in the current conviction for having committed several crimes. Crimes for which they were sentenced to prison were predominantly against property, followed by crimes against people, drug-related offences, and crimes against the State (e.g., counterfeiting and forgery of documents). Baseline differences between groups were also tested for the outcome measures, and no significant differences were found (all $p > .05$).

**Prevalence of personality disorders**[24]

Concerning the global prevalence rate (i.e., participants fulfilling criteria for at least one personality disorder), results showed a very high prevalence of personality disorders, with 94.1% of the complete sample fulfilling criteria for, at least, one personality disorder. The global prevalence rate was equally high for both groups (92.6% in the treatment group and 95.5% in the control group). Also, no significant difference was found when comparing the proportion of participants with or without personality pathology in both groups (*Fisher's* = .947; $p = .427$; *Cramer's V* = 0.06).

Antisocial Personality Disorder was the most frequently disorder identified as the main diagnosis, followed by Paranoid Personality Disorder in the complete sample (see Table 2). The same tendency of results was found in both groups, and no significant differences were found in the distribution of the main diagnoses between the participants from treatment and control groups (*Fisher's* = 7.460; $p = .483$; *Cramer's V* = 0.18).

[24]Results are presented for 253 participants, and not for the 254 inmates who agreed to participate in the original RCT, because one participant from the control group refused to answer the SCID-II questions. Therefore, this participant was not included in the analyses performed in the current study.

Table 2. *Frequency of the Main Diagnosis for the Complete Sample and by Groups*

| | Complete sample | | Treatment group | | Control group | |
|---|---|---|---|---|---|---|
| Personality Disorder | *n* | *%* | *n* | *%* | *n* | *%* |
| Paranoid | 26 | 10.9 | 14 | 12.5 | 12 | 9.5 |
| Schizotypal | 2 | 0.8 | - | - | 2 | 1.6 |
| Schizoid | 1 | 0.4 | 1 | 0.9 | - | - |
| Narcissistic | 12 | 5.0 | 4 | 3.6 | 8 | 6.3 |
| Borderline | 9 | 3.8 | 6 | 5.4 | 3 | 2.4 |
| Antisocial | 168 | 70.6 | 78 | 69.6 | 90 | 71.4 |
| Avoidant | 3 | 1.3 | 1 | 0.9 | 2 | 1.6 |
| Obsessive-Compulsive | 5 | 2.1 | 1 | 0.9 | 4 | 3.2 |
| No otherwise specified | 12 | 5.0 | 7 | 6.3 | 5 | 4.0 |

*Note*. Results are presented only for the presence of personality pathology within each main diagnosis. So, 15 participants are not counted in the table because they did not fulfill criteria for any personality disorder.

In addition to the main diagnosis, and as presented in Figure 2, about half of the participants fulfilled criteria for additional diagnoses (n = 120, 45.4 % for the complete sample; n = 58, 51.8 % for the treatment group; and n = 62, 49.2 % for the control group). Both groups were similar regarding the proportion of participants presenting comorbidities (*Fisher's* = 1.013; *p* = .811; *Cramer's V* = 0.06).

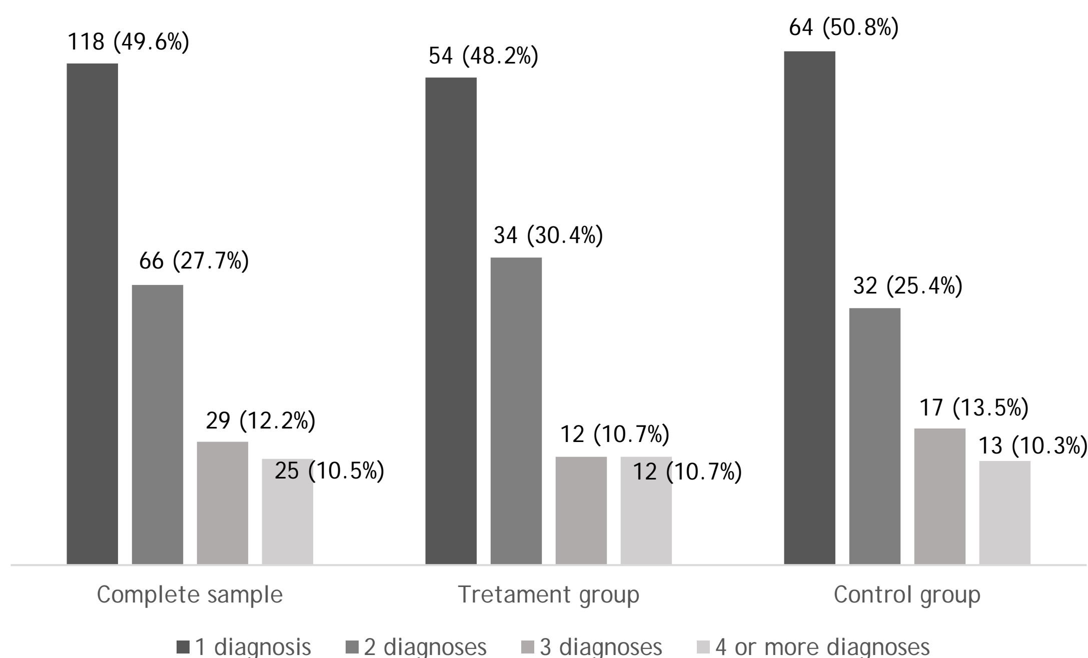


*Figure 2*. Frequency of comorbidity rate for the complete sample and by groups.

**Latent Profile Analysis**

Taking into account the high prevalence of Antisocial Personality Disorder, as well as the high comorbidity rates found in the current sample, these two criteria were taken into account when exploring different personality pathology profiles.

Table 3 displays the LPA model fit statistics for the complete sample, showing that solutions with latent classes fitted the data better than a unitary solution without latent classes. The IC based fit statistics (particularly BIC, but also AIC and SAS-BIC), along with entropy values, LMR/BLRT tests, and average probabilities of class membership, indicated that a four-class solution was the best model for allocating cases into profiles.

Table 3. *Model Fit of the Latent Profile Analyses in the Complete Sample*

| Nº of classes | Log-likelihood | Nº of free parameters | AIC | BIC | SSA-BIC | Entropy | LMR p | BLRT p |
|---|---|---|---|---|---|---|---|---|
| 1 | -892.851 | 4 | 1793.70 | 1807.84 | 1795.16 | - | - | - |
| 2 | -852.806 | 7 | 1719.61 | 1744.35 | 1722.16 | .89 | <.001 | <.001 |
| 3 | -825.398 | 10 | 1670.80 | 1706.13 | 1674.43 | .89 | <.001 | <.001 |
| **4** | **-766.549** | **13** | **1559.10** | **1605.03** | **1563.82** | **1.00** | **<.001** | **<.001** |
| 5 | -765.737 | 16 | 1563.47 | 1620.01 | 1569.29 | .90 | .55 | 1.00 |

*Note.* Optima model is highlighted in boldface.

AIC = Akaike Information Criteria; BIC = Bayesian Information Criteria; SSA-BIC = Sample-Size Adjusted BIC; LMR = Lo-Mendell-Rubin test; BLRT = Bootstrap Likelihood Ratio Test.

Table 4 displays profile allocation based on maximum posterior probability for the four latent profiles, as well as the mean scores in the number of diagnostic criteria met for Antisocial Personality Disorder and in the number of Personality Disorders diagnosed in each profile. The four profiles were labeled as: inmates without personality pathology, inmates with only antisocial personality disorder, inmates with antisocial personality disorder and low comorbidity (with one additional diagnosis), and inmates with antisocial personality disorder and high comorbidity (with two or more additional diagnoses). The profile without personality pathology was the one with the lowest percentage of prison inmates (though superior to 1% as recommended by Bauer & Curran, 2004), followed by the profiles of antisocial personality disorder and high comorbidity and antisocial personality disorder and low comorbidity. The profile with only antisocial personality disorder was the one with the highest percentage of participants. The average probabilities of class membership were always superior to .80, which indicated good class solution.

Table 4. *Profile Allocation Based on Maximum Posterior Probability for the Four Latent Profiles, and Mean Scores in ASPD and Number of PD*

| Personality pathology profiles | n | % | ASPD | Number of PD |
|---|---|---|---|---|
| Without personality pathology | 15 | 6 | 0.40 (.18) | .00 (.00) |
| With only antisocial personality disorder | 118 | 47 | 3.81 (.15) | 1 (.00) |
| With antisocial personality disorder and low comorbidity | 66 | 26 | 4.50 (.18) | 2 (.00) |
| With antisocial personality disorder and high comorbidity | 54 | 21 | 4.85 (.24) | 3.46 (.07) |

*Note*. Information for ASPD and number of PD is presented as M (SE).

ASPD = Number of diagnostic criteria met for Antisocial Personality Disorder; Number of PD = Number of Personality Disorders diagnosed.

Treatment and control groups were then compared on the distribution of participants for each personality pathology profile. As presented in Table 5, there was no difference in the distribution of personality pathology profiles across the groups (*Fisher's* = 1.703; $p$ = .640; *Cramer's V* = 0.08).

Table 5. *Frequency of the Personality Pathology Profiles by Groups*

| | Treatment group | | Control group | |
|---|---|---|---|---|
| Personality pathology profiles | *n* | *%* | *n* | *%* |
| Without personality pathology | 9 | 7.4 | 6 | 4.5 |
| With only antisocial personality disorder | 54 | 44.6 | 64 | 48.5 |
| With antisocial personality disorder and low comorbidity | 34 | 28.1 | 32 | 24.2 |
| With antisocial personality disorder and high comorbidity | 24 | 19.8 | 30 | 22.7 |

**Personality pathology profiles as moderators of the GPS effects**

Table 6 displays the mean scores and standard deviations of the outcome measure in the timepoints by group and by personality pathology profile. As previously specified, and in order to investigate the personality pathology profiles as moderators of the GPS effects, Mixed ANOVAs were performed (see Table 7). Taking into account the small numbers observed in the profile 'without personality pathology' (9 and 6 inmates in the treatment and control groups, respectively), this profile was not included in the analyses. On one hand, results pointed out to a significant time x condition effect for all the outcome measures, confirming previous results (Brazão et al., 2017a, 2017b, 2018) in which treatment participants presented higher improvements on cognitive, emotion and behavior regulation, when compared with controls. On the other hand, results revealed that time x condition x personality pathology profiles effects were non-significant, showing that change over time on the outcome measures (either

in the treatment group, as in the control group) was not affected by personality pathology profiles.

Table 6. *Means and Standard Deviations for the Outcome Measures in the Treatment and Control Groups by Personality Pathology Profiles*

| | Treatment group | | | | Control group | | | |
|---|---|---|---|---|---|---|---|---|
| | T1 | T2 | T3 | T4 | T1 | T2 | T3 | T4 |
| Outcome measures | M (SD) | M (SD) | M (SD) | M (SD) | M (SD) | M (SD) | M (SD) | M (SD) |
| | | | | Maladaptive thinking | | | | |
| With only antisocial personality disorder | 114.09 (3.98) | 108.90 (3.95) | 100.74 (3.78) | 85.97 (3.12) | 122.40 (3.66) | 116.35 (3.63) | 116.96 (3.47) | 119.70 (2.86) |
| With antisocial personality disorder and low comorbidity | 124.47 (5.02) | 114.63 (4.98) | 101.14 (4.76) | 88.70 (3.93) | 130.28 (5.17) | 132.63 (5.14) | 139.92 (4.91) | 136.45 (4.05) |
| With antisocial personality disorder and high comorbidity | 137.70 (5.97) | 135.55 (5.93) | 117.28 (5.67) | 96.16 (4.68) | 124.03 (5.34) | 119.39 (5.30) | 124.59 (5.07) | 123.65 (4.19) |
| | | | | Adaptive thinking | | | | |
| With only antisocial personality disorder | 31.81 (.85) | 32.50 (.80) | 34.46 (.86) | 36.46 (.64) | 32.25 (.76) | 30.83 (.70) | 30.55 (.86) | 26.54 (.92) |
| With antisocial personality disorder and low comorbidity | 32.70 (1.07) | 33.99 (1.01) | 34.43 (1.08) | 36.14 (.80) | 31.87 (1.08) | 31.73 (.98) | 29.47 (1.22) | 25.01 (1.30) |
| With antisocial personality disorder and high comorbidity | 31.50 (1.27) | 33.85 (1.20) | 33.48 (1.29) | 35.97 (.96) | 30.36 (1.12) | 30.16 (1.02) | 31.64 (1.26) | 25.36 (1.34) |
| | | | | Early maladaptive schemas | | | | |
| With only antisocial personality disorder | 2.13 (.07) | 1.89 (.07) | 1.73 (.07) | 1.47 (.04) | 2.25 (.09) | 2.10 (.08) | 2.15 (.08) | 2.35 (.07) |
| With antisocial personality disorder and low comorbidity | 2.08 (.09) | 2.04 (.09) | 1.75 (.09) | 1.52 (.05) | 2.34 (.13) | 2.20 (.12) | 2.47 (.12) | 2.58 (.10) |
| With antisocial personality disorder and high comorbidity | 2.71 (.10) | 2.39 (.11) | 2.02 (.11) | 1.58 (.06) | 2.40 (.11) | 2.31 (.12) | 2.38 (.12) | 2.58 (.13) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Expressive Suppression | | | | | | | |
| With only antisocial personality disorder | 15.72 (.72) | 15.35 (.66) | 14.14 (.66) | 9.61 (.48) | 16.39 (.57) | 17.39 (.43) | 17.67 (.62) | 18.50 (.60) |
| With antisocial personality disorder and low comorbidity | 15.94 (.90) | 17.37 (.84) | 15.64 (.83) | 9.43 (.61) | 16.50 (.85) | 18.87 (.88) | 18.36 (.80) | 19.41 (.61) |
| With antisocial personality disorder and high comorbidity | 18.58 (1.08) | 16.77 (1.00) | 14.37 (.99) | 10.96 (.73) | 17.13 (.88) | 17.27 (.83) | 18.23 (.90) | 19.21 (.63) |
| | Cognitive Reappraisal | | | | | | | |
| With only antisocial personality disorder | 25.87 (1.02) | 26.97 (.90) | 27.77 (.86) | 28.40 (.80) | 30.40 (.86) | 28.94 (.76) | 25.13 (.97) | 21.32 (.81) |
| With antisocial personality disorder and low comorbidity | 26.94 (1.28) | 28.58 (1.14) | 28.97 (1.08) | 29.41 (1.01) | 27.40 (1.22) | 27.39 (1.08) | 24.41 (1.37) | 21.26 (1.14) |
| With antisocial personality disorder and high comorbidity | 27.34 (1.53) | 27.54 (1.35) | 28.64 (1.20) | 30.00 (1.29) | 27.36 (1.26) | 29.05 (1.11) | 26.55 (1.41) | 21.17 (1.18) |
| | Number of disciplinary infractions | | | | | | | |
| With only antisocial personality disorder | 1.81 (.40) | .77 (.25) | .42 (.23) | - | 2.21 (.49) | 2.10 (.61) | 2.79 (.62) | - |
| With antisocial personality disorder and low comorbidity | 1.85 (.50) | .97 (.31) | .41 (.23) | - | 1.78 (.69) | 2.93 (.86) | 3.84 (.88) | - |
| With antisocial personality disorder and high comorbidity | 2.95 (.60) | .75 (.37) | .27 (.16) | - | 2.76 (.72) | 3.76 (.89) | 3.26 (.91) | - |
| | Number of days in punishment | | | | | | | |
| With only antisocial personality disorder | 12.96 (2.62) | 6.64 (2.25) | 2.66 (1.09) | - | 10.28 (1.63) | 14.75 (2.73) | 16.68 (3.01) | - |
| With antisocial personality disorder and low comorbidity | 15.08 (3.30) | 8.55 (2.84) | 3.17 (1.37) | - | 11.84 (2.30) | 16.59 (3.86) | 18.78 (4.25) | - |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| With antisocial personality disorder and high comorbidity | 17.91 (3.93) | 7.83 (3.38) | 1.12 (1.63) | - | 12.73 (2.38) | 10.13 (3.98) | 15.46 (4.39) | - |

*Note*. Cognitive and emotion regulation outcome measures (i.e., maladaptive and adaptive thinking, expressive suppression and cognitive reappraisal) were collected in four timepoints: baseline (T1), mid-treatment (T2), post-treatment (T3) and follow-up (T4). Behavior regulation outcome measures (i.e., number of disciplinary infractions and number of days in punishment) were collected for three time-intervals: during the 12 months before the beginning of the program (T1), during the GPS's 12-month length (T2) and during the 12 months after GPS completion (T3).

Table 7. *Mixed ANOVA with Time, Time X Condition, Time X Personality Pathology Profiles and Time X Condition X Personality Pathology Profiles effects for each Outcome Measure*

| Outcome measures | Time | Time X Condition | Time X Personality Pathology Profiles | Time X Condition X Personality Pathology Profiles |
|---|---|---|---|---|
| Maladaptive thinking | F = 26.962; $p$ < .001; $\eta^2 p$ = .104 | F = 35.904; $p$ < .001; $\eta^2 p$ = .134 | F = .558; $p$ = .742; $\eta^2 p$ = .005 | F = 1.935; $p$ = .083; $\eta^2 p$ = .016 |
| Adaptive thinking | F = 3.241; $p$ = .027; $\eta^2 p$ = .014 | F = 37.949; $p$ < .001; $\eta^2 p$ = .141 | F = 1.003; $p$ = .417; $\eta^2 p$ = .009 | F = .692; $p$ = .638; $\eta^2 p$ = .006 |
| Early maladaptive schemas | F = 22.597; $p$ < .001; $\eta^2 p$ = .089 | F = 38.095; $p$ < .001; $\eta^2 p$ = .141 | F = 1.817; $p$ = .064; $\eta^2 p$ = .022 | F = .659; $p$ = .657; $\eta^2 p$ = .006 |
| Expressive suppression | F = 26.560; $p$ < .001; $\eta^2 p$ = .103 | F = 45.689; $p$ < .001; $\eta^2 p$ = .165 | F = 2.597; $p$ = .053; $\eta^2 p$ = .031 | F = 1.745; $p$ = .158; $\eta^2 p$ = .021 |
| Cognitive reappraisal | F = 18.994; $p$ < .001; $\eta^2 p$ = .076 | F = 22.517; $p$ < .001; $\eta^2 p$ = .088 | F = .546; $p$ = .758; $\eta^2 p$ = .005 | F = 1.028; $p$ = .403; $\eta^2 p$ = .009 |
| Number of disciplinary infractions | F = 1.094; $p$ = .336; $\eta^2 p$ = .005 | F = 12.449; $p$ < .001; $\eta^2 p$ = .051 | F = .946; $p$ = .437; $\eta^2 p$ = .008 | F = .831; $p$ = .506; $\eta^2 p$ = .007 |
| Number of days in punishment | F = 5.305; $p$ = .009; $\eta^2 p$ = .022 | F = 28.953; $p$ < .001; $\eta^2 p$ = .111 | F = 1.210; $p$ = .306; $\eta^2 p$ = .010 | F = .304; $p$ = .835; $\eta^2 p$ = .003 |

## Discussion

A randomized controlled trial has been conducted in Portuguese prisons in order to assess the efficacy of the Growing Pro-Social program (GPS; Rijo et al., 2007) with male prison inmates. Previous studies (Brazão et al., 2015b, 2015c, 2017, 2018a) have already confirmed the GPS efficacy in reducing cognitive malfunctioning (the use of cognitive distortions and the endorsement of early maladaptive schemas), as well as anger, shame and paranoia. The GPS has also proven to be effective in reducing emotion regulation difficulties, as well as disciplinary infractions/prison misconduct (Brazão et al., 2018b). However, these studies did not assess treatment moderators, namely personality disorders, which have been found to be highly prevalent among male prison inmates (e.g., Brazão et al., 2015a). Moreover, there is empirical evidence that individuals with severe personality pathology are less responsive to treatment (Beck et al., 2015; Levenson et al., 2012; Moran & Crawford, 2013; Rafaeli et al., 2011), and are more likely to re-offend (Kennealy et al., 2010; Walters & Heilbrun, 2010; Walters et al., 2008).

The current study tried to cover this issue and consisted in a secondary data analysis collected from inmates who participated in the original trial. This study's main goal was, therefore, to investigate personality pathology profiles as moderators of the GPS effects on cognitive, emotion and behavior regulation in male prison inmates. Specifically, it was tested if change over time on cognitive distortions and early maladaptive schemas (cognitive level), expressive suppression and cognitive reappraisal (emotion level), and prison misconduct (behavior level) was affected by personality pathology severity. It was hypothesized that inmates with severe personality pathology would be less responsive to the GPS treatment and, consequently, would present lower improvements on cognitive, emotion and behavior regulation, when compared with inmates with mild and/or moderate personality pathology. It was also expected that controls with severe personality pathology would present a worsening on cognitive, emotion and behavior regulation over time, when compared with controls with mild and/or moderate personality pathology. To our best knowledge, there is a lack of RCTs testing personality disorders as treatment moderators in forensic samples, specifically in male prison inmates.

Preliminary analyses on the prevalence of personality disorders showed that personality pathology was highly prevalent in the current sample, with most inmates fulfilling criteria for antisocial personality disorder. A high comorbidity rate was also found, which is consistent with previous studies (e.g., Brazão et al., 2015a). Following these findings, Latent Profile Analysis (LPA) was carried out in order to identify different personality pathology profiles within the current sample. LPA identified four different profiles, namely: inmates without personality pathology; inmates only with antisocial personality disorder; inmates with antisocial personality disorder and low comorbidity (with one additional diagnosis); and inmates with antisocial personality disorder and high comorbidity (with two or more additional diagnoses). It is noteworthy that the profile without personality pathology was the one with the lowest percentage of prison inmates, while the profile with only antisocial personality disorder was

the one with the highest percentage of inmates. The percentage of inmates in the comorbidity (low and high) profiles was also high. Taken together, these findings emphasize that most inmates present highly complex treatment needs and should receive mental health care from specially trained staff (Steadman, Osher, Clark-Robbins, Case, & Samuels, 2009). Penitentiary services should also provide systematic and effective screening procedures for proper assessment of personality disorders at prison intake (e.g., Roberts & Coid, 2010). The high prevalence of personality disorders and comorbidity rates in male prison inmates represents a highly significant level of clinical and functional impairment, which may cause disruption within and beyond prison settings (e.g., Gilbert & Daffern, 2010). It is then justifiable that the treatment of personality disorders should be addressed in forensic case management procedures as a focus of intervention (Brazão et al., 2015a).

Results from Mixed ANOVAs showed that the personality pathology profiles (previously identified through LPA) were not significant moderators of the GPS effects, i.e., change over time on cognitive malfunctioning, emotion regulation difficulties, and prison misconduct was not affected by personality pathology severity. The GPS program showed to be effective in changing the cognitive, emotion and behavior correlates of antisocial behavior, either with inmates with mild personality pathology (only with antisocial personality disorder), moderate personality pathology (with antisocial personality disorder and low comorbidity) and severe personality pathology (with antisocial personality disorder and high comorbidity). Even though the GPS program was not specifically designed to meet and address personality disorder criteria, the program is strongly based in schema therapy, that was proposed for patients with severe personality pathology (Rafaeli et al., 2011; Young et al., 2003), which has proven to be effective in reducing severe personality disorders malfunctioning (Farrell et al., 2009; Giesen-Bloo et al., 2006; Nadort et al., 2009; van Asselt et al., 2008), namely in male prison inmates with antisocial, borderline, narcissistic and paranoid personality disorders (Bernstein et al., 2012; Keulen-de Vos et al., 2013).

In accordance with the DSM-5 (APA, 2013), personality pathology is characterized by an enduring pattern of inner experience and behavior that deviates markedly from the expectations of the individual's culture. This pattern is manifested in cognition (i.e., dysfunctional core beliefs about the self and the others, biased social information processing), affectivity (i.e., emotion regulation difficulties), interpersonal functioning and impulse control (i.e., behavior dysregulation). GPS addresses cognitive, emotion and behavior (dys)regulation across the program's modules (Brazão et al., 2013; Rijo et al., 2007), which may explain the positive effects observed in treatment participants, regardless the personality pathology severity.

Behavior regulation is directly addressed in Modules 1 and 2 – Communication and Interpersonal Relationships – in which participants learned to cope in a healthy and prosocial way with obstacles in the communication process, as well as to use negotiation skills to deal with interpersonal conflicts. Difficulties in communication and interpersonal relationships are common among patients with personality disorders (APA, 2013), and the tasks during these

initial modules may have contributed to promote interpersonal adjustment, thus diminishing disciplinary infractions inside prison.

The positive effects in emotion regulation, regardless the personality pathology severity, may be related with the specific tasks during Module 4 – Function and Meaning of Emotions. This module was specifically designed to promote emotion regulation by increasing the awareness and understanding about the function, meaning and adaptive value of emotions, and emotion dysregulation related problems, which, in turn, have systematically been associated with personality disorders (e.g., Glenn & Klonsky, 2009; Putman & Silk, 2005; Stepp et al., 2014). Moreover, and taking into account the positive association between emotion regulation difficulties and prison misconduct (e.g., Ammerman et al., 2015; Roll et al., 2012; Veloti et al., 2016), the positive effects observed for emotion regulation in all personality pathology profiles could explain, at least partially, the equally positive effects observed in prison misconduct.

Modules 3 and 5 – Cognitive Distortions and Early Maladaptive Schemas, respectively – directly address cognitive malfunctioning. In Module 3, cognitive distortions are identified, and participants are trained to think in a more realistic, healthy and prosocial way. In turn, in Module 5, early maladaptive schemas related to aggressive and antisocial behavior (Chakhssi et al., 2012; Gilbert & Daffern, 2013; Shorey et al., 2014) are identified, and participants are encouraged to fight against their own schemas. It is important to add that the schemas addressed by the GPS are not exclusively related to antisocial personality disorder. For instance, the mistrust/abuse schema has also been associated with paranoid personality disorder, while grandiosity/entitlement has been also related to narcissistic personality disorder (Chakhissi et al., 2012). There is also empirical evidence that abandonment, emotional deprivation and defectiveness/shame schemas are associated with borderline personality disorder (Gilbert & Daffern, 2013). Therefore, the program's promotion of change at a schema level may affect schemas that are associated with the maintenance of a broader range of personality disorders (paranoid, narcissistic, borderline), which could explain the GPS's undeferential effects over cognitive malfunctioning in the treatment group. In other words, and taking into account the high comorbidity rates found in the current study, the GPS achieved positive effects over cognitive malfunctioning, not only in inmates with antisocial personality disorder, but also in individuals with other personality disorders for which other therapeutic interventions focus early maladaptive schemas (the same as the GPS program) as targets of change (Farrell et al., 2009; Giesen-Bloo et al., 2006; Nadort et al., 2009; van Asselt et al., 2008).

Concerning the control group, participants presented a worsening or no change over time, regardless the severity of personality pathology, confirming previous findings (Brazão et al., 2015b, 2015c, 2017, 2018a, 2018b), which suggest that inmates who received solely the Treatment As Usual in Portuguese prisons (which does not include any intervention program) may maintain or reinforce psychological and emotional processes related to dysfunctional behavior (Lambie & Randell 2013; Morgan et al., 2012), and personality disorder symptoms

(Brazão et al., 2015a). As previously specified, change over time in the control group was not affected by personality pathology profiles. A possible explanation for this unexpected result may reside in the fact that personality disorders in forensic samples, and specifically in male prison inmates, are associated with higher clinical and functional impairment than in non-clinical and clinical samples (Black, Gunter, Loveless, Allen, & Sielen, 2010; Conn et al., 2010; Howard, 2015). In this sense, and although inmates with only antisocial personality disorder have been classified as presenting mild personality pathology, clinical practice with offenders diagnosed with antisocial personality disorder (without comorbidity) shows that these individuals are severely disturbed. The different personality pathology profiles may, then, be underrepresented in the current sample, taking into account that most inmates were severely disturbed (regardless the personality pathology profile), thus not presenting significant differences in the trajectory of change on the outcome measures over time.

Our findings have a number of limitations, most obviously the fact that GPS's capability to reduce personality disorders symptoms was not investigated. Taking into account that the main goal of the current study was to assess personality disorders as treatment moderators, personality pathology was only assessed at baseline, which did not allow testing the GPS effects on dysfunctional personality traits. Another limitation has to do with the small number of inmates without personality pathology in the current sample, which did not allow for reliable comparisons between inmates with and without personality disorders in change on the outcome measures over time. Nonetheless, future studies should test the GPS differential effects in inmates with and without personality disorders. The absence of inter-rater and reliability indicators of the SCID-II encompasses another limitation. Though the researchers tried to minimize this limitation with training and supervision of the interviewers, future studies should overcome this issue.

Generalizations should be made carefully because participants included only male prison inmates. Future studies should also test personality disorders as treatment moderators among female prison inmates. Replication of these findings in other settings (e.g., in community-based interventions), as well as in other countries, will speak to the generalizability of the program in reducing the cognitive, emotional and behavioral patterns associated with personality disorders.

Overall, findings suggested that inmates with personality disorders (regardless the personality pathology severity) could benefit from structured cognitive-behavioral group interventions, such as the GPS program, which stresses the need to provide appropriate treatment to inmates with personality pathology. Findings also suggested that the GPS program could be used as a universal delivery program, namely with severely disturbed inmates, taking into account that participants were responsive to treatment and presented improvements on cognitive, emotion and behavior regulation outcomes. In other words, severe personality disorders may not be considered as an exclusion criterion concerning GPS delivery. Although our results showed no differences between individuals with mild, moderate and severe personality pathology (either in the treatment group, as in the control group) adherence to

standard clinical treatment for personality disorders in prisons seems mandatory (Brazão et al., 2015). Moreover, available treatment programs may be adapted for individuals with personality disorders and could also be focused in the reduction of dysfunctional personality traits.

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# CAPÍTULO IV

## DISCUSSÃO GERAL

Atualmente, existe um volume considerável de investigação que aponta para a eficácia dos programas de prevenção e/ou reabilitação na redução das taxas de reincidência criminal em agressores juvenis e adultos, independentemente do contexto de implementação (instituição vs. comunidade) ou das caraterísticas dos indivíduos (e.g., agressores violentos vs. agressores não-violentos) (Alexander, 1999; Hall, 1995; Hanson et al., 2002; Lösel & Schumcker, 2005; McGuire, 2011, 2013; Polizzi et al., 1999; Reitzel & Carbonell, 2006; Salekin, 2002; Schmucker & Lösel, 2015; Soldino & Carbonell-Vayá, 2017; Walker et al., 2004). Não obstante, a maior parte dos estudos publicados utiliza planos quasi-experimentais (i.e., ensaios clínicos não aleatorizados) que, apesar da sua elevada qualidade, podem introduzir enviesamentos significativos nos resultados (Smith et al., 2009). Tendo em conta que os participantes destes estudos não são distribuídos aleatoriamente pelas condições experimentais, é provável que os indivíduos menos resistentes e/ou mais motivados sejam selecionados para participar num dado programa de intervenção. Deste modo, os efeitos positivos encontrados podem ser mais bem explicados pelas caraterísticas dos participantes (e.g., motivação para participar num programa) e não pelos efeitos do tratamento (McGuire et al., 2008). Acresce ainda que vários destes estudos utilizam grupos de controlo que não são equivalentes aos grupos de tratamento (Smith et al., 2009). Ensaios clínicos não aleatorizados comprometem, portanto, a validade interna das investigações (Moher et al., 2010). A reduzida dimensão das amostras utilizadas afeta também a validade externa dos estudos, tendo em conta que os resultados não podem ser generalizados com segurança (Koehler et al., 2013). Em muitos estudos, o período de *follow-up* é também considerado reduzido (seis a nove meses), o que não permite avaliar a manutenção dos ganhos ao longo do tempo de forma robusta (McGuire, 2013).

A maior parte da investigação publicada tem analisado os efeitos dos programas de intervenção nas taxas de reincidência criminal. No entanto, a reincidência pode não ser um indicador de eficácia robusto, não só pela dificuldade na operacionalização do conceito (Landenberger & Lipsey, 2005; Pratt, 2012), mas também por depender de estatísticas oficiais que podem não representar de forma fidedigna o número de indivíduos que reincidem (Kingston et al., 2018). Para além disso, e tendo em conta que a maioria dos estudos tem analisado exclusivamente a reincidência, o conhecimento científico acerca das mudanças que ocorrem no funcionamento psicológico dos agressores e que os levam a desistir de uma carreira criminal é ainda insuficiente (Antonio & Crosset, 2017; Skeem et al., 2009; Tong & Farrignton, 2008). Assim, um maior volume de estudos que analisem a eficácia de programas de intervenção em diferentes tipos de indicadores no funcionamento (cognitivo, emocional, comportamental) dos agressores continua a ser necessário (MacKenzie & Farrington, 2015). Tendo em conta as limitações dos estudos quasi-experimentais, esta nova tendência de investigação deve privilegiar o recurso a planos experimentais aleatórios (i.e., ensaios clínicos aleatorizados; RCT) (MacKenzie & Farrignton, 2015; Moher et al., 2010; Perry et al., 2010; Pettus-Davis et al., 2016).

O RCT tem sido reconhecido como o método mais adequado e robusto na avaliação dos resultados de um programa de intervenção (MacKenzie & Farrignton, 2015; Moher et al., 2010;

Perry et al., 2010; Pettus-Davis et al., 2016). Apesar de o número de RCT realizados com amostras forenses ter aumentado significativamente na última década, a validade descritiva (i.e., o detalhe com que os procedimentos metodológicos e os resultados são descritos) parece ser insuficiente. Num estudo de revisão recente, Perry e colaboradores (2010) analisaram a validade descritiva de RCT em contextos forenses de acordo com as normas do CONSORT (Moher et al., 2010) e concluíram que 54% dos estudos apresentavam uma validade descritiva reduzida. No entanto, existem alguns RCT publicados nesta área com validade descritiva adequada. A maior parte destes estudos procuraram avaliar a eficácia dos programas cognitivo-comportamentais mais frequentemente utilizados na reabilitação de agressores: o *Reasoning and Rehabilitation* (R&R; Ross et al., 1989) e o *Enhanced Thinking Skils* (ETS; Clark, 2000). Apesar de metodologicamente adequados, estes RCT apresentam um conjunto de limitações que devem ser mencionadas. Para além da utilização de amostras reduzidas e de períodos de *follow-up* pequenos, estes estudos não avaliaram nenhum indicador comportamental (observável). Para além disso, estes estudos avaliaram os indicadores de eficácia unicamente através de medidas de autorrelato, o que pode ter introduzido enviesamentos significativos nos resultados (Antonio & Crosset, 2017; Moher et al., 2010). A contribuir para este enviesamento pode ainda estar o facto de os avaliadores conhecerem a condição experimental a que os participantes pertenciam, o que pode ter aumentado a probabilidade de os últimos terem dado respostas de acordo com o que consideravam ser as expetativas dos primeiros.

O principal objetivo do R&R e do ETS é modificar o processamento disfuncional de informação dos agressores (Clark, 2000; Ross et al., 1989). No entanto, nenhum dos RCT supramencionados estudou a eficácia destes programas na redução das distorções cognitivas ou erros de processamento de informação dos participantes. Estes mesmos estudos também não analisaram a capacidade dos programas em promover mudanças nas estruturas cognitivas dos participantes (e.g., Esquemas Mal-Adaptativos Precoces; EMP) que, segundo o modelo cognitivo-comportamental, estão subjacentes ao processamento de informação disfuncional de agressores (Bernstein et al., 2007; Calvete, 2008; Chakhssi et al., 2012; Gilbert & Daffern, 2013; Keulen-de Vos et al., 2013; Shorey et al., 2014; Specht et al., 2009).

Por fim, nenhum dos estudos disponíveis testou o efeito de qualquer variável moderadora dos efeitos dos programas. A identificação de moderadores do tratamento clarifica para que participantes e/ou em que circunstâncias um programa de intervenção funciona (Hayes & Rockwood, 2017; Mascha et al., 2013; Moldovan & Pintea, 2015). Assim, parece ser fundamental identificar variáveis moderadoras relevantes, tendo em conta que estas últimas podem orientar a seleção do tratamento mais adequado às necessidades de intervenção da população-alvo (Manders et al., 2013).

Numa tentativa de ultrapassar estas limitações, a presente dissertação teve como objetivo principal estudar a eficácia de um novo programa de intervenção, o Gerar Percursos Sociais (GPS; Rijo et al., 2007), numa amostra alargada de reclusos do sexo masculino. Especificamente, foram analisados os efeitos do GPS em diferentes tipos de indicadores do funcionamento psicológico (cognitivo, emocional e comportamental) dos participantes, que a

investigação tem demonstrado que desempenham um papel importante no comportamento antissocial e que o GPS procura modificar. A estabilidade das mudanças ao longo do tempo foi também avaliada, especificamente 12 meses após a conclusão do programa. A avaliação dos diferentes tipos de indicadores foi realizada através de diferentes métodos de recolha de informação por avaliadores cegos à condição experimental dos participantes. Para além dos efeitos do tratamento, este RCT procurou investigar o papel moderador da severidade da patologia da personalidade dos reclusos nos resultados do programa ao nível cognitivo, emocional e comportamental.

Numa primeira fase, procurou-se estudar a adequação do GPS a reclusos do sexo masculino, bem como estabelecer a sua eficácia inicial em correlatos cognitivos e emocionais subjacentes ao comportamento agressivo e antissocial, através de um desenho pré-teste/pós-teste com grupo de controlo. Nestes estudos iniciais, para além da significância estatística, foi também avaliada a significância clínica (*Reliable Change Index;* Jacobson & Truax, 1991). Depois destes dois estudos prévios, foram realizados estudos com amostras de maior dimensão e com procedimentos de investigação e de análise mais robustos, através de um desenho longitudinal com várias medidas repetidas e com grupo de controlo. Os objetivos destes últimos estudos foram avaliar a capacidade do programa em: (1) produzir mudanças no processamento de informação (ao nível dos processos – distorções cognitivas – e das estruturas – EMP); (2) reduzir os sentimentos de raiva e de vergonha, bem como a ideação paranoide; e (3) promover a regulação emocional e comportamental dos participantes. Conforme já foi mencionado, investigou-se também o papel moderador da severidade da patologia da personalidade dos reclusos sobre os efeitos do GPS ao nível cognitivo, emocional e comportamental.

De seguida, apresentamos uma síntese e uma discussão integrada acerca dos resultados obtidos com os efeitos do GPS nos diferentes tipos de indicadores: processamento de informação (processos e estruturas cognitivas); raiva, vergonha e paranoia; e regulação emocional e comportamental. São também sintetizados e discutidos os resultados referentes aos efeitos moderadores da severidade da patologia da personalidade dos reclusos sobre os resultados do programa. Posteriormente, refletimos acerca das potencialidades e das limitações da presente dissertação, procurando, sempre que possível, apontar direções para investigações futuras. Por fim, destacamos as implicações deste projeto para a intervenção clínica-forense com agressores e para a gestão do sistema prisional.

# 1. Síntese e discussão integrada dos principais resultados

## 1.1. Efeitos do tratamento

### *1.1.1. Processamento de informação (processos e estruturas cognitivas)*

Os programas de intervenção cognitivo-comportamental para agressores conceptualizam o comportamento antissocial como o resultado de um processamento distorcido da informação social (e.g., Antonio & Crossett, 2017). Estes programas identificam como alvos terapêuticos as distorções cognitivas subjacentes ao processamento de informação social de agressores. Embora a mudança ao nível dos processos cognitivos disfuncionais seja relevante no trabalho de reabilitação com agressores, dados da investigação têm sugerido que determinados EMP estão subjacentes ao processamento distorcido da informação (Bernstein et al., 2007; Calvete, 2008; Chakhssi et al., 2012; Gilbert & Daffern, 2013; Keulen-de Vos et al., 2013; Shorey et al., 2014; Specht et al., 2009). O comportamento antissocial resulta, portanto, de uma visão distorcida do Eu e dos outros que conduz a leituras enviesadas dos acontecimentos (i.e., distorções cognitivas) e a emoções desajustadas que, por sua vez, predispõem o individuo para comportamentos disfuncionais. Tendo em conta estes dados, o GPS foi construído de forma a produzir mudanças no aparelho cognitivo dos agressores, não só ao nível das distorções cognitivas, mas também, e sobretudo, ao nível dos EMP (Rijo et al., 2007). Assim, este RCT teve como objetivo testar os efeitos do GPS nos processos e nas estruturas cognitivas subjacentes ao comportamento antissocial.

Os resultados apontaram para diferenças significativas entre o grupo de tratamento e o grupo de controlo, no que diz respeito ao recurso a processos cognitivos funcionais (i.e., pensamentos adaptativos). Enquanto os reclusos do grupo de tratamento apresentaram um maior recurso a pensamentos adaptativos, os participantes do grupo de controlo apresentaram um menor recurso ao longo do tempo a pensamentos deste tipo. Por um lado, estes dados apontam para a eficácia do GPS em modificar o processamento de informação social dos reclusos, pela sua capacidade em promover pensamentos mais realistas, saudáveis e pró-sociais. Por outro lado, os resultados sugerem que o GPS pode ter um efeito amortecedor na deterioração ao nível cognitivo que se observou nos reclusos do grupo de controlo.

No que diz respeito a pensamentos mal adaptativos (i.e., distorções cognitivas), os participantes do grupo de tratamento apresentaram uma redução significativa ao longo do tempo, comparativamente aos reclusos do grupo de controlo. Este resultado é congruente com os dados observados no indicador anterior (i.e., pensamentos adaptativos), no qual os reclusos do grupo de tratamento apresentaram uma melhoria, enquanto os participantes do grupo de controlo deterioraram. Estes resultados enfatizam a importância de o sistema prisional providenciar tratamento adequado às necessidades dos agressores, nomeadamente programas de intervenção focados no processamento disfuncional de informação (McGuire, 2006a, 2008, 2011, 2013; Hollin et al., 2013). É importante referir que o modelo do Risco-Necessidade-Responsividade (RNR) conceptualiza as cognições antissociais como fatores de risco dinâmicos

ou necessidades criminógenas (Andrews & Bonta, 2010a), pelo que as mesmas devem ser identificadas como alvos de mudança no trabalho de reabilitação com agressores. O GPS parece responder adequadamente a essas necessidades criminógenas, tal como é demonstrado pela sua capacidade em, por um lado, reduzir o recurso a distorções cognitivas e, por outro lado, incrementar o recurso a pensamentos adaptativos ao longo do tempo.

Os resultados apontaram também para o menor endosso de EMP nos reclusos do grupo de tratamento, comparativamente aos participantes do grupo de controlo, que não mostraram mudança ao longo do tempo neste indicador. De acordo com o modelo da Terapia Focada em Esquemas (Rafaeli et al., 2011; Young et al., 2003), uma diminuição no *score* médio dos EMP sugere uma menor proeminência dos mesmos no processamento de informação relevante para o seu conteúdo. Os resultados obtidos sugerem que os EMP diminuíram a sua influência no processamento de informação dos reclusos (o que pode estar associado ao menor recurso a distorções cognitivas), contribuindo para uma atribuição de significado menos enviesada e, portanto, mais realista, saudável e pró-social (o que, por sua vez, pode estar associado ao maior recurso a pensamentos adaptativos). Estes dados apontam para a eficácia do GPS em produzir mudanças ao nível da autorrepresentação dos indivíduos que, segundo uma perspetiva cognitivo-comportamental, deve ser o objetivo último da intervenção (Bernstein et al., 2007, 2012; Keulen-de Vos et al., 2013; Rafaeli et al., 2011; Young et al., 2003).

Importa referir que a mudança em variáveis de natureza cognitiva foi observada já no segundo momento de avaliação de resultados do GPS, que foi realizado antes da implementação dos módulos que trabalham diretamente as distorções cognitivas e os EMP. Embora os módulos iniciais do programa sejam dedicados aos temas da comunicação humana e do relacionamento interpessoal, as sessões neles incluídas foram planeadas de maneira a promover *insight* nos reclusos sobre a forma como a sua mente funciona quando comunicam e sobre o modo como se relacionam com os outros. Nestes módulos, é também discutido com os participantes como a visão que os mesmos têm de si e/ou dos outros interfere com o processo de comunicação e com as relações interpessoais. Deste modo, introduz-se a ideia central do programa: nem sempre os reclusos interpretam corretamente a informação disponível, sendo que as suas interpretações estão intimamente relacionadas com a visão que têm de si próprios e/ou dos outros (Rijo et al., 2007). Nestes módulos, os reclusos foram desafiados a identificar e a pensar sobre as interpretações erróneas que, frequentemente, fazem das intenções de terceiros. Este trabalho inicial pode explicar o menor recurso a distorções cognitivas e, consequentemente, o menor endosso de EMP nos participantes do grupo de tratamento na avaliação intermédia. A partir destes dados, podemos concluir que a estratégia de mudança progressiva do GPS, que começa por incrementar o conhecimento sobre o fenómeno da comunicação humana e por modificar padrões disfuncionais de comportamento interpessoal (Brazão et al., 2013; Rijo et al., 2007), é capaz de produzir mudanças no funcionamento cognitivo dos reclusos.

De uma forma geral, podemos concluir que o GPS é capaz de promover mudanças no funcionamento cognitivo dos reclusos, não só ao nível das distorções cognitivas, mas também ao nível dos EMP. Estes resultados reforçam dados anteriores que sugerem que os EMP devem

ser selecionados como alvos terapêuticos (Farrell et al., 2009; Giesen-Bloo et al., 2006; Nadort et al., 2009; van Asselt et al., 2008), pelo que os programas de intervenção não se devem focar apenas nos processos cognitivos disfuncionais.

### *1.1.2. Raiva, vergonha e paranoia*

Desenvolvimentos recentes nos modelos cognitivo-comportamentais têm enfatizado o contributo de variáveis como a raiva, a vergonha e a paranoia para o desenvolvimento e a manutenção do comportamento antissocial (Elison et al., 2014; Gilbert, 2017; Koltz & Gilbert, 2018; Velloti et al., 2014). Estudos com amostras forenses têm apontado para a associação positiva entre a vergonha, os comportamentos agressivos (externalização da raiva) e a reincidência criminal (Bear, Urbe-Zarain, Manning, & Shiomi, 2009; Lobbestael, Arntz, Cima, & Chakhssi, 2009; Shanahan et al., 2014). Adicionalmente, indivíduos com níveis elevados de vergonha tendem a fazer atribuições externas (culpar os outros), pelo que podem desenvolver ideação paranoide (Castilho et al., 2015). Dados da investigação mostram que os agressores detetam frequentemente ameaças no comportamento dos outros (*paranoid over-controller mode*), pelo que tendem a responder às mesmas com hostilidade (Joyce et al., 2013; Novaco, 2010). Esta externalização e os comportamentos de contra-ataque parecem estar associados a sentimentos de vergonha e de raiva (Gilbert, 2009, 2010, 2014, 2017; Koltz & Gilbert, 2018).

Tendo em conta o papel que as variáveis supramencionadas podem ter na origem e na manutenção do comportamento antissocial, este RCT analisou a eficácia do GPS em reduzir os sentimentos de vergonha externa, bem como a ideação paranoide. Examinou-se ainda a capacidade de o programa diminuir os sentimentos de raiva e, consequentemente, aumentar o controlo da mesma.

Os resultados apontaram para uma diminuição significativa dos sentimentos de vergonha externa e da ideação paranoide nos reclusos do grupo de tratamento. Por contraste, os participantes do grupo de controlo não apresentaram mudanças ao longo do tempo nestas mesmas variáveis. Conforme já foi mencionado, o GPS foi capaz de produzir mudanças ao nível da autorrepresentação dos reclusos, diminuindo uma visão negativa acerca do Eu. A flexibilização dos EMP de Defeito/Vergonha, de Indesejabilidade Social e de Fracasso podem ter contribuído para uma diminuição dos sentimentos de vergonha externa. Para além dos conteúdos trabalhados nas diversas sessões, é também importante o ambiente relacional que se promove não só entre os participantes, mas também entre reclusos e terapeutas. No GPS, procura-se que o clima relacional possibilite experiências de validação emocional e de aceitação social. Estas estratégias interpessoais podem também ter contribuído para uma redução dos níveis de vergonha externa.

Dados empíricos mostram que a vergonha prediz a paranoia (e.g., Castilho et al., 2015), pelo que uma redução dos sentimentos de vergonha deveria ser acompanhada por uma diminuição na ideação paranoide. A redução da paranoia nos reclusos do grupo de tratamento pode também ser explicada pelo facto de o GPS se propor mudar uma visão distorcida acerca dos outros. Para o efeito, os terapeutas procuram que os reclusos: (1) reconheçam a

subjetividade do processamento de informação social; (2) identifiquem as distorções cognitivas a que tendem a recorrer em contextos interpessoais específicos; (3) flexibilizem EMP, nomeadamente o EMP de Desconfiança/Abuso que se traduz numa visão dos outros como abusivos e maltratantes (Brazão et al., 2013; Rijo et al., 2007). Por outras palavras, a redução da ideação paranoide nos reclusos pode também ser explicada por mudanças ao nível cognitivo, nomeadamente por um processamento de informação social mais funcional, menos influenciado por crenças associadas ao EMP de Desconfiança/Abuso.

Uma redução nos níveis de raiva também seria expetável, tendo em conta que a raiva pode ser conceptualizada como uma estratégia de *coping* com os sentimentos de vergonha e com os ataques que o indivíduo perceciona por parte dos outros (Beck, 1999; Gilbert et al., 2005; Ribeiro da Silva et al., 2015; Rijo, Oliveira, & Brazão, 2017; Shanahan et al. 2014; Thomaes et al. 2011). Os resultados apontaram para uma redução significativa nas principais dimensões da raiva (raiva-estado, raiva-traço e expressão da raiva) nos reclusos do grupo de tratamento. Observou-se a mesma tendência de resultados nas subescalas da raiva-traço (temperamento e reação) e da expressão da raiva (raiva para fora e raiva para dentro). Para a subescala do controlo da raiva, o grupo de tratamento apresentou um incremento ao longo do tempo. Estes ganhos podem ser maioritariamente imputados ao trabalho que foi realizado no Módulo IV do GPS – Significado e Função das Emoções. Um dos principais objetivos deste módulo é promover a regulação emocional, pretendendo-se que os reclusos compreendam a natureza e a função adaptativa das emoções (incluindo da raiva) e que as relacionem com situações reais da sua experiência de vida (Rijo et al., 2007). Esta compreensão pode ter contribuído para uma diminuição da frequência e da intensidade dos sentimentos de raiva e, consequentemente, para um incremento do controlo da mesma.

No grupo de controlo, não se verificaram mudanças ao longo do tempo na maior parte das dimensões da raiva (raiva-estado, raiva-traço, temperamento, reação e raiva para dentro). No entanto, observou-se uma deterioração nas dimensões que avaliam a externalização da raiva, nomeadamente um incremento na expressão da raiva e na raiva para fora e uma redução do controlo da raiva ao longo do tempo. Estes resultados levantam questões relativamente ao impacto que a reclusão pode ter no funcionamento psicológico e emocional dos reclusos. A deterioração observada nos participantes do grupo de controlo ao longo de dois anos sugere que as práticas tradicionais do sistema prisional podem agravar dificuldades emocionais que, por sua vez, se associam à manutenção do comportamento antissocial (Ashkar & Kenny, 2008; Constantine et al., 2012; Lambie & Randell, 2013; Morgan et al., 2012). Estes resultados apontam mais uma vez para o caráter protetor que o GPS pode ter no agravamento de dificuldades psicológicas e emocionais que parece ocorrer nos indivíduos durante o cumprimento de uma pena de reclusão, para além dos benefícios que é capaz de induzir na redução dos sentimentos de raiva e na promoção do controlo da mesma.

Globalmente, os resultados mostram que o GPS é capaz de reduzir os sentimentos de raiva e de vergonha externa, bem como a ideação paranoide em reclusos. Importa mencionar que estas variáveis têm sido sistematicamente associadas ao comportamento criminal/violento

e à reincidência criminal (Andrews and Bonta 2010a; Chereji et al., 2012; Hosser et al., 2008; Marsee & Frick, 2007; Novaco, 2010; Thomaes et al., 2008). Tendo em conta estes dados, podemos inferir que o GPS pode ter efeitos positivos no comportamento criminal, nomeadamente na desistência de uma carreira criminal, ao produzir mudanças em correlatos cognitivos e emocionais que parecem predispor os indivíduos para a reincidência no crime (Andrews, 1996; Andrews & Bonta, 2010a).

#### *1.1.3. Regulação emocional e comportamental*

A capacidade de um programa reduzir o comportamento agressivo é de extrema importância, tendo em conta que o comportamento violento em contexto prisional é altamente prevalente, o que, por sua vez, reduz a ordem e a segurança e introduz custos significativos para o sistema de justiça (Auty et al., 2017; Lahm, 2008; Memory et al., 1999; Tewksburry et al., 2014; Toman et al., 2015). Existe evidência empírica de que as infrações disciplinares em contexto prisional estão associadas ao aumento das taxas de reincidência (Dhami et al., 2007; Duwe & Clark, 2011). Por estes motivos, torna-se relevante identificar variáveis que possam estar subjacentes a um padrão de comportamento agressivo em contexto prisional (Tewksburry et al., 2014).

Desenvolvimentos concetuais recentes têm vindo a defender que as infrações disciplinares em contexto prisional podem ser explicadas por dificuldades ao nível da regulação emocional (Fishbein et al., 2009; Roberton et al., 2014). Por outro lado, um volume considerável de investigação tem apontado para uma associação positiva entre o comportamento agressivo e dificuldades na regulação emocional (e.g., Tager et al., 2010), o que enfatiza a necessidade de incluir módulos dedicados à regulação emocional (para além de um trabalho focado no controlo da raiva) nos programas de reabilitação para agressores (Fishbein et al., 2009; Roberton et al., 2014). Assim, nos estudos de validação do GPS, procurou-se analisar a capacidade do programa em, por um lado, incrementar o recurso à reavaliação cognitiva (estratégia de regulação emocional adaptativa) e, por outro lado, diminuir o recurso à supressão emocional (estratégia de regulação emocional mal adaptativa). Procurou-se ainda testar a capacidade de o programa modificar o comportamento agressivo em contexto prisional, nomeadamente através do seu impacto na frequência das infrações disciplinares e na duração dos procedimentos disciplinares (i.e., punições aplicadas aos reclusos), que foram considerados como indicadores de (des)regulação comportamental.

No que diz respeito à regulação emocional, os reclusos do grupo de tratamento apresentaram um incremento significativo no recurso à reavaliação cognitiva ao longo do tempo, enquanto os participantes do grupo de controlo apresentaram uma redução nesta mesma variável. No que se refere à supressão emocional, o grupo de tratamento apresentou um menor recurso ao longo do tempo a esta estratégia, enquanto o grupo de controlo não apresentou mudanças nesta variável. Estes resultados reforçam a capacidade do GPS em promover a regulação emocional, que é um dos objetivos do programa especificamente trabalhado no Módulo IV – Significado e Função das Emoções. O trabalho desenvolvido neste

módulo pode ser responsável pelo incremento no recurso à reavaliação cognitiva que consiste na modificação do processamento cognitivo que o indivíduo faz acerca de um evento potencialmente elicitador de emoção, de modo a mudar o seu impacto emocional; por outro lado, pode também ter impacto na diminuição do recurso à supressão emocional, na qual os indivíduos inibem a expressão emocional (Gross, 2013, 2014; Gross & John, 2003).

A estabilidade ou a deterioração observada no grupo de controlo pode ser explicada pelas crenças disfuncionais dos reclusos acerca das emoções, nomeadamente a crença de que a expressão de emoções pode ser perigosa por ser entendida pelos outros como um sinal de fraqueza ou de vulnerabilidade, colocando o indivíduo em risco de ser atacado por outros reclusos ou por elementos das autoridades prisionais. Estas crenças disfuncionais (previamente formadas pelos indivíduos em contextos desenvolvimentais hostis) podem ser reforçadas pela própria cultura interpessoal prisional (e.g., Dante, 2012). Neste sentido, inibir emoções pode ser uma resposta adaptativa face a um contexto que é percecionado pelos reclusos como hostil. Em contraste, os resultados no grupo de tratamento sugerem que o GPS foi capaz de modificar possíveis crenças disfuncionais acerca das emoções, promovendo a regulação emocional e o ajustamento interpessoal dos reclusos.

No que se refere à regulação comportamental, os resultados mostraram que o número de infrações disciplinares e a duração dos procedimentos disciplinares diminuíram ao longo do tempo nos participantes do grupo de tratamento. Por sua vez, o grupo de controlo não mostrou mudanças no número de infrações disciplinares, mas apresentou um incremento na duração dos procedimentos disciplinares ao longo do tempo. Estes resultados apontam para a capacidade do GPS em reduzir não só o número de infrações disciplinares cometidas pelos reclusos, mas também a duração dos procedimentos disciplinares que são aplicados aos mesmos. Podem também sugerir que mesmo que os reclusos continuem a cometer infrações disciplinares, as mesmas poderão ser de menor gravidade, resultando assim em punições de menor duração. Assim, o GPS parece cumprir o objetivo último de qualquer programa de intervenção que, segundo vários autores (e.g., McGuire, 2011, 2013), deve ser o de modificar o comportamento atual dos participantes. Importa referir que estes indicadores (i.e., número de infrações disciplinares e duração dos procedimentos disciplinares) foram recolhidos dos registos individuais de cada recluso, não tendo sido avaliados através de medidas de autorrelato.

Atendendo à associação que parece existir entre o comportamento agressivo e as dificuldades de regulação emocional (Ammerman et al., 2015; Cohn et al., 2010; Fishbein et al., 2009; McLaughlin et al., 2011; Roberto et al., 2014; Roll et al., 2012; Tager et al., 2010; Velotti et al., 2016), estes resultados são congruentes com os dados observados ao nível da regulação emocional, o que enfatiza a importância de incluir módulos dedicados à regulação comportamental e emocional em programas de intervenção para agressores (Fishbein et al., 2009; Roberton et al., 2014). A promoção da regulação comportamental e emocional em reclusos é crucial, tendo em conta que dificuldades a estes níveis podem comprometer a adesão dos indivíduos ao tratamento penitenciário (Brazão et al., 2015).

Os resultados obtidos no grupo de controlo mostram que o método utilizado pelo tratamento penitenciário usual (que recorre a estratégias punitivas/corretivas ou, no caso de o recluso ter cometido uma infração grave/violenta, à segregação) não parece ser eficaz na promoção da regulação comportamental, o que, mais uma vez, sugere que o atual modelo de reabilitação dos Estabelecimentos Prisionais pode manter ou agravar dificuldades emocionais e/ou interpessoais dos reclusos (Ashkar & Kenny, 2008; Constantine, Robst, Ander, & Teague, 2012; Lambie & Randell, 2013; Morgan et al., 2012). Por contraste, os resultados observados nos reclusos do grupo de tratamento mostram que é possível promover a regulação emocional e comportamental em reclusos através da implementação de programas de intervenção estruturados (Andrews & Bonta, 2010a, 2010b; Bonta & Wormith, 2013; Holin et al., 2013; McGuire, 2011, 2013), sendo que o GPS parece ser um programa adequado para promover mudanças a este nível.

Em suma, os resultados apontam para a eficácia do programa GPS na reabilitação psicossocial de reclusos do sexo masculino, como é demonstrado pela sua capacidade em produzir mudanças significativas em correlatos cognitivos, emocionais e comportamentais subjacentes ao crime e à reincidência criminal. Os resultados mostram ainda que os ganhos observados no grupo de tratamento se mantiveram estáveis 12 meses após a conclusão do GPS, o que sugere que os participantes continuaram a utilizar e a consolidar as competências desenvolvidas. Sugerem também que as competências desenvolvidas foram generalizadas a contextos do quotidiano dos reclusos.

Análises adicionais sobre a dosagem do tratamento como preditor da mudança ao longo do tempo mostraram que os indivíduos que completaram o programa (i.e., que completaram, pelo menos, 32 sessões) apresentaram ganhos superiores em todas as dimensões avaliadas, comparativamente aos reclusos que não completaram o GPS (i.e., que frequentaram menos de 32 sessões). Estes resultados sublinham a importância de os terapeutas motivarem os participantes a frequentarem o programa na íntegra, de modo a otimizar a sua eficácia. Esta questão é particularmente importante, tendo em conta que os indivíduos que desistem dos programas de intervenção apresentam taxas de reincidência criminal superiores, comparativamente aos indivíduos que os completam (Bennett et al., 2007; Kroner & Takahashi, 2012; Prendergast et al., 2004).

### 1.2. Efeitos moderadores

A elevada prevalência das perturbações da personalidade em reclusos do sexo masculino tem sido demonstrada em vários estudos empíricos (Black et al., 2007; de Ruiter & Trestman, 2006; Fazel & Danesh, 2002; Roberts & Coid, 2010). A investigação também mostra que indivíduos com patologia da personalidade severa são menos responsivos ao tratamento (Beck et al., 2015; Levenson et al., 2012; Moran & Crawford, 2013; Rafaeli et al., 2011) e apresentam uma maior probabilidade de reincidir (Kennealy et al., 2010; Walters & Heilbrun, 2010; Walters et al., 2008). No entanto, continuavam a ser inexistentes estudos que testassem

o efeito moderador da severidade da patologia da personalidade dos agressores sobre os resultados dos programas de intervenção. Este RCT procurou ultrapassar esta lacuna, ao investigar o papel moderador da severidade da patologia da personalidade dos participantes nos efeitos do GPS ao nível cognitivo (pensamentos adaptativos/distorções cognitivas e EMP), emocional (recurso às estratégias de reavaliação cognitiva e de supressão emocional) e comportamental (número de infrações disciplinares e duração dos procedimentos disciplinares).

Resultados preliminares mostraram que as perturbações da personalidade eram altamente prevalentes na amostra deste RCT, com a maioria dos reclusos a preencher critérios para a Perturbação de Personalidade Antissocial (PPAS). Uma elevada taxa de comorbilidade entre perturbações da personalidade foi também encontrada, consistente com resultados de estudos prévios em amostras de reclusos Portugueses (Brazão et al., 2015). De seguida, uma Análise de Perfis Latentes (LPA) foi realizada com o objetivo de identificar diferentes perfis de severidade da patologia da personalidade na amostra. A LPA identificou quatro perfis diferentes, nomeadamente: (1) reclusos sem patologia da personalidade; (2) reclusos com apenas PPAS; (3) reclusos com PPAS e um diagnóstico comórbido; e (4) reclusos com PPAS e dois ou mais diagnósticos comórbidos. Importa referir que o perfil de reclusos sem patologia da personalidade foi aquele com menor número de participantes, enquanto o perfil de reclusos com apenas PPAS foi aquele com maior número de participantes. Estes resultados reforçam que uma percentagem significativa dos agressores adultos apresenta necessidades de intervenção em saúde mental e que estes reclusos beneficiariam de intervenções específicas que respondessem a essas mesmas necessidades (Roberts & Coid, 2010; Steadman et al., 2009). A avaliação destas necessidades deveria ser feita no início do cumprimento de uma pena de reclusão (Roberts & Coid, 2010), pelo que os serviços penitenciários deveriam incluir procedimentos estandardizados de avaliação das perturbações da personalidade (Brazão et al., 2015). A patologia da personalidade severa é considerada um fator que pode ser responsável pelas dificuldades de autorregulação emocional e comportamental que os reclusos apresentam em contexto prisional, o que, consequentemente, dificulta a sua adesão ao tratamento penitenciário (Black et al., 2007; Gilbert & Daffern, 2010). Justifica-se, portanto, que o tratamento das perturbações da personalidade seja incluído no tratamento penitenciário usual (Brazão et al., 2015).

Os resultados das ANOVA mistas mostraram que os diferentes perfis da patologia da personalidade (previamente identificados através da LPA) não foram moderadores significativos dos efeitos do GPS. Ou seja, as mudanças observadas ao nível cognitivo, emocional e comportamental nos participantes que receberam o GPS não foram afetadas pela severidade da patologia da personalidade dos mesmos. O programa mostrou-se igualmente eficaz em modificar os correlatos comportamentais, emocionais e cognitivos do comportamento antissocial em reclusos com apenas PPAS, em reclusos com PPAS e um diagnóstico comórbido e em reclusos com PPAS e dois ou mais diagnósticos comórbidos. Apesar de o GPS não ter sido especificamente desenhado para responder às necessidades de doentes com perturbações da

personalidade, o programa baseia-se no modelo da Terapia Focada em Esquemas que foi, por sua vez, desenvolvido para doentes com patologia da personalidade (Rafaeli et al., 2011; Young et al., 2003). Acresce que este modelo se tem mostrado uma abordagem eficaz na redução de traços de personalidade disfuncionais, nomeadamente em reclusos com Perturbações de Personalidade Antissocial, *Borderline*, Narcísica e Paranoide (Bernstein et al., 2012; Keulen-de Vos et al., 2013).

Segundo o DSM-5 (APA, 2013), uma perturbação da personalidade carateriza-se por um padrão duradouro de experiência interna e de comportamento que se desvia marcadamente do esperado na cultura do indivíduo e que se expressa em diferentes áreas, nomeadamente na cognição (e.g., crenças disfuncionais acerca do Eu e dos outros, processamento disfuncional de informação social), na afetividade (e.g., dificuldades ao nível da regulação emocional), no funcionamento interpessoal e no controlo dos impulsos (e.g., desregulação comportamental). O GPS procura trabalhar a regulação cognitiva, emocional e comportamental ao longo dos cinco módulos (Brazão et al., 2013; Rijo et al., 2007), o que pode explicar os efeitos positivos do programa, independentemente da severidade da patologia da personalidade dos participantes.

A regulação comportamental é diretamente trabalhada nos Módulos I e II – Comunicação e Relacionamento Interpessoal – durante os quais os participantes aprendem a lidar de uma forma adaptativa com obstáculos no processo de comunicação e com dificuldades ao nível do relacionamento interpessoal. Dificuldades na comunicação e no relacionamento interpessoal são frequentes em indivíduos com perturbações da personalidade (APA, 2013), e o trabalho desenvolvido nestes módulos iniciais pode ter promovido o ajustamento interpessoal, diminuindo, assim, as infrações disciplinares em contexto prisional.

Os efeitos positivos observados ao nível da regulação emocional, independentemente da severidade da patologia da personalidade dos reclusos, podem estar relacionados com o trabalho realizado no Módulo IV – Significado e Função das Emoções – que, conforme já foi explicitado, tem por objetivo último promover a regulação emocional nos participantes. Importa referir que as dificuldades ao nível da regulação emocional têm sido sistematicamente associadas às perturbações da personalidade (Glenn & Klonsky, 2009; Putman & Silk, 2005; Stepp et al., 2014). Para além disso, e tendo em conta a associação positiva entre dificuldades na regulação emocional e infrações disciplinares em contexto prisional (e.g., Ammerman et al., 2015; Roll et al., 2012; Velotti et al., 2016), os efeitos positivos na regulação emocional em todos os perfis de severidade dos reclusos com patologia da personalidade podem explicar, pelo menos parcialmente, os efeitos igualmente positivos nas infrações disciplinares.

Os Módulos III e V – Distorções Cognitivas e EMP, respetivamente – trabalham diretamente o processamento disfuncional da informação, ao nível dos processos (i.e., distorções cognitivas) e das estruturas cognitivas (i.e., EMP). É importante referir que os EMP subjacentes ao comportamento antissocial e que o GPS procura flexibilizar não estão unicamente relacionados com esta patologia específica. A título de exemplo, o EMP de Desconfiança/Abuso tem sido associado à Perturbação de Personalidade Paranoide, enquanto o EMP de Grandiosidade está subjacente à Perturbação de Personalidade Narcísica (Chakhissi

et al., 2012). Há também evidência empírica de que os EMP de Abandono, Privação Emocional e Defeito/Vergonha estão associados à Perturbação de Personalidade *Borderline* (Gilbert & Daffern, 2013). Ou seja, o GPS provoca mudança em EMP que também estão associados à origem e à manutenção de diferentes perturbações da personalidade, o que pode explicar os efeitos positivos do programa ao nível cognitivo, independentemente da severidade da patologia da personalidade dos participantes.

Relativamente ao grupo de controlo, os participantes não apresentaram mudança ou evidenciaram deterioração ao longo do tempo nos diferentes tipos de indicadores, independentemente da severidade da patologia da personalidade. Uma possível explicação para este resultado poderá residir no facto de as perturbações da personalidade em amostras forenses estarem associadas a danos funcionais superiores àqueles que são observados em amostras comunitárias e clínicas (Black, Gunter, Loveless, Allen, & Sielen, 2010; Conn et al., 2010; Howard, 2015). Neste sentido, e apesar de os reclusos com apenas PPAS terem sido considerados ligeiramente perturbados, a experiência clínica com agressores mostra que indivíduos com apenas PPAS podem estar severamente perturbados. Os diferentes perfis de severidade da patologia da personalidade podem, pois, estar sub-representados na presente amostra (quer no grupo de tratamento, quer no grupo de controlo), tendo em conta que muitos reclusos podem estar significativamente perturbados (independentemente do perfil de patologia da personalidade). Deste modo, não apresentam diferenças entre si na trajetória de mudança ao longo do tempo nos diferentes tipos de indicadores.

De uma forma geral, os nossos resultados mostram que os reclusos com perturbações da personalidade (independentemente da severidade da patologia) beneficiam de intervenções estruturadas, como é o caso do programa GPS, o que reforça a necessidade de providenciar tratamento adequado a estes indivíduos. Os resultados sugerem ainda que o GPS pode ser utilizado como um programa de entrega universal, mesmo com reclusos severamente perturbados, tendo em conta que estes foram responsivos ao tratamento e apresentaram melhorias significativas em diferentes tipos de indicadores de funcionamento (cognitivo, emocional e comportamental). Por outras palavras, os resultados sugerem que a patologia da personalidade, independentemente da sua severidade, não deve ser considerada um critério de exclusão para a participação no programa. Apesar de os nossos resultados não apontarem para diferenças entre os reclusos dos diferentes perfis de patologia da personalidade na forma como os mesmos respondem ao tratamento (quer no grupo de tratamento, quer no grupo de controlo), o tratamento clínico das perturbações da personalidade em contexto prisional parece ser imprescindível (Brazão et al., 2015) e não fica completamente assegurado com um programa de intervenção em grupo como o GPS.

## 2. Potencialidades do estudo

Consideramos que o presente trabalho apresenta alguns pontos fortes que fazem dele um contributo válido para o conhecimento atual sobre a eficácia dos programas de natureza cognitivo-comportamental com reclusos do sexo masculino. Em primeiro lugar, esta

investigação procurou responder a uma importante necessidade dos Estabelecimentos Prisionais Portugueses: a validação do programa GPS que estava a ser implementado sem nenhum estudo de eficácia que sustentasse o seu uso na reabilitação de agressores adultos. Importa destacar que este foi o primeiro estudo de eficácia de um programa de intervenção aplicado no sistema de justiça Português. Este projeto implicou o envolvimento de um número considerável de psicólogos do contexto prisional (pelo menos dois por cada estabelecimento prisional), o que viabilizou a realização de um RCT desta dimensão. Importa referir que a falta de articulação entre investigadores e profissionais consiste numa das principais dificuldades na implementação de RCT em contextos forenses (Farrington, 2003; Palmer & Petrosino, 2003; Shepherd, 2003; Weisburd, 2010). Este estudo permitiu também que a investigação informasse a prática e vice-versa, através de reuniões regulares de supervisão entre os terapeutas e os investigadores durante o período de aplicação do GPS (cerca de 12 meses) nos diversos Estabelecimentos Prisionais de Portugal Continental e da Região Autónoma da Madeira (11 no total).

Este estudo procurou também ultrapassar algumas das limitações de RCT anteriores. Tendo em conta resultados de estudos de revisão (Perry et al., 2010) que demonstraram que a maioria dos RCT realizados com amostras forenses apresentava uma validade descritiva reduzida, os investigadores tiveram o cuidado de descrever detalhadamente todos os procedimentos metodológicos e os resultados obtidos (cf. Capítulos II e III), de modo a garantir que o presente RCT apresentasse uma validade descritiva adequada. Para além disso, este estudo foi registado como um RCT no ClinicalTrials.gov (ID: NCT03013738).

A análise dos efeitos do GPS em diferentes tipos de indicadores (cognitivo, emocional e comportamental) permitiu acrescentar conhecimento científico, que até então era insuficiente (Antonio & Crosset, 2017; MacKenzie & Farrington, 2015; Skeem et al., 2009; Tong & Farrignton, 2008), ao atual estado da arte sobre as mudanças que ocorrem no funcionamento psicológico e emocional dos agressores após um programa de reabilitação e que, muito provavelmente, os leva a desistir de uma carreira criminal. Estas mudanças foram avaliadas durante um período de *follow-up* consideravelmente longo (12 meses), o que possibilitou avaliar com mais precisão e segurança a estabilidade das mudanças ao longo do tempo.

Apesar da sua importância, a identificação de efeitos moderadores do tratamento tem estado ausente da maior parte dos estudos de eficácia dos programas de intervenção com agressores. O estudo do impacto da severidade da patologia da personalidade dos reclusos nos resultados do GPS ao nível cognitivo, emocional e comportamental procurou colmatar esta lacuna, ao produzir conhecimento científico sobre possíveis variáveis ou fatores que podem influenciar a responsividade dos agressores ao tratamento.

Ainda que seja amplamente aceite pela comunidade científica que a recolha de informação unicamente através do método do autorrelato introduz enviesamentos significativos nos resultados (Antonio & Crosset, 2017; Moher et al., 2010), a maioria dos RCT anteriores recorreu, sobretudo, a esta metodologia. Numa tentativa de ultrapassar esta limitação, este projeto recorreu a diferentes métodos de recolha de informação (questionários de autorresposta, entrevista clínica, consulta dos registos individuais de cada recluso). Para além

disso, os participantes foram avaliados por investigadores que desconheciam a condição experimental a que os primeiros pertenciam, numa tentativa de diminuir a probabilidade de respostas socialmente desejáveis. Deste modo, procurou-se minimizar enviesamentos significativos nos resultados.

Em termos metodológicos, destaca-se a natureza longitudinal deste estudo (que incluiu vários momentos de avaliação que decorreram ao longo de dois anos), bem como o facto de o mesmo ter consistido num RCT desenhado e implementado de acordo com as normas internacionais do Grupo CONSORT (Moher et al., 2010). Importa referir que as normas do CONSORT têm sido incorporadas nas *guidelines* para os autores de manuscritos em mais de 400 revistas científicas, tendo contribuído para um aumento significativo dos RCT publicados em diversas áreas (Egger et al., 2001; Hopewell et al., 2010; Plint et al., 2010). Acresce que o grupo tem sido apoiado por associações científicas de reconhecido mérito internacional, como a Associação Americana de Psicologia (APA).

Como foi explicitado no Capítulo II, foram realizados estudos prévios com o objetivo de estabelecer a eficácia inicial do GPS com reclusos do sexo masculino (a realização de estudos piloto é, geralmente, considerada uma boa prática de investigação na avaliação dos efeitos dos tratamentos). Nestes estudos iniciais, para além da significância estatística, analisou-se a significância clínica, através do *Reliable Change Index* (RCI; Jacobson & Truax, 1991). Tal mostrou-se relevante porque os testes de diferenças de médias não fornecem informação sobre a variabilidade em torno da média dos grupos, isto é, a variabilidade individual de resposta a um dado tratamento. A avaliação da mudança clínica individual é fundamental na validação de programas de intervenção (Jacobson & Truax, 1991; Maaseen, 2001; Wise, 2004). No entanto, estas metodologias têm sido pouco utilizadas com amostras forenses (Hollin et al., 2013). Assim, estes estudos iniciais procuraram superar esta limitação da investigação com agressores adultos, ao produzir conhecimento científico sobre a mudança clínica individual que ocorre em agressores após um programa de natureza cognitivo-comportamental.

Após a conclusão dos estudos prévios, foram realizados estudos com amostras de maior dimensão e com procedimentos metodológicos mais robustos. Importa destacar a dimensão da amostra utilizada (*N* total = 254 reclusos) que permitiu a realização de análises estatísticas robustas, nomeadamente a opção pelo recurso aos Modelos de Crescimento Latente e à Análise de Perfis Latentes. O recurso aos Modelos de Crescimento Latente foi particularmente importante, tendo em conta que este método é considerado como o mais adequado na avaliação da mudança ao longo do tempo (Curran et al., 2010; Duncan & Duncan, 2009; Hesser, 2015). Estes modelos avaliam quer uma tendência linear, quer uma tendência não-linear da mudança, permitindo aos indivíduos diferirem na taxa de crescimento das variáveis dependentes ao longo do tempo (Duncan & Duncan, 1995, 2009; Malmberg et al., 2015; Muthén, 1997; Muthén & Muthén, 2010). Assim, esta metodologia informa sobre a tendência de mudança (linear ou não-linear), bem como sobre possíveis diferenças individuais na trajetória de mudança ao longo do tempo. Estas análises foram ainda realizadas de acordo com o princípio do *intention-to-treat analysis* (tal como é recomendado pelo Grupo CONSORT), sendo que todos os participantes

(independentemente de terem ou não terem completado o protocolo) foram incluídos nas análises, minimizando enviesamentos nos resultados.

Por fim, procurou-se responder às indicações da APA, nomeadamente através do cálculo da magnitude do efeito em função das análises estatísticas propostas, da descrição da análise do poder estatístico e do respeito pelos princípios éticos e deontológicos em investigação em Psicologia.

## 3. Limitações

Apesar das suas potencialidades, este trabalho apresenta limitações[25] que importa referir e considerar na interpretação dos resultados. Em primeiro lugar, não foram utilizados métodos estandardizados de avaliação da qualidade de implementação do GPS, tais como a gravação de sessões e/ou a presença de avaliadores externos nas sessões do programa. Importa referir que estes mesmos procedimentos não foram autorizados pela Direção-Geral de Reinserção e Serviços Prisionais (DGRSP) por questões éticas e de confidencialidade/anonimato dos reclusos.

Este estudo não analisou a capacidade do GPS em reduzir as taxas de reincidência criminal. Conforme é defendido pela comunidade científica (e.g., McGuire, 2011, 2013), a capacidade de um programa reduzir a reincidência criminal é um pré-requisito fundamental das intervenções eficazes. Geralmente, os decisores políticos selecionam para implementação os programas de intervenção que são capazes de mudar o comportamento atual, nomeadamente a tendência de os agressores se envolverem em novas condutas ilícitas. Atendendo aos elevados custos que o comportamento antissocial acarreta para a sociedade, são necessários programas de intervenção que sejam capazes de reduzir as taxas de reincidência (McGuire, 2013).

Nesta investigação, não foi avaliada a eficácia do GPS em reduzir traços de personalidade disfuncionais (altamente prevalentes em contexto prisional). Tendo em conta que um dos objetivos deste projeto foi avaliar o impacto da severidade da patologia da personalidade dos reclusos nos resultados do programa, a avaliação clínica estruturada da personalidade apenas foi efetuada no momento de avaliação inicial (pré-tratamento). Deste modo, não foi possível avaliar a eficácia do programa na redução dos traços de personalidade disfuncionais. Outra limitação está relacionada com o número reduzido de reclusos sem patologia da personalidade nesta amostra, o que não permitiu comparações entre reclusos com e sem perturbações da personalidade na trajetória de mudança ao longo do tempo nos diferentes tipos de indicadores.

A generalização dos resultados obtidos deve ser feita com cautela, tendo em conta que o presente projeto apenas incluiu reclusos do sexo masculino, maioritariamente condenados por crimes contra a propriedade. Estudos de eficácia do GPS com reclusas e/ou com outro tipo

[25] Os seis estudos que compõem este trabalho apresentam limitações específicas que já foram referidas em cada um dos artigos, disponíveis no Capítulo III. Aqui, são destacadas limitações transversais ao projeto.

de agressores (e.g., agressores violentos) devem ser considerados no futuro, numa tentativa de maximizar a generalização dos resultados (cf. Investigação futura).

## 4. Investigação futura

Estudos futuros acerca da eficácia do GPS devem incluir procedimentos estandardizados de avaliação da qualidade da implementação do programa. Dados da investigação internacional mostram que é possível obter maiores índices de eficácia quando a integridade do tratamento é avaliada (Andrews & Dowden, 2005, 2010a; Dowden & Andrews, 2004; Lowenkamp et al., 2006a). Deste modo, seria possível maximizar os efeitos positivos do GPS no funcionamento cognitivo, emocional e comportamental dos agressores. Investigação futura deve também analisar a capacidade do programa em reduzir as taxas de reincidência criminal em agressores adultos. Este estudo permitirá avaliar se as mudanças que ocorrem no funcionamento psicológico dos agressores após o GPS estão associadas à desistência do crime. Resultados positivos permitirão reforçar a eficácia do GPS na reabilitação psicossocial de reclusos, mas também sublinhar o impacto social que o mesmo é capaz de alcançar (pela sua capacidade em reduzir a reincidência no crime).

Os Modelos de Crescimento Latente mostraram que os reclusos apresentaram diferenças individuais na trajetória de mudança ao longo do tempo em várias das dimensões avaliadas (quer no grupo de tratamento, quer no grupo de controlo). Estudos futuros devem analisar variáveis relevantes que sejam capazes de explicar a variabilidade individual de resposta ao tratamento. Esses mesmos estudos permitirão ajustar as metodologias de intervenção às necessidades da população-alvo.

O presente estudo incluiu uma amostra de participantes relativamente jovem (entre os 18 e os 40 anos). A implementação do GPS com amostras de reclusos mais velhos parece ser relevante. Investigação futura com outro tipo de amostras (e.g., agressores do sexo feminino, agressores juvenis) e noutros contextos (e.g., contextos comunitários) é igualmente necessária. Estes dados permitirão testar o efeito do sexo (masculino vs. feminino), da idade (adultos vs. jovens) e do contexto (institucional vs. comunitário) sobre os resultados do programa. No seu conjunto, os resultados permitirão estabelecer o GPS como um programa eficaz, independentemente do tipo de amostra e do contexto de implementação. Para além disso, a generalização dos resultados do programa poderá ser realizada com mais precisão e maior segurança.

Tendo em conta que a amostra utilizada no presente estudo cometeu, maioritariamente, crimes contra a propriedade, investigação futura deve testar os efeitos do GPS com agressores violentos. Esta questão é particularmente relevante, atendendo aos dados empíricos que sugerem que os agressores violentos podem ser menos responsivos ao tratamento (e.g., Tong & Farrington, 2006). Estes estudos poderão ainda ter em conta o perfil do risco de reincidência (baixo, moderado ou elevado), tendo em conta que esta variável pode ter impacto nos resultados do GPS.

Finalmente, estudos de eficácia do programa noutros países parecem ser fundamentais. Importa destacar que neste momento o manual do GPS está a ser traduzido e adaptado para inglês por uma equipa de investigadores da Universidade de Washington, com vista à sua implementação e à realização de estudos de eficácia em amostras americanas de agressores juvenis e adultos.

## 5. Implicações para a intervenção clínica-forense com agressores e para a gestão do sistema prisional

O presente estudo oferece importantes contributos e implicações para a intervenção clínica-forense com agressores e para a gestão do sistema prisional. De um modo geral, os resultados apontaram para a eficácia do GPS em promover mudanças a nível cognitivo, emocional e comportamental em reclusos do sexo masculino. Deste modo, é disponibilizado aos Estabelecimentos Prisionais Portugueses um programa de intervenção baseado na evidência, o que pode contribuir para a fundamentação das suas práticas e modelos de reabilitação. Os dados disponíveis sustentam o recurso a programas de intervenção estruturados e específicos que, geralmente, implicam poucos recursos humanos e económicos (Andrews & Bonta, 2010a, 2010b; Bonta & Wormith, 2013; McGuire, 2006a, 2008, 2011, 2013; Hollin et al., 2013). Reforçam também a importância de promover a mudança de uma forma progressiva e integrada, procurando alcançar melhorias em diferentes níveis do funcionamento dos reclusos, incluindo: comunicação e padrões de relacionamento interpessoal, regulação emocional e processamento de informação (processos e estruturas cognitivas). Sugerem ainda que o formato de grupo, bem como o uso de metodologias experienciais são estratégias úteis para promover a mudança, mesmo em reclusos severamente perturbados (com vários diagnósticos de patologia da personalidade). Os resultados obtidos com o grupo de controlo (que deteriorou em várias das dimensões avaliadas) reforçam, mais uma vez, a necessidade de o sistema prisional refletir sobre as práticas de reabilitação tradicionais e de oferecer tratamento adequado às necessidades dos reclusos. No que diz respeito ao GPS em concreto, o mesmo pode ser utilizado não só com o objetivo de promover mudanças a diferentes níveis, mas também com o objetivo de evitar que os reclusos deteriorem ao longo do tempo no seu funcionamento cognitivo, emocional e comportamental.

Os resultados obtidos parecem também ter implicações para a avaliação psicológica dos reclusos. Tendo em conta a elevada prevalência das perturbações da personalidade encontrada neste estudo, parece ser importante incluir a avaliação da patologia da personalidade na avaliação inicial e na definição dos planos individuais de reabilitação dos reclusos. Esta questão remete para a importância de os psicólogos que atuam em contexto prisional receberem formação e supervisão no diagnóstico e no tratamento de reclusos com perturbações da personalidade. A introdução de procedimentos estandardizados de avaliação da patologia da personalidade, bem como de tratamentos específicos, parece ser fundamental.

Importa destacar que o GPS foi capaz de modificar o comportamento observável dos reclusos em contexto prisional, nomeadamente as infrações disciplinares cometidas pelos

mesmos, bem como a duração dos procedimentos disciplinares que lhes são administrados como consequência por terem cometido infrações. Este resultado é de considerável relevância para o funcionamento de um Estabelecimento Prisional. Uma redução das infrações disciplinares e do comportamento conflituoso em contexto prisional está associado a vários indicadores de saúde mental e de bem-estar dos reclusos (Dante, 2012; Marcum et al., 2014). Para além da promoção do ajustamento interpessoal dos reclusos, estes resultados podem contribuir para uma gestão mais adequada dos Estabelecimentos Prisionais. Em primeiro lugar, a equipa técnica fica menos sobrecarregada com a resolução e gestão das infrações/procedimentos disciplinares e com o trabalho burocrático associado às mesmas, podendo dedicar-se a outro tipo de atividades, nomeadamente à implementação de programas de reabilitação (Tewksburry et al., 2014). Em segundo lugar, reduzem-se os custos associados às infrações disciplinares, como por exemplo custos associados à destruição de propriedade ou de infraestruturas (Tewksburry et al., 2014). Podem também ser reduzidos custos associados à segurança, nomeadamente aqueles associados à contratação de um número elevado de guardas prisionais. Uma redução das infrações disciplinares pode ainda contribuir para uma diminuição das taxas de *turnover* da equipa técnica (Auty et al., 2017; Memory et al., 1999). Para além disso, uma instituição segura pode tornar-se um local de trabalho mais atrativo, não só para os atuais funcionários, como também para futuros colaboradores (Marcum et al., 2014). Finalmente, os Estabelecimentos Prisionais recorrem menos frequentemente a estratégias punitivas e corretivas que a investigação tem sistematicamente demonstrado estarem associadas ao aumento das taxas de reincidência (Andrews & Bonta, 2010a, 2010b; Bonta et al., 2011; Bonta & Wormith, 2013; McGuire, 2011, 2013).

O GPS é atualmente aplicado em 13 Estabelecimentos Prisionais, sendo que até ao momento já foram constituídos 50 grupos que, no total, incluíram 587 reclusos. É igualmente mantido o contacto regular entre a equipa de investigação e a DGRSP, através de sessões de supervisão dos psicólogos na implementação do programa, mas também de formação inicial de novos técnicos na aplicação do GPS. Importa referir que, de acordo com os princípios das intervenções eficazes, um programa de intervenção parece funcionar melhor quando é supervisionado e avaliado por um investigador. A recolha regular de dados acerca do modo como uma intervenção é realizada (mesmo após a conclusão dos estudos de eficácia), mantém clara a sua finalidade e potencia a adesão dos participantes às estratégias de intervenção que são implementadas (Hollin & Palmer, 2005; Hollin et al., 2013; Lipsey, 2009).

## 6. Conclusão

Esta dissertação procurou responder à necessidade de validar empiricamente o programa GPS, especificamente com agressores adultos que cumprem pena de reclusão, contribuindo para a fundamentação dos modelos e das práticas de intervenção dos técnicos que atuam em contexto prisional. Importa destacar que este é o primeiro estudo em Portugal da eficácia de um programa de intervenção realizado em contexto de justiça. De forma a ultrapassar as limitações encontradas na investigação realizada nesta área, este estudo

recorreu a um conjunto de procedimentos metodológicos robustos, de acordo com as recomendações do Grupo CONSORT (Moher et al., 2010). Este projeto foi desenhado para dar resposta a questões e objetivos específicos. Para além dos efeitos do GPS em diferentes tipos de indicadores do funcionamento psicológico (cognitivo, emocional e comportamental) dos agressores, procurou-se identificar efeitos moderadores (i.e., severidade da patologia da personalidade dos reclusos) do resultado do tratamento. Para além disso, a manutenção dos ganhos foi avaliada durante um período de *follow-up* consideravelmente longo (12 meses após a conclusão do GPS).

Os resultados apontaram para a eficácia do GPS em produzir mudanças significativas em diferentes níveis de funcionamento de reclusos do sexo masculino. O programa foi capaz de reduzir: (a) distorções cognitivas e proeminência de EMP; (b) sentimentos de raiva e de vergonha, bem como ideação paranoide; (c) dificuldades de regulação emocional; e (d) infrações disciplinares e comportamento conflituoso em contexto prisional. Adicionalmente, os resultados mostraram que os reclusos com perturbações da personalidade (independentemente da severidade da patologia) beneficiaram do GPS, o que, por sua vez, enfatiza a necessidade de o sistema prisional providenciar tratamento adequado às necessidades de intervenção dos reclusos. Sugerem também que o GPS pode ser usado como um programa de entrega universal, mesmo com reclusos severamente perturbados, tendo em conta que os participantes foram responsivos ao tratamento e apresentaram melhorias significativas ao nível cognitivo, emocional e comportamental.

Globalmente, os resultados desta dissertação oferecem evidência robusta acerca da eficácia do GPS na modificação de variáveis cognitivas, emocionais e comportamentais associadas à génese e à manutenção do comportamento agressivo e antissocial. Estas melhorias traduzem-se num maior ajustamento interpessoal dos reclusos durante a pena de reclusão, mas também numa gestão mais eficiente do sistema prisional. Estes resultados têm importantes implicações para a investigação, não só para estudos futuros do GPS, mas também para o desenvolvimento de novos programas de intervenção baseados na identificação e na manipulação de variáveis cognitivas, emocionais e comportamentais como alvos de mudança em agressores.

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# ANEXOS

## ANEXO A |

## From multimodal programs to a new cognitive-interpersonal approach to the rehabilitation of offenders

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# From multimodal programs to a new cognitive-interpersonal approach to the rehabilitation of offenders

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## Abstract

A considerable amount of meta-analytic research supports the effectiveness of cognitive-behavioral programs in reducing recidivism rates, in youths and adults with antisocial behavior. These same studies suggest that programs including a cognitive component are as twice as more effective in reducing recidivism rates.

This paper reviews outcome studies sustaining the use of structured interventions in forensic settings. It introduces a new program – Growing Pro-Social (GPS), currently in use in several Portuguese youth rehabilitation centers and prisons. GPS is a multimodal structured group program designed for the rehabilitation of individuals with antisocial behavior. It includes 40 weekly sessions, organized into five sequential modules. Based on a cognitive-interpersonal theoretical framework, GPS focuses on cognitive, emotional, and behavioral change, assuming as an ultimate goal the modification of dysfunctional core beliefs underlying antisocial behavior.

*Keywords*: antisocial behavior; cognitive-behavioral rehabilitation programs; intervention efficacy; meta-analytic studies; Growing Pro-Social Program.

## Introduction

There is currently a large body of empirical evidence sustaining the efficacy of cognitive-behavioral rehabilitation programs in reducing recidivism rates in young and adult offenders. Many of these programs are applied either to prevent or to rehabilitate delinquent youths and antisocial adults. Since the first efforts to design structured interventions with antisocial individuals, there has been a growing tendency towards more complex methodologies, strategies, and program contents. In the last decades, the majority of the proposed programs are based on cognitive-behavioral models of deviant behavior. Consequently, their contents, modules, and sessions aim for the development of deficits (cognitive, emotion regulation, and behavioral skills), which have been shown to play a significant role in the maintenance of aggressive behavior patterns and antisocial personality traits.

This paper reviews outcomes from research supporting the use of structured intervention programs in the rehabilitation of young and adult offenders, discusses factors that may affect intervention's outcomes, and presents a new cognitive-interpersonal structured approach which tries to overcome some of the shortcomings of traditional psychoeducational programs.

## The impact of interventions in the rehabilitation of young and adult offenders

In 1974, Martinson, in his famous paper on the rehabilitation of antisocial individuals entitled *What works? – Questions and answers about prison reform* stated that "(…) education at its best, or psychotherapy at its best, cannot overcome, or even appreciably reduce, the powerful tendency for offenders to continue in criminal behavior" (p. 49). Later publications (Blagg & Smith, 1989; Brody, 1976; Lipton, Martinson, & Wilks, 1975; Wilks & Martinson, 1976) sustained that *nothing works* in the rehabilitation of offenders. Investigations supporting these statements were mainly efficacy studies of treatments based mostly in corrective and punitive strategies (Andrews, 1995; Andrews & Bonta, 2010a; Andrews et al., 1990; Hoge, 2009; McGuire, 2006; Quay, 1987). It has been systematically proven, however, that such strategies are associated with increased criminal recidivism rates (Andrews, 1995; Andrews & Bonta, 2010a; Andrews et al., 1990; Caldwell & Rybroek, 2005; Lipsey, 1995, 2009; Lipsey, Howell, Kelly, Chapman, & Carver, 2010; McGuire, 2001, 2006; McGuire & Priestley, 1995). Based on these kinds of interventions, the conclusion that all efforts in the rehabilitation of young and adult offenders are useless seems very straightforward. Hence, such studies presented several methodological flaws (Hoge, 2001; Lösel, 1995; McGuire, 2008). Since then, theoretical models have become more complex and accurate, and research has evolved to more reliable methods. Several efforts led to a considerable amount of outcome research testing whether rehabilitation programs had or not impact on recidivism rates.

Questioning the statements by Blagg and Smith (1989), Brody (1976), Lipton and colleagues (1975), Martinson (1974), and Wilks and Martinson (1976), other authors (Gendreau & Ross, 1979; Palmer, 1975; Thornton, 1987) conducted different reviews and concluded that

treatment can effectively reduce criminal recidivism, with almost 50% of the studies showing positive effects of psychotherapeutic interventions. Nevertheless, the belief that nothing works was so deeply entrenched in the criminal justice system (McGuire & Priestley, 1995) that the discussion of whether rehabilitation of offenders would be possible remained for over a decade (Lösel, 1995). Intending to clarify this issue, several authors (Andrews et al., 1990; Garret, 1985; Lipsey, 1995; Lipsey & Wilson, 1998; Lösel, 1995; Redondo, Garrido, & Sanchéz-Meca, 1997; Redondo, Sanchéz-Meca, & Garrido, 1999) carried out meta-analytic studies to revise the research results in this field.

The first meta-analytical study with offenders was by Garret (1985), evaluating the impact of institutional interventions in delinquent youths. The author reviewed 111 studies carried out between 1960 and 1984, describing treatment programs in residential inpatient settings. In total, 13,000 individuals were included, with an average age of 15.8 years. Results suggested an average reduction of 18% in criminal recidivism rates.

A meta-analysis by Lipsey (1995), based on 400 treatment outcome studies, including over 40,000 youth offenders, compared changes in delinquent behavior in experimental group subjects and controls (treatment as usual or different intervention). After a six-month follow-up, controls had an average recidivism rate of 50%, while subjects from the experimental group had an average rate of 45%. Reducing 5% on a 50% base is equivalent to an average global reduction of 10%. Although such results seem modest, they are, according to Lipsey (1995) "within the range of effects viewed as significant in medical treatment and other such domains" (p. 67). Identical reductions in recidivism rates were found in the meta-analyse by Andrews and colleagues (1990), Lipsey and Wilson (1998), and Lösel (1995).

In a review by Lipsey (1995), assessing the impact of interventions in delinquency focusing on other variables than criminal recidivism, average treatment effects were found for psychological adjustment (28%), interpersonal adjustment (12%), school attendance (12%), academic performance (14%), and vocational performance (10%). Therefore, we can observe positive treatment effects in experimental groups (between 10 and 30%) not only in recidivism rates, but also in different areas of the individual's social ecology. Recent findings (e.g., Morgan et al., 2012) showed positive treatment effects in relevant dimensions such as psychopathology, interpersonal adjustment, and behavior regulation.

In another review of meta-analytic studies in European Countries, Redondo and colleagues (1997) analyzed youth and adult treatments and found a global effect of 15% in recidivism rates reduction. The same authors (Redondo et al., 1999) later observed a global effect of 12% in recidivism reduction in a meta-analytic study involving 32 European countries after a two-year follow-up.

At a first glance, these results may seem fairly modest. However, it is important to stress that symptom reduction to this same extent is enough to legitimize, in many countries, the prescription of several drugs. On the other hand, it is important to highlight that meta-analytic studies encompass several types of programs; and because they include a large number of studies, programs of different contents and variable length, which are based on different

conceptual models and approaches, are undifferentiated. There are, therefore, strong reasons to consider that the efficacy could be improved if interventions: (a) were extended in time (enough to promote and reinforce changes); (b) adhered to a progressive strategy of change (through the path of least resistance to change); (c) considered the associations between different targets and levels of intervention (from behavior regulation to change in cognitive distortions and core beliefs about the self and others).

## Factors affecting positive outcomes

As stated by McGuire (2006), intervention effects in recidivism reduction are, on average, positive. This positive impact is mediated by several variables (Landenberger & Lipsey, 2005; Lipsey, 1995, 2009; Lipsey et al., 2010): (a) nature of the interventions; (b) treatment length; (c) delivery settings; (d) staff qualifications; and (e) participants characteristics.

Considerable research (Andrews, 1995; Andrews & Bonta, 2010a; Andrews et al., 1990; Borum & Verhaagen, 2006; Farrell & Flanner, 2006; Garret, 1985; Genovés, Morales, & Sanchéz-Meca, 2006; Gilbert & Daffern, 2010; Lipsey, 1995; Lipsey & Wilson, 1998; MacKenize, 2006; Lösel, 1995; McGuire, 2001; McGuire et al., 2008; Redondo et al., 1997; Redondo et al., 1999) provides evidence that the most efficacious treatments include behavioral and concrete components, aimed at a set of skills and, therefore, multimodal in nature. According to Lösel (2001), the average effect resulting from these approaches is an approximately 20% in recidivism reduction. A meta-analysis (Izzo & Ross, 1990) of 46 studies of intervention programs for youths with deviant behavior showed that programs including a cognitive component are twice as effective as those that do not. Behavioral programs with a cognitive component are the most effective, since they address attitudes, values and beliefs underlying antisocial behavior (Gendreau & Andrews, 1990). Other studies have underlined the efficacy of cognitive programs not only in recidivism reduction (Pearson, Lipton, Cleland, & Yee, 2002), but also in correcting cognitive distortions (Bogestad, Kettler, & Hagan, 2009), and cognitive restructuring at schematic levels underlying dysfunctional social information processing (Wilson, Bouffard, & MacKenzie, 2005).

There are also several programs with little or no empirical support. Among these, there are vocational training activities, which do not lead to genuine employment perspectives, and the "intimidation programs", based on direct confrontation with the consequences of transgression (McGuire, 2006). There is also scant empirical support for the effectiveness of psychodynamic approaches, non-directive counseling, community therapy, and other methods based on promoting insight to reduce recidivism (Andrews et al. 1990, Garrett, 1985; Lipsey, 1995; Lipsey & Cullen, 2007; Lösel, 1995, 2001; McGuire, 2001, 2006, 2008).

Another factor influencing positive outcomes is the treatment length that, according to Lipsey (1995), should last over 26 weeks, allowing two or more weekly encounters and/or over 100 hours of contact. Longer and more intense treatments may be more beneficial to individuals with antisocial behavior, considering their chronic resistance to change their attitudes and behaviors (Abrunhosa, 2007). These suggestions seem to be valuable, since greater time may

give enough opportunities to: (1) counter deeply entrenched maladaptive cognitive and behavioral patterns, (2) reinforce change, and (3) promote the generalization of the acquired skills to ecologically valid contexts.

The context where intervention occurs – institutional *vs.* community setting – may have an impact on the intervention's efficacy. In fact, several studies suggest that treatment in community settings is more effective (Andrews et al., 1990: Lipsey & Wilson, 1998; Lösel, 1995; McGuire, 2006; Redondo et al., 1997). However, a meta-analysis by Antonowicz and Ross (1994) compared these two contexts and found no significant differences between them. The lack of consensus about this issue may be explained by different sample characteristics, and type, duration, and quality of treatment implementation. Actually, even well-designed programs may have reduced or no effects at all, when implemented inadequately (Blackburn, 1993; Evans-Chase & Zhou, 2012; Landenberger & Lipsey, 2005; Lipsey et al., 2010; McGuire, 2001). Thus, it is important to assess whether an intervention program has sufficient integrity; that is, if it is planned, proposed, and implemented in the correct manner.

Besides treatment integrity, staff qualification is a key-factor to be addressed (Dowden & Andrews, 2004). Any professional that deals with antisocial individuals must be previously educated and acquire the specific theoretical framework and practical knowledge about this population and the institution in which they work. This can be done with proper training on how to interact with antisocial and aggressive individuals, on how to cope with typical interpersonal situations in forensic settings, and also by acknowledging the ethical and deontological issues that will arise in their practice. On the other hand, it is essential that all the institutional staff are involved in the implementation and assessment of any intervention.

Participant's characteristics, such as age, ethnicity, and history of prior convictions, may also be related to positive intervention effects. Lipsey (1995) states that the general association pattern is that high-risk youths (older and with prior convictions) show a more significant reduction in delinquency when compared to low-risk youths. This may be due to the fact that low-risk individuals have a smaller margin of improvement (Lipsey, 1995). In a meta-analysis by Garret (1985), results sustain that younger individuals, less involved in delinquent lifestyles, benefitted more from the interventions. In spite of these contradicting data, it seems important to acknowledge that the association between age and criminal recidivism is weak, being the average treatment effects the same regardless of subjects age (McGuire, 2006).

Concerning ethnicity, McGuire (2006) states that research is inconclusive, because most subjects are of African ethnicities, and this does not allow adequate comparative studies on the influence of ethnicity on treatment outcome. With regard to the type of transgression, Redondo and colleagues (1997) point to lower effects in crimes against property (theft, robbery, burglary or extortion) or drug-related, compared to crimes against people (physical violence and/or sexual assault). Nevertheless, not many studies addressed this issue, thus, the conclusions by Redondo and colleagues (1997) should be carefully analyzed.

With the publication and dissemination of a considerable number of meta-analytic studies, there has been a shift in the scientific discussion about the efficacy of

psychoeducational interventions in the rehabilitation of antisocial individuals. Instead of debating whether interventions are effective in reducing recidivism rates, the current focus is on how to maximize the positive effects that were found so far, by improving intervention methods, targets for change, and the quality of program's delivery.

## The principles of effective interventions

There has been considerable consensus that if an intervention's development and implementation follow a given set of principles, the effect sizes of program's outcomes can be maximized (McGuire, 2006, 2011). In other words, effective interventions have a number of common features that Andrews and colleagues (1990) called "human service principles". By listing the features that could increase effect sizes, these authors concluded that their combination could produce a complimentary effect corresponding to a 53% recidivism rate reduction. Therefore, when interventions are adequately conceived and delivered, it is possible to achieve greater effect sizes (McGuire, 2006, 2011).

Experts who have reviewed this area of research agree that the main features of criminal justice interventions with a significant impact on recidivism rates reduction are the following:

a) **Theory and empirical base**: It is more likely that an intervention's efforts are more successful if it is based on criminal behavior theories that are conceptually sound and empirically validated (Andrews, 1995; Andrews & Bonta, 2010a; Andrews, Bonta, & Wormith, 2006; Andrews & Dowden, 2005; Lipsey, 1995; Skeem, Manchak, & Peterson, 2011).
b) **Risk assessment**: Assessment of risk levels is generally viewed as a good practice that makes it possible to allocate subjects at different levels of intervention intensity. Risk assessment is usually based on the individual's criminal history, such as age of first criminal charge or assault, and the total number of formal accusations (Andrews, 1995; McGuire, 2006). More intensive interventions should be applied to persons evaluated as being at higher risk of recidivism (Blanchette & Brown, 2006; Bourgon & Armstrong, 2005; Landenberger & Lipsey, 2005; Lipsey, 2009; Lipsey et al., 2010; McGuire & Priestley, 1995; Ward, Mesler, & Yates, 2007). This has been called "risk principle" (Andrews, 1995; Andrews & Bonta, 2010a, 2010b; Andrews & Dowden, 2005; Andrews et al., 1990; Andrews et al., 2006; Dowden & Andrews, 2000, 2004), and appears to be appropriate for both youth and adult offenders.
c) **Risk factors as targets of change**: Research on the etiology of antisocial behavior suggests that some social interaction patterns, social and cognitive skills, attitudes, (among other factors), are associated with its origin and maintenance (Andrews & Bonta, 2010b; Andrews et al., 2006; da Motta, Brazão, & Rijo, 2012; Dodge & Schwartz, 1997; Eron, 1997; Patterson, Reid, & Dishion, 1992; Reid & Eddy, 1997; Skeem et al.,

2011; Rijo & Sousa, 2004; Rijo et al., 2007). If the point is to make a difference when working with aggressors in trying to reduce criminal recidivism, these factors should be selected as targets of treatment (Evans-Chase & Zhou, 2012; Skeem et al., 2011). Because these kinds of variables fall into the dynamic risk factors category (thus, changeable), they should be a priority in any rehabilitation effort (Andrews, 1995; Andrews & Bonta, 2010b; Andrews et al., 2006; Dowden & Andrews, 2004; McGuire & Priestley, 1995).

d) **Multiple targets**: Given the multiple factors contributing to the deviant behavior, researchers (Andrews, 1995; Andrews & Bonta, 2010a, 2010b; Andrews & Dowden, 2005; Andrews et al., 1990; Andrews et al., 2006; Borum & Verhaagen, 2006; Farrell & Flanner, 2006; Garret, 1985; Genovés et al., 2006; Gilbert & Daffern, 2010; Landenberger & Lipsey, 2005; Lipsey, 1995, 2009; Lipsey & Wilson, 1998; Lipsey et al., 2010; Lösel, 1995; MacKenize, 2006; McGuire, 2001, 2006, 2008, 2011; McGuire et al., 2008; Redondo et al., 1997, 1999) consistently sustain that effective interventions should address several components and different levels, targeting the whole range of risk factors that can actually be changed. Interventions that successfully accomplish this can be designated as "multimodal".

e) **Sensitivity**: Criminal justice intervention programs are among the most sensitive approaches, as there are efforts to promote the participation, interest, motivation, and support in participants (Andrews, 1995; Andrews & Bonta, 2010a, 2010b; Andrews & Dowden, 2005; Andrews et al., 1990; Andrews et al., 2006). Rehabilitation efforts work better if they have concrete goals and well-structured contents (Lipsey, 1995; Morgan & Flora, 2002) in order to promote more adaptive skills. Professionals should be highly capable in providing support, and be able to develop healthy interpersonal relationships that are based on cooperation and have clear boundaries – general sensitivity. Intervention strategies should also be adapted to participants' diversity, such as age, gender, ethnicity, sexuality, language, and learning styles – specific sensitivity (McGuire, 2006).

f) **Integrity**: Intervention programs should adhere to the program's philosophy, structure and methods in order to assure that any implementation of a certain program maintains its integrity. Intervention strategies seem to work better when continuously evaluated (Belcher, 2013; Lipsey, 1995). Ongoing data collection to assess intervention outcomes helps to make clear its purpose and to keep it rigorous. Such features are called intervention integrity or reliability (Hollin, 1995; Hollin & Palmer, 2005), which should be systematically monitored and verified (McGuire & Priestley, 1995).

g) **Community setting**: Andrews (1995) recommends the use of community-based interventions whenever possible, and preferably in natural contexts (e.g., family). Resources should be directed at primary or developmental prevention, which includes interventions with families and children (e.g., economically at-risk-families or

neighborhoods) to prevent delinquency, mental health problems, and drug abuse in the long term (Blackburn, 1993; Hoge, 2001).

At a strategic level, policy-makers and coordinators managing a set of programs and services provided in any criminal justice system should take these principles into account when selecting appropriate interventions (Andrews, 1995). These principles should also be respected when assessing integrity and/or intervention outcomes (McGuire, 2006).

## From traditional psychoeducational interventions to a new cognitive-interpersonal approach: The Growing Pro-Social Program

Generally, cognitive-behavioral interventions used in the rehabilitation of young and adult offenders consist of a structured psychoeducational group program. This includes a large number of sessions, aiming at the development of different skills: social skills and problem-solving, negotiation skills, critical reasoning, anger control, creative thinking, and/or development of personal values (e.g., Ross, Fabiano, Garrido, & Goméz, 1993).

Current research shows that the most effective programs are those including the development of cognitive-interpersonal skills (Bogestad et al., 2009; Gendreau & Andrews, 1990; Izzo & Ross, 1990; Pearson et al., 2002; Wilson et al., 2005). Although the existing proposals are based on a cognitive theoretical framework, they do not assume the cognitive perspective on the human functioning as a whole (Rijo et al., 2007). That is, they do not identify what should be the focus of change and what actually causes change. Nor define the relationship between the variables that they try to modify during intervention (Rijo, da Motta, & Brazão, in press; Rijo & Sousa, 2004; Rijo et al., 2007). Traditionally, social skills, anger control, and cognitive distortions are addressed as if they were independent from one another (i.e., completely unrelated skills). According to the cognitive perspective of human behavior, cognitive distortions function as information processing biases, influencing the attribution of meaning to reality and serving core assumptions about the self and the others. In this sense, it is of little use to learn anger control strategies when there is no change in social information processing. In other words, overt behavior and the triggering of disruptive emotional reactions are closely associated with a certain way of processing the available social information and giving meaning to reality. Programs design and development should take these interrelations into account and be capable of promoting change in an integrative way.

Most programs have highly educational approach, and experience tells us that a predominantly educational intervention tends to be seen as monotonous, requiring too much attention and concentration, which is usually avoided by more dysregulated individuals. Additionally, even when participants get involved in the program's tasks and sessions, they can still maintain high levels of emotional avoidance and resistance to change, if those same tasks only require reasoning and problem-solving at a theoretical level. Besides, if generalization of the developed skills to other contexts is a goal, treatment tasks should parallel real life as closely as possible. Intervention with offenders should incorporate experiential and dynamic

features, aimed to minimize difficulties and resistances, and to promote change in ecologically valid real-life situations.

Another frequent misconception in traditional approaches to rehabilitation is the assumption that the majority of antisocial individuals have deficits in social skills. Clinical practice and research have shown that many aggressors do not present social deficits, and any effort of prevention and rehabilitation should focus more on the question of whether certain skills are used, as well as the frequency, context, and purpose with which they are employed (Rijo & Sousa, 2004).

In an effort to overcome some of the limitations of the current approaches, the Growing Pro-Social – GPS (Rijo et al., 2007) program was developed to be used in the prevention of antisocial behavior and in the rehabilitation of delinquent youths, adapting as much as possible its contents and methodology to the characteristics of the target population, and to the principles of effective interventions.

The theoretical framework underlying GPS is based on a cognitive-interpersonal perspective of the origins and maintenance of deviant behavior. This cognitive conceptualization refers to dysfunctional core schemas, cognitive distortions and cognitive products leading to particular interpretations of events underlying tendencies to action, typical dysfunctional attitudes, and patterns of aggressive behavior. Thus, changes in dysfunctional behavior should reflect changes in cognitive functioning (i.e., in the modification of dysfunctional core beliefs underlying social information processing biases).

Early Maladaptive Schemas – EMSs (Young, 1990; Young, Beck, & Weinberger, 1993; Young & Linderman, 1992; Young & Klosko, 1994; Young, Klosko, & Weishaar, 2003) have been proposed as dysfunctional cognitive core structures, developed in the early stages of life from toxic experiences with significant others, and connected to disruptive emotions when triggered. These schemas tend to stay unchanged over one's lifetime and individuals develop maintenance, avoidance, and compensation processes in order to confirm their own schemas. EMSs have been studied as core cognitive constructs explaining the origins and maintenance of personality disorders (Ball & Cecero, 2001; Jovev & Jackson, 2004; Nordahl, Holthe, & Haugum, 2005; Petrocelli, Glaser, Calhoun, & Campbell, 2001a; Petrocelli, Glaser, Calhoun, & Campbell, 2001b). Further, schema-focused therapy has proven to be effective in reducing severe personality disorders malfunctioning (Farrell, Shaw, & Webber, 2009; Giesen-Bloo et al., 2006; Nadort et al., 2009; van Asselt et al., 2008). More recently, research addressed the issue of EMS underlying antisocial behavior (Bernstein, 2008; Bernstein, Arntz, & Vos, 2007). There is some evidence that, from a cognitive point of view, EMS related to antisocial behavior result from deviant trajectories in three main areas of human development: (1) disconnection and rejection – emotional deprivation, abandonment, mistrust/abuse, defectiveness/shame, and social isolation/alienation; (2) impaired autonomy and performance – failure; and (3) impaired limits – entitlement and insufficient self-control (Rijo & Sousa, 2004; Rijo et al., 2007). The ultimate goal of GPS is to reduce the prominence of these biases-inducing structures on the

social information processing, leading to more adjusted emotional, motivational, and behavioral patterns.

Clinical practice shows that, when dysfunctional core beliefs are triggered, the individuals tend to resort to avoidance processes (voluntarily or involuntarily) in an attempt to block the experience of disruptive schema-related negative emotions. In order to circumvent, at least partially, any biases resulting from the cognitive and emotional avoidance processes, GPS' change process resort mainly to experiential tasks. In these exercises, individuals experience emotional triggering, become aware of tendencies to action, and gain knowledge about the way their mind works when core issues are triggered. Usually, sessions follow a philosophy of first "feel", second "think about it", and third "try to change it". This strategy tries to overcome the aforementioned limitations with the traditional educational and rational approaches.

Attending to the interrelation between cognition, emotions, and behavior, emotion regulation is addressed throughout several sessions focusing on the function and meaning of the emotions. Participants are guided to discover the richness and diversity of the human emotional experience, viewing emotions as serving an evolutionary purpose. All emotions are conceptualized as adaptive and useful for human survival, and for the adaptation of any human being throughout the lifespan. In this sense, there are no negative emotions, but instead, emotional responses that should be adjusted to specific situational needs. By leading participants in the experience of different emotions, and increasing knowledge about their usefulness, GPS tries to promote emotion recognition and regulation in a close connection to cognitive functioning.

The first sessions of the program focus on human communication and interpersonal relationships. At a first glance, it may seem that interpersonal communication and social skills are being promoted. However, the main purpose of these sessions is to lead participants to think about the way their minds work when in a relationship with the mind of others, through guided discovery and Socratic questioning strategies. In other words, these contents introduce flexibility in the dominant thinking style (strictly connected to aggressive behavior).

The program includes 40 weekly sessions, each lasting about 90 minutes. Sessions must be carried out by two professionals, at least one of whom is skillful in the use of cognitive-behavioral therapy techniques. Sessions are grouped into five sequential modules: (1) human communication, (2) interpersonal relationships, (3) cognitive distortions, (4) function and meaning of emotions, and (5) dysfunctional core beliefs (see Table 1). The program also provides follow-up sessions that can be carried out optionally.

Table 1. *GPS Modules and Contents*

| Modules | Number of sessions | Contents summary |
|---|---|---|
| Initial session | 1 | Presentation of the participants, the structure and the methodology of the program. |
| 1. Human communication | 5 | The communication process and its obstacles; verbal and non-verbal communication skills, the ambiguity of human communication; the (in)congruences between digital and analogical languages. |
| 2. Interpersonal relationships | 10 | Behavioral styles (assertive, aggressive, passive and manipulative) in relationships; self-concept and interpersonal behavior; ideas about the others and interpersonal behavior; specific interpersonal contexts and assertive behavior; negotiation as a strategy to deal with conflicts. |
| 3. Cognitive distortions | 6 | Understanding cognitive distortions; identifying and changing cognitive distortions: Selective Abstraction, Overgeneralization, Mind Reading, Crystal Ball, Minimization, Disqualifying the Positive Experiences, Dichotomous Thinking, Labeling and Personalization. |
| 4. Function and meaning of emotions | 7 | The diversity of the emotional experience; the nature and function of emotions: sadness, shame, fear, anger, guilt, and happiness. |
| 5. Dysfunctional core beliefs | 10 | The role of core beliefs about the self and the others; dysfunctional core beliefs and their influence in giving meaning to reality; identifying and changing relevant core beliefs: Failure, Social Isolation, Mistrust/Abuse, Defectiveness/Shame, Emotional Deprivation, Abandonment/Instability, Grandiosity; fighting core belief's influences in thoughts, emotions, and behavior. |
| Final session | 1 | Reflection and consolidation of learning, and generalization of gains made during the program. |

*Note*. Adapted from Gerar Percursos Sociais (GPS), um programa de prevenção e reabilitação para jovens com comportamento desviante – bases conceptuais, estrutura e conteúdos [Growing Pro-Social (GPS), an intervention and rehabilitation program for youths with deviant behavior – theoretical framework, structure and contents], by D. Rijo and M. N. Sousa, 2004, *Infância e Juventude, 4*, p. 58.

As stated above, new approaches to the rehabilitation of young and adult offenders should include a clearly defined strategy of change, identify targets of change, and assess outcomes at other levels than recidivism rates reduction. GPS' ultimate goal is to promote change at a deeper level of the cognitive functioning: changing dysfunctional core beliefs about the self and others. This is accomplished following a gradual strategy of change which begins by: (1) increasing knowledge about human communication (acknowledging the ambiguity of human interactions), (2) changing maladaptive interpersonal behavior patterns, then (3) learning about thinking errors and trying to counteract them, later (4) experiencing and understanding the way emotions work and the influence they exert over our mind and behavior and, finally, (5) relating our actual problems and malfunctioning with core issues influencing the way we act and react towards others. This gradual strategy of change obliges to deliver the program in a predefined sequence of modules and sessions.

Outcome research on GPS efficacy has been carried out both with young offenders and adult male prison inmates. An abbreviated version of the program (condensed into 25 sessions) has been delivered to youths in Portuguese juvenile correctional facilities. Results so far point out to significant clinical changes in anger, aggression and hostility. Also, there was a decrease of cognitive distortions, as well as a decrease in the prominence of the EMS underlying antisocial behavior (Brazão, 2011; Firme, 2009; Rijo, da Motta, Brazão, Rosa, & Firme, 2011a, 2011b; Rijo et al., in press).

GPS has also been selected as a universal delivery intervention program to be used by the national prison services. In the case of adult prison inmates, the full 40-session version of the program is being implemented. The first clinical trials (Brazão, da Motta, Rijo, Salvador, Pinto-Gouveia, & Ramos, 2013a, 2013b; da Motta, Rijo, & Brazão, 2012), comparing randomly assigned treatment group subjects with controls, showed that a greater percentage of subjects from the treatment group showed significant clinical improvements on anger, external shame, paranoia, and biased information processing, while controls did not improve on these variables. Additionally, the majority of the controls presented some degree of clinical deterioration in the studied variables. Research on GPS efficacy is a work in progress, and future studies will test these outcomes with larger samples and over a one-year follow-up period.

## Discussion

To counteract the predominant idea in the 1970's that nothing works in the rehabilitation of individuals with antisocial behavior (Blagg & Smith, 1989; Brody, 1976; Lipton et al., 1975; Martinson, 1974; Wilks & Martinson, 1976), a considerable number of meta-analytic studies (Andrews et al., 1990; Garret, 1985; Lipsey, 1995; Lipsey & Wilson, 1998; Lösel, 1995; Redondo et al., 1997, 1999) confirmed the effectiveness of psychoeducational or multimodal programs in reducing recidivism rates in youth and adult offenders. Overall, although modest (10 to 20%), effects were significant (Lipsey, 1995). More recent studies (Andrews & Bonta, 2010a; Andrews & Dowden, 2005; Andrews et al., 2006; McGuire, 2006, 2011; Skeem et al.,

2011) advocate that the effect size could be maximized if programs shared a set of common features that Andrews and colleagues (1990) called "human service principles".

Although there is currently a better understanding of what are effective interventions, a substantial amount of work remains to be done (Farrell & Flannery, 2006). Because most studies have focused on recidivism rates as the main outcome measure, little is known about the mechanisms underlying change (Skeem, Polaschek, & Manchak, 2009). Furthermore, few studies have focused on the effective staff characteristics, or on the best practices to be used in the delivery of these programs (Dowdens & Andrews, 2004). This issue should be addressed by research in this field, given that several authors (Blackburn, 1993; Evans-Chase, & Zhou, 2012; Landerberger & Lipsey, 2005; Lipsey et al., 2010; McGuire, 2001) argue that interventions may have reduced or no effects at all when implemented inadequately.

Group-based intervention programs for the prevention and rehabilitation of antisocial individuals differ greatly in goals, theoretical framework, length, number of sessions, contents and skills to promote, as well in the selected methodologies and format of program delivery. The most disseminated and validated programs directed toward the reduction of recidivism rates are structured group-based cognitive-behavioral rehabilitation approaches (Andrews, 1995; Andrews & Bonta, 2010a; Andrews et al., 1990; Bogestad et al., 2009; Borum & Verhaagen, 2006; Farrell & Flanner, 2006; Garret, 1985; Izzo & Ross, 1990; Gendreau & Andrews, 1990; Genovés et al., 2006; Gilbert & Daffern, 2010; Lipsey, 1995; Lipsey & Wilson, 1998; Lösel, 1995, 2001; MacKenize, 2006; McGuire, 2001; McGuire et al., 2008; Pearson et al., 2002; Redondo et al. 1997, 1999; Wilson et al., 2005). Typically, these programs are divided into different modules, each one encompassing several sessions. These sessions address different issues that research has shown to be associated with antisocial behavior. Abilities promoted in this kind of programs usually include: social skills, communication skills, reasoning, moral development, emotional control, and cognitive abilities (Ross et al., 1993; Wilson et al., 2005). Nevertheless, these programs tend to be designed as a sequence of skills training sessions, thus ignoring the interdependences between the addressed variables (Rijo & Sousa, 2004; Rijo et al., 2007). For example, emotional control sessions are carried out as if emotional control was totally independent from social reasoning or interpersonal behavior. Another misconception of traditional psychoeducational approaches has to do with the methodologies usually adopted: a tendency to repeat school methods, giving preference to reasoning and school-like activities and tasks (paper and pencil), rather than experiential tasks, which would be more adequate to increase self-knowledge as well as cognitive, emotional, and behavioral change.

These aforementioned shortcomings led to the development of a new rehabilitation program, the GPS – Growing Pro-Social (Rijo et al., 2007), a group format intervention for individuals with antisocial behavior, designed to be used both with secondary or tertiary prevention purposes. Recognizing the nature of aggressive and antisocial behavior, as well as its cognitive-behavioral maintenance factors (Dodge & Schwartz, 1997; Eron, 1997; Patterson et al., 1992; Reid & Eddy, 1997), the authors used their clinical expertise in treating personality

disordered people having problems with the justice system to select the GPS contents and methodology. When compared to similar psychoeducational programs, GPS seems to achieve a greater degree of sophistication and theoretical complexity. Theoretical innovations of GPS refer to the Early Maladaptive Schemas (Young, 1990; Young & Linderman, 1992; Young & Klosko, 1994; Young et al., 1993, 2003) or dysfunctional core beliefs about the self and others, proposed as underlying antisocial behavior (Rijo & Sousa, 2004; Rijo et al., 2007). Another innovation is also the recurrent use of experiential strategies, assuming that the triggering of specific emotional patterns will increase self-knowledge and facilitate change. GPS follows a strategy of gradual change, assuming as the ultimate goal the modification of the previously mentioned dysfunctional core beliefs. By increasing the cognitive and emotion self-regulation, GPS proposes a model of progressive change, able to achieve a stable and healthy interpersonal behavior functioning.

Outcome research studies to date point to the ability of the program to improve the psychological functioning of participants, namely improvements on anger, external shame, paranoia, biased information processing, and dysfunctional core beliefs worked throughout GPS (Brazão et al., 2013a, 2013b; da Motta et al., 2012; Rijo, et al., 2011a, 2011b). Research about GPS' efficacy in promoting cognitive, emotional, and behavioral change is still a work in progress and studies with larger samples are being carried out, both with juveniles and male adult offenders. Follow-up investigation are also planned and if this research addresses change in cognitive and emotional correlates of antisocial behavior, the program's impact on criminal recidivism should also be a topic for future studies.

Adhering to the principles of effective interventions, the systematic monitoring and data collection to assess the intervention's efficacy is a good strategy to ascertain the program's integrity. Practice and research would both benefit from efficacy studies of existing interventions. A more systematic evaluation of the processes and variables involved in changes observed in current interventions in forensic settings would further clarify what are the "active ingredients" that lead to more effective and durable outcomes.

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## ANEXO B |

## The prevalence of personality disorders in Portuguese male prison inmates: Implications for penitentiary treatment

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# The prevalence of personality disorders in Portuguese male prison inmates: Implications for penitentiary treatment

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## Abstract

Prison inmates are known to be a population with a high prevalence of mental disorders. Most of these disorders are chronic and difficult to treat, particularly in what concerns Cluster B Personality Disorders, which prevalence in forensic samples are even higher than in the general population. This study assesses the prevalence of Personality Disorders in a sample of 294 Portuguese male prison inmates, interviewed with the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II). The results showed a global prevalence rate of 79.9%, with 39.1% of the participants diagnosed with Antisocial Personality Disorder as the main diagnosis. Paranoid, Passive-Aggressive, Borderline, and Narcissistic Personality Disorders were the most common comorbid diagnosis associated with Antisocial Personality Disorder. These results strongly suggest that Personality Disorders should be taken into account when deciding and planning the intervention inside prison.

*Keywords*: prevalence; personality disorders; male prison inmates; penitentiary treatment.

## Resumo

A população reclusa é conhecida pela elevada prevalência de perturbações mentais, muitas delas crónicas e difíceis de tratar, sobretudo no que se refere às Perturbações da Personalidade do Grupo B, cuja prevalência em contextos forenses é superior à observada na população geral. Este estudo avaliou a prevalência das Perturbações da Personalidade numa amostra de 294 reclusos Portugueses do sexo masculino. Os participantes foram avaliados com a Entrevista Clínica Estruturada para as Perturbações da Personalidade do Eixo II do DSM-IV (SCID-II). Os resultados mostraram uma elevada prevalência global de 79.9%, sendo que a Perturbação de Personalidade Antissocial foi identificada em 39.1% dos participantes como o diagnóstico principal. As Perturbações de Personalidade Paranoide, Passivo-Agressiva, Borderline e Narcísica foram os diagnósticos comórbidos mais frequentemente associados à Perturbação de Personalidade Antissocial. Estes resultados sugerem que a patologia da personalidade é uma variável que deve ser tida em conta na decisão e na definição da intervenção em contexto de reclusão.

*Palavras-chave*: prevalência; perturbações da personalidade; reclusos do sexo masculino; tratamento penitenciário.

## Introduction

Personality Disorders are severe forms of a psychological disturbance affecting 9.1% of the general population (American Psychiatric Association, 2013). Data from the 2001-2002 US Epidemiologic Survey on Alcohol and Related Conditions suggests that approximately 15% of adults have at least one Personality Disorder. Over the past decades, interest in offender's mental health has increased enormously and a considerable amount of research has focused on the prevalence rates of Personality Disorders in prison inmates. Nonetheless, no prevalence studies have been carried out in Portuguese prisons to assess offender's psychopathology rates and mental health intervention needs.

International studies have shown that the prevalence rate of Personality Disorders among incarcerated individuals is high, reaching up to 80% (Black et al., 2007; de Ruiter & Trestman, 2006; Fazel & Danesh, 2002; Roberts & Coid, 2010; Teplin, 1994). As expected, the most prevalent DSM diagnosis among prison inmates is Antisocial Personality Disorder, with prevalence rates between 46 and 84% (Coid, 2002; Fazel & Danesh, 2002; Kjelberg et al., 2006). Other Cluster B Disorders, especially Borderline Personality Disorder, are also prevalent in prison inmates (Black et al., 2007; Coid, 2002; Coid, Kahtan, Gault, & Jarman, 1999; de Ruiter & Trestman, 2006; Johnson et al., 2000; Sansone & Sansone, 2009; Teplin, 1994; Warren et al., 2002).

The association between Personality Disorders and violent offenses is widely known and reported in several studies (Duggan & Howard, 2009; Gilbert & Daffern, 2011; Roberts & Coid, 2010; Short, Lennox, Stevenson, Senior, & Shaw, 2012; Warren & South, 2009; Yu, Geddes, & Fazel, 2012). Research with clinical and forensic samples has found that Personality Disorders are predictors of violent behavior (e.g., Hiscoke, Långström, Ottosson, & Grann, 2003; Thornton, Graham-Kevan, & Archer, 2010). Nonetheless, some Personality Disorders are more strongly associated than others with violent behavior, namely Antisocial and Borderline Personality Disorders, the only two of the ten listed in the DSM-5 (APA, 2013), which explicitly includes diagnostic criteria addressing aggression. In a study by Gandhi and colleagues (2001), subjects diagnosed with Antisocial and/or Borderline Personality Disorder presented more violent and criminal behavior after discharge from a psychiatric hospital. Longitudinal research also suggests that antisocial and impulsive personality features are substantial risk factors for criminal recidivism among adult offenders in the criminal justice system (Hiscoke et al., 2003; Warren et al., 2002).

Another related and relevant issue is that the incarcerated population presents complex problems and high rates of psychiatric comorbidity. Teplin (1994) found that, although 50% of 728 male inmates were diagnosed with Antisocial Personality Disorder, 30% still presented severe mental disorders and high rates of substance abuse/dependence after excluding Antisocial Personality Disorder. Hiscoke and colleagues (2003) observed a similar tendency, with 51% of 168 inmates fulfilling criteria for at least one Cluster A Personality Disorder, 43% for at least one Cluster B Personality Disorder, and 49% for one or more Cluster C Personality Disorder. Multiple diagnoses were the rule rather than the exception: 74% of participants were

diagnosed with more than one Personality Disorder, with subjects meeting criteria for at least two Personality Disorders.

The importance of DSM Personality Disorders for the assessment of risk for violent behavior is emphasized in current clinical recommendations and checklists (Kropp, Hart, Webster, & Eaves, 1995; Tardiff, 2001; Webster, Douglas, Eaves, & Hart, 1997). However, it is still unclear to what extent mental disorders are acknowledged and recognized by prison health care services. In prisons, abnormal behavior is often tolerated or perceived as a disciplinary problem, often dealt with punitively, while the "quietly mad" are ignored (Birmingham, Mason, & Grubin, 1996). Consequently, the opportunity to treat and rehabilitate personality-disordered individuals is often lost as a consequence of the lack of effective screening procedures or failure to provide an adequate intervention to inmate's mental health problems (Birmingham et al., 1996; Woolf, 2006). Current rehabilitation procedures and case management practices in Portuguese prisons are primarily aimed to increase educational and professional qualifications; there is no standardized screening for Personality Disorders or psychotherapeutic interventions available in prisons nationwide. Until now, no systematic evaluation or screening of Personality Disorders was carried out in Portuguese prisons. This study's main goal was, therefore, to determine the prevalence rates of Personality Disorders in male prison inmates through a structured clinical interview for Personality Disorders.

## Method

### Participants

Participants in this study were male prison inmates from 11 Portuguese prisons, with a minimum age of 18 years old and, at least, with elementary education. Participants were recruited within a wider research project with the purpose of testing the efficacy of a cognitive-behavioral program (GPS – Growing Pro-Social; Rijo et al., 2007) for adult offenders. Due to the nature of this program, the selection of participants obeyed a set of exclusion criteria: (1) presence of cognitive impairment (given that the GPS program is not suitable for the cognitively-impaired) or psychotic disorders (experiential strategies used in GPS are contraindicated for psychotic patients); (2) active substance use (cessation or at least substantial reduction of drug or alcohol use must precede the GPS treatment); and (3) being sentenced exclusively for sexual offenses (sex offenders would benefit from more specific intervention programs).

Female prison inmates were also excluded from the sample because women represent less than 6% of the total prisoners, and any possible idiosyncrasies from this cohort would be underrepresented. In order to allow a period of adjustment to the prison environment and to avoid any evaluation bias from incarceration stress, all participants were assessed with a minimum interval of one month after prison intake.

A sample of 330 male prison inmates (30 for each prison) who did not meet the exclusion criteria was randomly selected. Following this selection, 36 (11%) inmates declined to

participate. A total of 294 (89%) inmates were then assessed with a structured clinical interview for Personality Disorders (for a description of the interview, see the Measure section).

Table 1 presents the main demographic and legal features of the sample. Participants were between 18 and 55 years old, mostly single, with a low socioeconomic status, and with elementary education. The length of the sentence ranged between 7 and 867 months, with an average of 105.80 months (approximately 9 years), and most participants were first-time offenders. Crimes were predominantly against people, followed by drug-related offences and crimes against property.

Table 1. *Sample Characteristics*

| | | *M* | *SD* |
|---|---|---|---|
| Age | | 29.50 | 6.94 |
| Years of education | | 6.36 | 2.57 |
| Sentence length | | 105.80 | 86.08 |
| | | *n* | % |
| Marital status | | | |
| | Single | 186 | 63.3 |
| | Married | 23 | 7.8 |
| | Civil union | 44 | 15.0 |
| | Divorced | 37 | 12.6 |
| | Widowed | 4 | 1.4 |
| Socio-economic status | | | |
| | Low | 284 | 96.5 |
| | Medium | 8 | 0.06 |
| | High | 2 | 0.02 |
| Type of crime | | | |
| | Against people | 157 | 53.4 |
| | Against property | 58 | 19.7 |
| | Against live in society | 13 | 4.4 |
| | Drug trafficking | 61 | 20.7 |
| | Other | 5 | 1.7 |
| Criminal record | | | |
| | First-time offenders | 179 | 60.9 |
| | Reoffenders | 115 | 39.1 |

*Note.* Sentence length is presented in months.

Crime against people includes simple and aggravated assault, intimidation, kidnapping, attempted homicide and homicide; crime against property includes robbery, theft and qualified theft; crime against live in society includes crime against family and falsification; other crime includes crime against public order and tranquility, and public authority.

### Measure

Participants were interviewed with the SCID-II – Structured Clinical Interview for DSM-IV Axis II Personality Disorders (First, Gibbon, Spitzer, Williams, & Benjamim, 1997; Portuguese version by Pinto-Gouveia, Matos, Rijo, Castilho, & Salvador, 1999), a widely known semi structured diagnostic interview which assesses 10 Axis II Personality Disorders from the DSMIV (APA, 2000), and the Depressive and Passive-Aggressive Personality Disorders (included in DSM-IV's appendix). It can be used to diagnose Axis II Disorders categorically (present or absent) and dimensionally (according to the number of criteria met for each diagnosis) and is considered the "gold standard" for Personality Disorders diagnosis. The SCID-II also provides a summary with a pathology profile of scores over the assessed Personality Disorders, allowing the interviewer to decide which disorder should be the major focus of clinical attention (main diagnosis).

### Procedures

This study was approved by the Head of the General Directorship of Social Reinsertion and Prison Services of the Portuguese Ministry of Justice. Data was collected between 2012 and 2014 and was carried out by three clinical psychologists of the national prison system who had special training in the diagnosis of Personality Disorders, and by the authors of this paper who had previous experience administering the SCID-II interview. The goals of the research were explained and inmates were invited to participate voluntarily. All participants signed an Informed Consent Form prior to the administration of the interview. All participants responded fully to the SCID-II interview. Personality Disorders prevalence rates were then analyzed categorically (i.e., participants met all criteria for a given personality disorder) and prevalence rates were calculated with a 95% Confidence Interval using PASW (Predictive Analytics Software), version 20 (SPSS, Chicago, IL, USA).

## Results

Results showed a very high prevalence of Personality Disorders, with 79.9% of the participants fulfilling criteria for, at least, one Personality Disorder. Only 20.1% of the participants did not meet enough criteria for any Personality Disorder. The prevalence rates and the frequency used to classify each Personality Disorder as the main diagnosis are reported in Table 2. The most frequently diagnosed Personality Disorders as the main diagnosis were Antisocial and Paranoid Personality Disorders, with prevalence rates of 39.1% and 10.2%, respectively. Although not accounted as the main diagnosis, Passive-Aggressive, Borderline, Narcissistic and Obsessive-Compulsive Personality Disorders were also prevalent.

Table 2. *Prevalence of Personality Disorders: Any Prevalence and Main Diagnosis*

| Personality Disorder | *Any prevalence* | | CI | *Main diagnosis* | | CI |
|---|---|---|---|---|---|---|
| | *N* | *%* | | *n* | *%* | |
| Paranoid | 102 | 34.7 | [0.29-0.40] | 30 | 10.2 | [0.10-0.17] |
| Schizotypal | 11 | 3.7 | [0.01-0.05] | 7 | 2.4 | [0.00-0.04] |
| Schizoid | 6 | 2.0 | [0.00-0.03] | 4 | 1.4 | [0.00-0.02] |
| Histrionic | 8 | 2.7 | [0.00-0.04] | 2 | 0.7 | [-0.00-0.01] |
| Narcissistic | 34 | 11.6 | [0.07-0.15] | 13 | 4.4 | [0.02-0.06] |
| Borderline | 36 | 12.2 | [0.08-0.16] | 20 | 6.8 | [0.03-0.09] |
| Antisocial | 171 | 58.2 | [0.52-0.63] | 115 | 39.1 | [0.35-0.44] |
| Avoidant | 18 | 6.1 | [0.03-0.08] | 10 | 3.4 | [0.01-0.05] |
| Dependent | 5 | 1.7 | [0.00-0.03] | 1 | 0.3 | [-0.00-0.01] |
| Obsessive-Compulsive | 31 | 10.5 | [0.07-0.14] | 15 | 5.1 | [0.02-0.07] |
| Passive-Aggressive | 38 | 12.9 | [0.09-0.16] | 4 | 1.4 | [0.00-0.02] |
| Depressive | 13 | 4.4 | [0.02-0.06] | 1 | 0.3 | [-0.00-0.01] |
| No otherwise specified | 13 | 4.4 | [0.02-0.06] | 13 | 4.4 | [0.02-0.06] |
| Without Personality Disorder | 59 | 20.1 | [0.15-.024] | 59 | 20.1 | [0.15-0.24] |

*Note*. CI = confidence Interval.

As presented in Table 3, current prevalence rates showed that Cluster B Personality Disorders were the most prevalent (with Antisocial and Borderline Personality Disorders as the more frequent diagnosis), followed by Cluster A Disorders (mainly due to the high rates of Paranoid Personality Disorder).

Table 3. *Prevalence of Personality Disorders by Clusters: Any Prevalence and Main Diagnosis*

| Cluster | *Any prevalence* | | CI | *Main diagnosis* | | CI |
|---|---|---|---|---|---|---|
| | *n* | *%* | | *n* | *%* | |
| Cluster A – Odd or eccentric | 119 | 40.4 | [0.34-0.46] | 41 | 14.0 | [0.10-0.17] |
| Cluster B – Dramatic, emotional or erratic | 249 | 84.7 | [0.80-0.88] | 150 | 51.0 | [0.45-0.56] |
| Cluster C – Anxious or fearful | 54 | 18.3 | [0.13-0.22] | 26 | 8.8 | [0.05-0.12] |
| DSM-IV's Appendix | 51 | 17.3 | [0.13-0.21] | 5 | 1.7 | [0.00-0.03] |
| No otherwise specified | 13 | 4.4 | [0.02-0.06] | 13 | 4.4 | [0.02-0.06] |
| Without Personality Disorder | 59 | 20.1 | [0.15-0.24] | 59 | 20.1 | [0.15-0.24] |

*Note*. CI = confidence interval.

Cluster A includes Paranoid, Schizotypal and Schizoid Personality Disorders.

Cluster B includes Histrionic, Narcissistic, Borderline and Antisocial Personality Disorders.

Cluster C includes Avoidant, Dependent and Obsessive-Compulsive Personality Disorders.

DSM-IV's Appendix includes Passive-Aggressive and Depressive Personality Disorders.

The number of Personality Disorders diagnosed was explored to account for comorbidity rates (see Table 4). Multiple diagnoses were frequent, with 42.8% of participants meeting enough criteria for two or more Personality Disorder diagnosis simultaneously.

Table 4. *Prevalence of Personality Disorders: Number of Diagnosis by Participant*

| Number of diagnosis by participant | *n* | % | CI |
|---|---|---|---|
| One | 109 | 37.1 | [0.31-0.42] |
| Two | 66 | 22.4 | [0.17-0.27] |
| Tree | 29 | 9.9 | [0.06-0.13] |
| Four or more | 31 | 10.5 | [0.07-0.14] |
| Without Personality Disorder | 59 | 20.1 | [0.15-0.24] |

*Note.* CI = confidence interval.

Additionally, first-time offenders were compared with reoffenders for the main diagnosis and number of diagnoses. Concerning the main diagnosis, no significant differences were found between sub-groups ($x2$ = 11.352; $p$ = .571): the most frequently main diagnosis was Antisocial Personality Disorder in both sub-groups (35.6% in first-time offenders and 45.5% in reoffenders). In both sub-groups comorbidity rates was high (39.0% of first-time offenders met criteria for two or more Personality Disorders and 45.5% of reoffenders met criteria for more than one Personality Disorder) and no significant differences were observed ($x2$ = 9.162; $p$ = .240).

Because a high prevalence of Antisocial Personality Disorder was observed, chi-square tests with odds ratio was computed to assess the risk of antisocial individuals being diagnosed with other Axis II Disorders (see Table 5). There was a significant high risk of co-occurrence of Antisocial and Paranoid, Borderline, and Passive-Aggressive Personality Disorders. Antisocial and Narcissistic Personality Disorder odds ratio was high but did not reach statistical significance. Obsessive-Compulsive Personality Disorder presented a significant low risk of co-occurrence with Antisocial Personality Disorder.

Table 5. *Risk Estimate for Antisocial Personality Disorder Being Diagnosed with Other Axis II Disorders*

| | Other Axis II Disorders | Odds ratio | CI | $X^2$ | *p* value |
|---|---|---|---|---|---|
| Antisocial | Paranoid | 3.77 | [2.16-6.43] | 23.878 | <.001 |
| | Schizotypal | 1.96 | [0.51-7.55] | .996 | .318 |
| | Schizoid | 0.35 | [0.06-1.95] | 1.552 | .213 |
| | Histrionic | 1.20 | [0.28-5.13] | .064 | .801 |
| | Narcissistic | 2.16 | [0.97-4.82] | 3.731 | .053 |
| | Borderline | 2.37 | [1.07-5.21] | 4.779 | .029 |
| | Avoidant | 0.70 | [0.27-1.82] | .525 | .469 |
| | Dependent | 0.40 | [0.07-2.87] | .690 | .406 |

| | | | | |
|---|---|---|---|---|
| Obsessive-Compulsive | 0.41 | [0.19-0.88] | 5.389 | .020 |
| Passive-Aggressive | 3.66 | [1.55-8.63] | 9.833 | .002 |
| Depressive | 1.65 | [0.49-5.49] | .685 | .408 |

*Note*. CI = confidence interval.

## Discussion

Despite the international data available on the high prevalence of Personality Disorders in offenders, no systematic evaluation or screening of Personality Disorders was carried out in Portuguese prisons. This study's main goal was, therefore, to assess the prevalence rates of Personality Disorders in a sample of male prison inmates, in order to identify the mental health intervention needs of this population.

Results showed that 80% of male prison inmates had a full-blown Personality Disorder, and more than half of the participants met the criteria for Antisocial Personality Disorder. Approximately half of the participants presented comorbid Personality Disorders, with 10% of the sample meeting sufficient criteria to be diagnosed with four or more Personality Disorders. Results also showed that the majority of participants met criteria for Antisocial and Paranoid Personality Disorder as the main diagnosis, similarly to what has been observed in studies from different countries (de Ruiter & Trestman, 2006; Fazel & Danesh, 2002; Teplin, 1994).

Almost half of the crimes, by which participants from this sample were sentenced to prison, were crimes against people, which is in accordance with studies showing an association of violence and aggressive behavior with Cluster A and B Disorders (Coid, 2002; Johnson et al., 2000; Roberts & Coid, 2010; Warren et al., 2002; Warren & South, 2009). Borderline, Passive-Aggressive, Narcissistic, and Obsessive-Compulsive Personality Disorders were the most frequently diagnosed disorders, after Antisocial and Paranoid Personality Disorders, which is also in line with previous findings (Black et al., 2007; Coid et al., 1999). This further emphasizes that most inmates present highly complex treatment needs and should receive mental health care from specially trained staff (Steadman, Osher, Clark-Robbins, Case, & Samuels, 2009).

When studying the association between Antisocial Personality Disorder and other Axis II Disorders, antisocial inmates were over three times more likely to have a Paranoid and/or Passive-Aggressive Personality Disorder. The odds of having a Borderline Personality Disorder were twice as high in antisocial inmates. Although under the significance threshold, Narcissistic Personality Disorder is also often diagnosed in antisocial inmates. According to DSM-5 (APA, 2013), these disorders share features relating to dysfunctional interpersonal patterns characterized by lack of empathy and connection with others, intolerance to criticism, anger and counterattacking, low impulse control and emotional instability, which makes this set of personality traits very common in most inmates.

Participants suffering from Obsessive-Compulsive Personality Disorder were those less likely to be diagnosed with Antisocial Personality Disorder. Taking into account that the main feature of Antisocial Personality Disorder is a pattern of violation and disregard for the rights of others, and Obsessive-Compulsive Personality Disorder relates to hyperconsciousness,

excessive scrupulousness, mental and interpersonal control, and high moral or ethical standards (APA, 2013), a higher comorbidity between these two Personality Disorders would be unlikely and, thus, unexpected.

This is the first study on the prevalence of Personality Disorders in Portuguese male prison inmates, using a structured clinical interview for Personality Disorders. The use of structured interviews over self-report measures presented several advantages, such as allowing the assessment of maladaptive patterns that may not be recognized or endorsed in self-report measures due to their egosyntonic nature. Furthermore, interviews allow Personality Disorders to be assessed both categorically (disorders are either present or absent) and dimensionally (number of criteria that an individual meet for a given disorder). Structured interview formats can also make the assessment procedures more standardized, guiding the evaluation of the criteria needed to assign a particular diagnosis and preventing interpersonal biases from different interviewers or from professionals with different theoretical backgrounds.

While a considerable amount of studies focused on samples of convenience or on individuals already referred as having mental health problems (Penner, Roesch, & Viljoen, 2011), the sample of the current study was randomly selected. However, one major limitation of this study was closely related to the sample exclusion criteria. Since participants were attending a cognitive-behavioral program, which is contraindicated for individuals with active substance abuse or sentenced exclusively for sexual offences, inmates presenting these features were not assessed for Personality Disorders. Nonetheless, the co-occurrence of substance abuse/dependence and personality pathology is common and important (Grella, Grenwell, Prendergast, Sacks, & Melnick, 2008; Zlotnick et al., 2008), and the rates of Personality Disorders in sex offenders is high (e.g., Schroeder, Iffland, Hill, Berner, & Briken, 2013). Female offenders were also excluded from this study (due to the low number of female offenders in Portuguese prisons). Thus, further research should assess the prevalence of Personality Disorders in these three sub-groups: inmates with substance abuse/dependence, sexual offenders and female inmates. The relationship between Axis I and Axis II diagnosis in prison inmates, as well as the link between Personality Disorders, violent behavior, adjustment/disciplinary infractions and recidivism should also be tested. The effect of incarceration in previously existing personality disorder traits should be explored as well, assessing whether the prison environment maintains or exacerbates traits or pre-existing disorders. As a controlling environment aimed primarily at security, in which adaptation to prison culture may overlap and reinforce symptom-like patterns, prison environment could possibly act as a confounding variable, and may increase the frequency of symptoms relating to suspiciousness, social withdrawal and/or interpersonal hostility (Rotter, Way, Steinbacher, Sawyer, & Smith, 2002). Considering the high prevalence rates of Personality Disorders associated with more serious and violent offences, penitentiary services should provide systematic and effective screening procedures for proper assessment of Personality Disorders at prison intake (Birmingham et al., 1996; Black et al., 2007; Roberts & Coid, 2010; Watzke, Ulrich, Marneros, 2006; Woolf, 2006). The high prevalence of Personality Disorders and

comorbidity rates in incarcerated men represents a highly significant level of clinical and functional impairment, which may cause disruption within and beyond prison settings, having a significant impact on all the domains of the individual's life (Black et al., 2007; Gilbert & Daffern, 2011). High levels of emotional and behavioral dysregulation presented by most personality-disordered inmates may compromise adhesion to penitentiary treatment. It is then justifiable that treatment of Personality Disorders should be addressed in forensic case management procedures as a focus of intervention.

Forensic mental health professionals should be prepared and available to respond to the complex needs presented by most subjects in contact with the justice system (Brooke, Taylor, Gunn, & Madden, 1996; Fazel & Danesh, 2002). The developments in effective therapies for Personality Disorders (Bernstein, Arntz, & Vos, 2007; Farrell, Shaw, & Webber, 2009; Nadort et al., 2009; van Asselt et al., 2008) suggest that psychotherapeutic interventions reducing factors underlying antisocial behavior should be a key area of investment when dealing with personality-disordered inmates (Gilbert & Daffern, 2011; Kjelsberg et al., 2006). Similarly to what is done in the case of substance dependence/abuse, differential treatment for subjects with severe personality pathology should be provided to ensure adequate treatment and rehabilitation. All of these implications are relevant for first-time offenders and reoffenders, due to the high prevalence of Personality Disorders observed in both sub-groups.

Overall, our findings pointed out the need to take into account specific mental health intervention needs in adult offenders when deciding and planning the forensic intervention. It also stressed the importance of proper screening procedures of Personality Disorders at prison intake, as well as the need for psychotherapeutic interventions specifically focused in the reduction of dysfunctional personality traits, which may contribute to a better interpersonal adjustment during inmates' imprisonment and after release.

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