Ana Maria de Jesus Xavier

EXPERIÊNCIAS EMOCIONAIS PRECOCES E (DES)REGULAÇÃO EMOCIONAL: IMPLICAÇÕES PARA OS COMPORTAMENTOS AUTOLESIVOS NA ADOLESCÊNCIA

Tese de doutoramento em Psicologia, especialidade em Psicologia Clínica, orientada pelo Professor Doutor José Augusto da Veiga Pinto Gouveia e pela Professora Doutora Marina Isabel Vieira Antunes da Cunha, e apresentada à Faculdade de Psicologia e Ciências da Educação da Universidade de Coimbra

Setembro de 2016

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UNIVERSIDADE DE COIMBRA

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RESUMO

Introdução: A literatura empírica tem consistentemente mostrado o papel das experiências emocionais precoces (adversas *versus* de vinculação e segurança) no desenvolvimento de sistemas de regulação dos afetos (focados na ameaça *versus* afeto positivo) e o seu subsequente impacto no ajustamento psicológico na adultez. Contudo, a investigação ainda é lacunar na compreensão da relação entre essas experiências precoces e os processos psicológicos durante a fase da adolescência. A adolescência pelas suas características desenvolvimentais encontra-se mais vulnerável a dificuldades emocionais e psicológicas. Adicionalmente, constata-se um interesse crescente pela investigação sobre os comportamentos autolesivos nesta faixa etária devido às elevadas taxas de prevalência, natureza nefasta e consequências associadas. Neste sentido, a presente dissertação teve como objetivo principal estudar a influência das experiências emocionais com os pais e com o grupo de pares no desenvolvimento de processos adaptativos ou mal-adaptativos de regulação dos afetos e as suas implicações para a vulnerabilidade e manutenção dos comportamentos autolesivos em adolescentes.

Metodologia: A presente investigação inclui dez estudos empíricos com um desenho transversal e longitudinal. Estes estudos foram conduzidos em diversas amostras de adolescentes com idades compreendidas entre os 12 e os 19 anos de idade, a frequentar entre o 7º e o 12º ano de escolaridade. Foram administrados questionários de autorrelato para avaliar os constructos em estudo.

Resultados: Os resultados dos estudos psicométricos mostraram que as três medidas de autorrelato analisadas, *Early Life Experiences Scale*, *Ruminative Responses Scale*, *Risk-taking and Self-harm Inventory for Adolescents*, replicaram a sua estrutura fatorial original, apresentaram boa consistência interna e validade convergente. Relativamente aos estudos transversais, os resultados sugerem que a presença de afeto negativo, de experiências emocionais de ameaça, subordinação e desvalorização, de medo da autocompaixão e a pertença ao género feminino são fatores de risco para os comportamentos autolesivos. Os nossos resultados acrescentam que as experiências emocionais negativas têm um impacto nos comportamentos autolesivos através do seu efeito nos estados emocionais negativos, e que este efeito é amplificado pela presença de problemas diários com o grupo de pares. Verificou-se também que o impacto das experiências emocionais negativas, das poucas experiências precoces de calor e segurança, e das experiências de vitimização pelos pares no envolvimento em comportamentos autolesivos foi

mediado pelo autocriticismo e pela sintomatologia depressiva. Os resultados demonstraram igualmente que os adolescentes com traços disposicionais de vergonha, de autocriticismo e de medo da autocompaixão tendem a estar mais vulneráveis a problemas diários com os pares e a sintomas depressivos, e, por sua vez, ao envolvimento em comportamentos autolesivos. Verificou-se ainda o efeito protetor da autocompaixão na relação entre a sintomatologia depressiva e os comportamentos autolesivos. Os nossos resultados mostraram também que os adolescentes que lidam com problemas diários com o grupo de pares, através do uso de estratégias de regulação emocional focadas no evitamento (ruminação, evitamento experiencial e dissociação), tendem a experienciar níveis mais elevados de sintomas depressivos e, por sua vez, a envolver-se em comportamentos autolesivos. Finalmente, o estudo longitudinal indicou que a manutenção dos comportamentos autolesivos, ao longo de um período de seis meses, é explicada através da presença de autocriticismo, na sua forma mais tóxica e severa (i.e., Eu detestado) e de sintomas depressivos.

Conclusões: De um modo geral, o conjunto dos estudos empíricos sugere que as experiências emocionais negativas e a ausência de experiências de calor e segurança com a família contribuem para o desenvolvimento de um sentido do eu focado na ameaça e na autocrítica, o que aumenta a vulnerabilidade para os estados emocionais negativos dos adolescentes, e para a ocorrência de comportamentos autolesivos nesta faixa etária. Também as experiências de *bullying* com o grupo de pares, pela sua natureza ameaçadora e envergonhadora, vão ativar o autocriticismo, os sentimentos e comportamentos defensivos, com implicações nefastas no estabelecimento de papéis sociais importantes na adolescência. Os comportamentos autolesivos surgem na tentativa de regular memórias adversas, emoções intensas e negativas, e cognições autopersecutórias e de autoataque. O Eu detestado e a sintomatologia depressiva constituem-se como mecanismos específicos do ciclo de perpetuação dos comportamentos autolesivos na adolescência. O desenvolvimento de competências de autocompaixão poderá ajudar os adolescentes a aprender uma resposta saudável e alternativa ao autocriticismo, assim como a regular eficazmente os estados emocionais negativos, reduzindo o envolvimento em comportamentos autolesivos. Esta dissertação de doutoramento lança novos desafios à investigação futura e contém implicações preventivas e clínicas relevantes para melhorar o bem-estar psicológico e emocional dos adolescentes.

Palavras-chave: Adolescência; Autocriticismo; Autocompaixão; Comportamentos autolesivos; Depressão; Dissociação; Evitamento Experiencial; Grupo de Pares; Medos da compaixão; Memórias Emocionais; Regulação Emocional; Ruminação; Vergonha.

EARLY EMOTIONAL EXPERIENCES AND EMOTION (DYS)REGULATION: IMPLICATIONS FOR NON-SUICIDAL SELF-INJURY IN ADOLESCENCE

ABSTRACT

Introduction: Literature has consistently shown the role of early emotional experiences (adverse *versus* attachment and safeness) in the development of affect regulation systems (focused on threat or positive affect) and their subsequent impact on psychological adjustment in adulthood. However, research is still scarce on the understanding of the relationship between early experiences and psychological processes in adolescence. Due to its characteristics, adolescence is a developmental period highly vulnerable to emotion and psychological difficulties. In addition, there is an increasing interest in studying non-suicidal self-injury in this age group due to its high prevalence rates, detrimental nature and associated consequences. Therefore, the main goal of the present thesis was to study the influence of emotional experiences with parents and peers in the development of adaptive or maladaptive emotion regulation processes, as well as their implications for the vulnerability and maintenance of non-suicidal self-injury in adolescents.

Method: The present thesis includes ten empirical studies with cross-sectional and longitudinal designs. These studies were conducted in diverse samples of adolescents with ages between 12 and 19 years old, from 7th to 12th grades in school. Self-report questionnaires were used to assess constructs under study.

Results: Results from the psychometric studies showed that the three self-report questionnaires analyzed, *Early Life Experiences Scale*, *Ruminative Responses Scale*, *Risk-taking and Self-harm Inventory for Adolescents*, corroborated the original factorial structure, presented good internal consistencies, and convergent validity. Regarding the cross-sectional studies, results suggest that the presence of negative affect, emotional experiences of threat, subordination and devaluation, fear of self-compassion and being female are risk factors for non-suicidal self-injury. Our results added that negative emotional experiences have an impact on non-suicidal self-injury through its effect on negative emotional states, and this effect was amplified by the presence of daily peer hassles. Additionally, the impact of negative emotional experiences, the lack of early experiences of warmth and safeness, and peer victimization on the engagement in non-suicidal self-injury was mediated by self-criticism and depressive symptoms. Results further indicated that adolescents with dispositional traits of shame, self-criticism and fear of self-compassion tend to be more vulnerable to the impact of daily peer hassles and depressive symptoms, and in turn to engage in non-suicidal self-injury. Moreover, results established that self-compassion protect against the negative impact of depressive symptoms on non-suicidal self-injury. Our results also demonstrate

that adolescents who cope with daily peer hassles through avoidance-focused emotion regulation strategies (rumination, experiential avoidance, and dissociation) tend to experience high levels of depressive symptoms and to engage in non-suicidal self-injury. Lastly, results from longitudinal study showed that the maintenance of non-suicidal self-injury, during 6-months temporal interval, occurs through the presence of self-criticism, in its most toxic and severe form (i.e., self-hatred), and depressive symptoms.

Conclusions: Taken together, results suggest that negative emotional experiences and the lack of warmth and safeness experiences with family contribute to the development of a sense of self focused on threat and self-criticism, which in turn increase the vulnerability for adolescents' negative emotional states, and for the occurrence of non-suicidal self-injury in this age group. Furthermore, due to its threatening and shaming nature, being bullied by peers will trigger self-criticism, defensive feelings and behaviors, with harmful implications to the establishment of important social roles in adolescence. Non-suicidal self-injury occurs as an attempt to regulate adverse memories, negative and intense emotions, and self-attacking and self-persecutory cognitions. Both self-hatred and depressive symptoms are specific mechanisms of the perpetuation cycle for non-suicidal self-injury in adolescence. Adolescents would benefit from the development of self-compassionate skills in order to help them displaying a healthy and adaptive way as a counter response to self-criticism and regulating effectively negative emotional states without engaging in non-suicidal self-injury. This doctoral thesis' findings raise new challenges for future research and entail relevant preventive and clinical implications for improving emotional and psychological well-being of adolescents.

Keywords: Adolescence; Self-criticism; Self-compassion; Non-suicidal Self-injury; Depression; Dissociation; Experiential Avoidance; Peer Group; Fears of Compassion; Emotional Memories; Emotion Regulation; Rumination; Shame.

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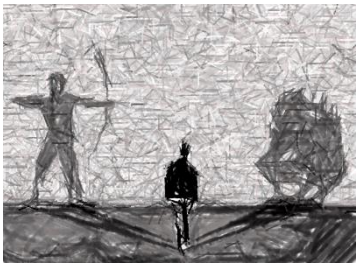
ÍNDICE



NOTA INTRODUTÓRIA

NOTA INTRODUTÓRIA

"*Every person from your past lives as a shadow in your mind. Good or bad, they all helped you write the story of your life, and shaped the person you are today*."

Doe Zantamata (n.d.)

As experiências precoces de vida vão moldar a forma como nos relacionamos com os outros e com o mundo ao nosso redor. É reconhecido na literatura científica que os ambientes precoces adversos têm um impacto nefasto na maturação cerebral da criança, especialmente nas áreas cerebrais que regulam as emoções (Schore, 1994; Siegel, 2001). Em contraste, as experiências com figuras significativas pautadas pelos sentimentos de afeto, calor, compreensão e validação permitem o desenvolvimento de sentimentos de segurança e tranquilização, facilitando a capacidade para tolerar e regular as ameaças internas e externas (Schore, 2001). Estas experiências vão ficar codificadas como memórias emocionais e vão moldar a sensibilidade do cérebro para diferentes, mas interligados, sistemas de regulação de afeto (focado na ameaça ou no afeto positivo), com implicações distintas na saúde mental (Gilbert, 2005, 2009a). A Teoria das Mentalidades Sociais (Gilbert, 1992, 1997, 1998b, 2000a, 2003, 2007) tem dado um contributo importante na compreensão dos processos psicológicos associados à origem e manutenção de diversas dificuldades na saúde mental, bem como no seu tratamento psicológico especialmente na população adulta, o que motivou o nosso interesse pelo estudo e investigação acerca destes processos psicológicos associados à psicopatologia nos adolescentes. Adicionalmente, a constatação que grande parte das perturbações mentais crónicas tem a sua origem e é significativamente incidente na fase desenvolvimental da adolescência, conduziu-nos a estudar este grupo etário.

De facto, a adolescência é caracterizada por níveis aumentados de emocionalidade negativa, pela elevada sensibilidade às interações sociais e necessidade de ser aceite, valorizado e integrado pelo grupo de pares (Nelson, Leibenluft, McClure, & Pine, 2005; Wolfe & Mash, 2006). Apesar de estas alterações desenvolvimentais promoverem competências necessárias para a independência em relação às figuras parentais e o estabelecimento de relações importantes para a vida adulta (e.g., pares, íntimas), tais tarefas desenvolvimentais podem tornar-se fatores indutores de *stress*, aumentando a vulnerabilidade para a desregulação emocional e comportamental (Spear, 2013; Steinberg, 2005). Recentemente, a ocorrência de comportamentos autolesivos na adolescência tem vindo a receber um interesse crescente por parte de investigadores devido à sua elevada prevalência, natureza nefasta e consequências associadas

intra- e interpessoais. Porém, a investigação ainda é escassa quanto à compreensão de que forma é que as experiências emocionais com a família e com o grupo de pares e os processos internos de regulação emocional podem estar associados às dificuldades psicológicas manifestadas pelos adolescentes.

Assim, a presente dissertação pretende, de um modo geral, compreender a influência das experiências emocionais com os pais e com o grupo de pares no desenvolvimento de processos adaptativos ou mal-adaptativos de regulação dos afetos e as suas implicações para a vulnerabilidade e manutenção dos comportamentos autolesivos em adolescentes.

A investigação que realizámos é apresentada na presente dissertação sob a forma de um conjunto de dez artigos científicos. Oito destes estudos encontram-se publicados ou aceites em revistas internacionais com avaliação de pares (Estudos Empíricos I, II, III, IV, V, VI, VII, VIII) e os restantes dois encontram-se submetidos para publicação (Estudos Empíricos IX e X).

A estrutura da presente dissertação organiza-se em quatro capítulos.

O **Capítulo 1 | Enquadramento Teórico** integra uma revisão da literatura sobre o tema em estudo e que serviu de base à formulação das hipóteses de investigação. Após algumas considerações gerais acerca das características desenvolvimentais da adolescência, procuramos justificar o motivo pelo qual nos focamos no estudo desta faixa etária. De seguida, abordamos a importância do contexto na maturação cerebral e na construção da representação do eu e dos outros, considerando o papel das experiências emocionais precoces com as figuras significativas no desenvolvimento ou na resiliência à psicopatologia, bem como o papel das relações com o grupo de pares na adolescência e na vulnerabilidade para as dificuldades psicológicas. Por fim, apresentamos uma conceptualização geral sobre os comportamentos autolesivos com vista à justificação do seu estudo na fase desenvolvimental da adolescência.

No **Capítulo 2 | Objetivos e Metodologia Geral da Investigação** realizamos a caraterização geral da investigação, descrevendo de que forma os dez estudos empíricos se articulam entre si. Particularmente, descrevemos sucintamente os objetivos gerais da investigação e os objetivos específicos de cada estudo empírico, assim como as opções metodológicas gerais inerentes à sua concretização (i.e., desenho de investigação, amostra, procedimentos e métodos de recolha da informação, procedimentos estatísticos usados).

O **Capítulo 3 | Estudos Empíricos** engloba os dez estudos empíricos realizados e que integram a presente investigação. Estes estudos empíricos compartilham o mesmo objetivo geral, que foi compreender as experiências emocionais com os pais e com o grupo de pares, os processos adaptativos ou mal-adaptativos de regulação dos afetos e as suas implicações para a vulnerabilidade e manutenção dos comportamentos autolesivos na adolescência. Porém, as

questões específicas de investigação em cada respetivo estudo empírico foram formuladas ao longo do projeto de investigação e refletem o progresso e desenvolvimento da investigação.

O **Estudo Empírico I**, **Assessing Early Memories of Threat and Subordination: Confirmatory Factor Analysis of the Early Life Experiences Scale for Adolescents**, teve como objetivo testar a estrutura fatorial e analisar as características psicométricas do referido instrumento de autorrelato para adolescentes falantes de língua Portuguesa.

O **Estudo Empírico II**, **Rumination in Adolescence: The Distinctive Impact of Brooding and Reflection on Psychopathology**, pretendeu testar a estrutura fatorial, a invariância da medida para o género, bem como analisar as características psicométricas da Escala de Respostas Ruminativas em adolescentes Portugueses. Este estudo pretendeu ainda analisar o contributo diferencial dos componentes da ruminação para os sintomas psicopatológicos (i.e., depressão, ansiedade e *stress*).

O **Estudo Empírico III**, **Validation of the Risk-Taking and Self-Harm Inventory for Adolescents in a Portuguese Community Sample,** apresenta a adaptação, validação e estudo das características psicométricas de um instrumento de autorrelato para avaliar o envolvimento em comportamentos de risco e autolesivos em adolescentes.

O **Estudo Empírico IV**, **Deliberate Self-harm in Adolescence: The Impact of Childhood Experiences, Negative Affect and Fears of Compassion**, teve como objetivo explorar o contributo das experiências emocionais precoces de ameaça, subordinação e desvalorização com a família, dos estados emocionais negativos e dos medos de sentimentos compassivos para a explicação do envolvimento em comportamentos autolesivos.

O **Estudo Empírico V**, **The Indirect Effect of Early Experiences on Deliberate Self-Harm in Adolescence: Mediation by Negative Emotional States and Moderation by Daily Peer Hassles**, pretendeu analisar o impacto das experiências emocionais negativas com a família no envolvimento em comportamentos autolesivos através do efeito mediador dos estados emocionais negativos dos adolescentes, avaliando ainda o efeito moderador dos problemas diários com o grupo de pares. Este estudo empírico apresenta um modelo de integração das análises de mediação e moderação para a explicação dos comportamentos autolesivos.

O **Estudo Empírico VI**, **Self-Criticism and Depressive Symptoms mediate the relationship between Emotional Experiences with Family and Peers and Self-Injury in Adolescence**, pretendeu investigar o impacto das memórias emocionais negativas e positivas com a família, e das experiências de vitimização por parte do grupo de pares no envolvimento em comportamentos autolesivos, analisando o efeito mediador do autocriticismo e da sintomatologia depressiva.

O **Estudo Empírico VII**, **Non-Suicidal Self-Injury in Adolescence: The Role of Shame, Self-Criticism and Fear of Self-Compassion**, teve como objetivo analisar o impacto dos traços disposicionais de vergonha, autocriticismo e medo da autocompaixão nas variáveis atuais intrapessoal (i.e., sintomatologia depressiva) e contextual (i.e., problemas com o grupo de pares), e o seu subsequente efeito no envolvimento em comportamentos autolesivos.

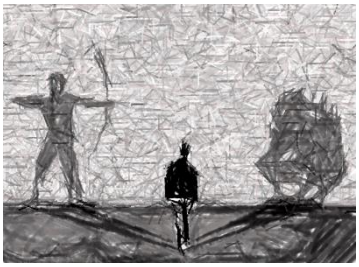
O **Estudo Empírico VIII**, **The Protective Role of Self-Compassion on Risk Factors for Non-Suicidal Self-Injury in Adolescence**, pretendeu analisar o efeito amortecedor ou protetor da autocompaixão na relação entre os problemas diários com os pares, a sintomatologia depressiva e os comportamentos autolesivos.

O **Estudo Empírico IX**, **Daily Peer Hassles and Non-Suicidal Self-Injury in Adolescence: Gender Differences in Avoidance-Focused Emotion Regulation Processes**, teve como objetivo testar os possíveis processos psicológicos de desregulação emocional (i.e., ruminação, evitamento experiencial e dissociação) através dos quais os problemas com os pares afetam a sintomatologia depressiva e os comportamentos autolesivos, assim como analisar as diferenças de género no modelo de mediação hipotetizado.

Por fim, o **Estudo Empírico X, Longitudinal Pathways for the Maintenance of Non-Suicidal Self-Injury in Adolescence: The Pernicious Blend of Depressive Symptoms and Self-Criticism**, visou testar longitudinalmente um modelo de mediação do autocriticismo (em particular, o Eu detestado) e da sintomatologia depressiva na predição dos comportamentos autolesivos em adolescentes com história passada destes comportamentos.

No **Capítulo 4 | Discussão Geral**, o último capítulo da presente dissertação, procuramos dar uma compreensão articulada e coerente dos principais resultados encontrados no conjunto dos estudos empíricos realizados. Para além da síntese e da discussão integrada dos principais resultados, neste capítulo apontamos as suas principais limitações e potencialidades, bem como as recomendações para futuras investigações. Adicionalmente, neste capítulo refletimos acerca das principais implicações para ações preventivas e intervenções clínicas. Finalmente, as considerações finais acerca dos resultados dos estudos da presente dissertação são discutidas neste capítulo.

Apresenta-se ainda, após o último capítulo, as referências bibliográficas consultadas neste trabalho para a realização dos Capítulos 1, 2 e 4. Uma vez que a presente dissertação constitui um conjunto articulado de artigos científicos, optou-se por manter as referências bibliográficas correspondentes a cada Estudo Empírico na secção apropriada.



CAPÍTULO 1 |

ENQUADRAMENTO TEÓRICO

1. ENQUADRAMENTO TEÓRICO

No presente capítulo procuramos dar uma visão interligada e coerente do estado da arte sobre os constructos em estudo na presente dissertação. Assim, neste capítulo apresentamos uma descrição geral das características da fase desenvolvimental da adolescência, salientando as características e tarefas desenvolvimentais que podem constituir fatores de vulnerabilidade para o desenvolvimento de perturbações psicológicas. De seguida, abordamos a importância do contexto na maturação cerebral e na representação do eu e dos outros, dando especial destaque ao papel das experiências emocionais precoces com as figuras significativas no desenvolvimento ou na resiliência à psicopatologia, bem como ao papel das relações com o grupo de pares na adolescência. Por fim, apresentamos uma conceptualização geral sobre os comportamentos autolesivos e os modelos etiológicos e de manutenção destes comportamentos. Com esta revisão da literatura esperamos elucidar acerca das lacunas na investigação atual e dos motivos que serviram de base para delinear os objetivos da presente dissertação.

1.1. ADOLESCÊNCIA: OPORTUNIDADES E RISCOS

Uma extensa e inegável literatura acerca da psicopatologia, origem, fatores de risco, manutenção e de proteção, aliada à nossa prática clínica, tem evidenciado que um leque considerável de sofrimento emocional e mal-estar psicológico não se circunscreve apenas à adultez, mas tem maioritariamente a sua origem na infância e na adolescência. Em particular, a adolescência, conceptualizada tipicamente pela idade cronológica entre os 10 e os 19 anos de idade, representa, de facto, uma importante ligação desenvolvimental entre a infância e a adultez, onde os padrões prévios adaptativos ou mal-adaptativos podem sofrer alterações (diminuir, manter, intensificar ou mudar; Steinberg, 2004; World Health Organization [WHO], 2016).

A adolescência é uma etapa desenvolvimental caracterizada por múltiplas e rápidas mudanças nos domínios biológico, físico, emocional, psicológico, cognitivo, comportamental e social. Estas mudanças desenvolvimentais incluem a maturação física, a emergência da sexualidade, a construção de modelos cognitivos complexos acerca do eu e dos outros, a formação da autoidentidade autónoma e independente, o aumento da autonomia em relação aos pais, e a preocupação com o estabelecimento de relações e a aproximação ao grupo de pares (Nelson, Leibenluft, McClure, & Pine, 2005; Wolfe & Mash, 2006).

Por um lado, as características desenvolvimentais sócio-cognitivas da adolescência são responsáveis pelos progressos, avanços e melhorias em várias capacidades (e.g., pensamento abstrato, raciocínio hipotético e social), tornando esta etapa desenvolvimental num período profícuo de oportunidades, em que se estabelecem competências, valores e comportamentos saudáveis imprescindíveis ao funcionamento adulto (Nelson et al., 2005; Wolfe & Mash, 2006). Por outro lado, as características de desenvolvimento sócio-emocionais, que envolvem o aumento da autoconsciência e do pensamento autocrítico, das preocupações com avaliações sociais negativas e com a necessidade de ser aceite, aprovado e integrado no grupo de pares, podem contribuir para novas fontes de *stress* associadas com a aparência física, a competência social e o estabelecimento de relações interpessoais (Nelson et al., 2005; Steinberg, 2010b; Wolfe & Mash, 2006). Estas preocupações e fatores indutores de *stress* podem tornar o adolescente mais vulnerável a dificuldades na autoapresentação, autoconsciência, integração social, aumentando o risco de desenvolvimento de problemas no presente ou no futuro (Gilbert & Irons, 2009; Nelson et al., 2005; Wolfe & Mash, 2006).

De um modo geral, todas as transformações e tarefas desenvolvimentais inerentes à adolescência, juntamente com a confrontação constante de inúmeras situações emocionalmente desafiantes por parte do adolescente, vão contribuir para que a sua aprendizagem da regulação emocional possa ser adaptativa ou mal-adaptativa (Silk, Steinberg, & Morris, 2003; Steinberg, Dahl, Keating, Kupfer, Mastern, & Pine, 2006). Assim, é neste período desenvolvimental que a ausência ou falha na aquisição de competências de regulação emocional adaptativas pode contribuir para dificuldades no ajustamento psicológico, social e académico e para o envolvimento em comportamentos de risco comprometedores da saúde e o bem-estar (e.g., abuso de substâncias, violência, comportamentos autolesivos). De facto, existe suporte empírico de que a desregulação emocional constitui um fator de risco para a psicopatologia na adolescência, mais do que uma consequência da mesma (McLaughlin, Hatzenbuehler, Mennin, & Nolen-Hoeksema, 2011). Desta forma, a adolescência constitui-se um período de grande oportunidade para estudar a relação entre o desenvolvimento de processos de regulação emocional e a psicopatologia por vários motivos.

A par das transformações físicas, psicológicas e sociais já referidas, verifica-se ainda, durante a adolescência, uma continuidade no desenvolvimento cerebral. De acordo com o modelo dos sistemas dual do desenvolvimento neurobiológico do adolescente, proposto por Steinberg (2005, 2008, 2010a), durante a transição para a adolescência ocorrem mudanças em dois sistemas neurobiológicos. O primeiro designado por *sistema cerebral sócio-emocional*, localizado no sistema límbico (incluindo amígdala, estriado ventral, córtex órbito-frontal, córtex pré-frontal medial e sulco temporal superior) é especialmente sensível aos estímulos sociais e emocionais, e particularmente importante no processamento da recompensa (Steinberg, 2008, 2010a). Este

primeiro sistema cerebral sofre rápidas mudanças no decorrer do início da adolescência devido às alterações hormonais da puberdade, onde se verificam níveis de densidade e distribuição de dopamina mais elevados, conduzindo a um incremento na procura de sensações, o que por sua vez permite orientar o indivíduo para as motivações sociais da adultez (e.g., alcançar uma posição social, reprodução sexual; Steinberg, 2008, 2010a; Shulman, Harden, Chein, & Steinberg, 2014). O segundo sistema neurobiológico é designado por *sistema cerebral de controlo-cognitivo*, localiza-se nos córtex pré-frontal lateral e parietal, e envolve as funções executivas (e.g., planear, prever) implicadas no comportamento de autorregulação (e.g., controlo dos impulsos). Este sistema cerebral segue um padrão de desenvolvimento diferente comparativamente ao anterior, na medida em que a sua maturação ocorre gradualmente ao longo da adolescência e início da adultez, sendo independente da puberdade (Steinberg, 2007, 2008, 2010a).

Durante a adolescência existe um desequilíbrio entre estes dois sistemas cerebrais, existindo uma maior procura de sensações (i.e., tendência para procurar experiências de excitação e emocionalmente intensas, sensações novas e variadas) e dificuldades no controlo dos impulsos (i.e., capacidade para resistir a uma urgência para agir) (Steinberg, 2007, 2008, 2010a). Esta progressiva maturação cerebral torna a fase da adolescência um período de marcada vulnerabilidade para os problemas na regulação do afeto e dos comportamentos, o que por si só pode contribuir para explicar e compreender o exponencial aumento dos comportamentos de risco e dos problemas emocionais e comportamentais presentes nesta faixa etária. Embora seja reconhecida a complexidade e a natureza multideterminada das perturbações emocionais e comportamentais, este modelo teórico tem recebido suporte empírico de vários domínios da investigação desenvolvimental, a saber, estudos comportamentais, de neuro-imagem, neurofisiológicos e modelos animais (Casey, Jones, & Somerville, 2011; Pfeifer & Allen, 2012; Spear, 2013; Strang, Chein, & Steinberg, 2013).

A par deste conhecimento pautado pelas neurociências, também se constata que as taxas globais de morbilidade e mortalidade aumentam a partir da infância até à adolescência tardia (Burt, 2002). De acordo com a Organização Mundial da Saúde (WHO, 2016), estas elevadas taxas de morbilidade e mortalidade resultam na sua maioria de causas que podem ser prevenidas ou tratadas. De facto, comparando com outras faixas etárias, os adolescentes têm mais acidentes, cometem mais crimes violentos e não violentos, apresentam mais tentativas de suicídio e envolvem-se em comportamentos parasuicidários (e.g., comportamentos autolesivos) (Steinberg, 2016). A nível global a prevalência de doença mental em crianças e adolescentes é de 10–20%, sendo o suicídio a segunda causa de morte mais comum entre os jovens em todo o mundo (WHO, 2016). Em função da idade e do desenvolvimento do adolescente observa-se uma variação na prevalência dos diferentes tipos de perturbações mentais. Os estudos epidemiológicos relativos às perturbações mentais na infância e adolescência (Costello, Mustillo, Erkanli, Keeler, &

Angold, 2003; Merikangas, Nakamora, & Kessler, 2009) distinguem, frequentemente, três grandes grupos: (i) perturbações comuns da infância (e.g., perturbação de ansiedade de separação, perturbação de hiperatividade e défice de atenção); (ii) perturbações típicas da transição para a adolescência (e.g., depressão, perturbações de ansiedade, perturbações do comportamento alimentar, abuso de substâncias, comportamentos autolesivos); (iii) início de perturbações típicas da idade adulta (e.g., doença bipolar, esquizofrenia). Quanto à intervenção terapêutica, o estudo de Merikangas e colaboradores (2009) mostra que menos de metade dos jovens com uma perturbação mental recebe tratamento especializado de saúde mental, sendo este mais frequente nos jovens com perturbações mais severas. Este facto reforça a necessidade de investigação rigorosa que permita o desenvolvimento de medidas preventivas da doença mental nesta faixa etária.

Pelo exposto, a adolescência constitui-se, assim, como um período do ciclo de vida catalisador do desenvolvimento de diferentes trajetórias normativas e atípicas, onde o papel da (des)regulação emocional parece ser crucial. Por um lado, o desenvolvimento e a plasticidade cerebral evidentes nesta etapa tornam-na um momento único de oportunidades inestimáveis para a investigação e intervenção (Gogtay & Thompson, 2010; Siegel, 2013; Steinberg, 2010b). Por outro lado, os desafios emocionais e sociais que os adolescentes enfrentam parecem aumentar a vulnerabilidade e predisposição para o desenvolvimento da psicopatologia. As elevadas taxas de prevalência de várias perturbações psicológicas durante a adolescência têm contribuído para o esforço que a comunidade científica tem conduzido para compreender a etiologia e o desenvolvimento das condições clínicas típicas da transição para a adolescência (por exemplo, perturbações de internalização e externalização) com vista à sua resolução e tratamento. Dentro da ampla categoria das perturbações de internalização existentes, interessou-nos especialmente os comportamentos parasuicidários e suicidários por várias razões. Em primeiro lugar e já exposto acima, um dos principais motivos prende-se com a elevada prevalência de suicidabilidade nesta faixa etária e a frequente (inter)ligação entre os comportamentos suicidários e os comportamentos autolesivos. Em segundo lugar, a constatação de que estes comportamentos são ainda pouco investigados na adolescência, apesar de constituírem um problema sério e de saúde pública especialmente na população de jovens adultos e adultos, reconhecido pela comunidade científica. Em terceiro lugar, estes comportamentos constituem uma fonte de preocupação constante e requerem um cuidado redobrado dos clínicos, devido à probabilidade elevada de colocar em risco a vida do adolescente e à escassez de evidência empírica relativa ao tratamento psicológico.

Em síntese, consideramos relevante e premente o incremento de estudos empíricos que permita uma melhor compreensão dos fatores distais e proximais, psicológicos e contextuais, implicados nos comportamentos parasuicidários, em particular os comportamentos autolesivos na adolescência. O presente estudo poderá fornecer pistas para a atuação precoce e para melhorar os

protocolos de intervenção terapêutica existentes com o objetivo de diminuir, tanto a ocorrência dos referidos comportamentos, como as consequências associadas.

1.2. A IMPORTÂNCIA DO CONTEXTO NA MATURAÇÃO CEREBRAL E NA REPRESENTAÇÃO DO EU E DOS OUTROS

1.2.1. O CÉREBRO NA ADOLESCÊNCIA: NATUREZA E CONTEXTO

As características essenciais da adolescência emergem devido às mudanças naturais e saudáveis do cérebro. Dada a estreita interligação e influência mútua entre a mente humana e o contexto externo, conhecer com profundidade a natureza e o funcionamento do cérebro revela-se útil, senão necessário, para a compreensão da nossa experiência interna e relações interpessoais com os outros.

Nos primeiros anos de vida os circuitos básicos cerebrais em maturação e desenvolvimento são responsáveis, fundamentalmente, por uma série de processos mentais relacionados com a emoção, memória, comportamento e relações interpessoais (Schore, 1994, 1998, 2001). São processos que incluem a regulação emocional, a capacidade para "respostas flexíveis" ou para padrões de comportamento mais conscientes, o sentido autobiográfico do eu (Siegel, 1999), a capacidade de compreensão e o interesse na mente dos outros e a competência para comunicar com os outros. A literatura tem apontado que a experiência modifica e molda o funcionamento da mente, em que as interações estabelecidas entre o cuidador e a criança têm um impacto importante no desenvolvimento destes processos mentais (Cassidy & Shaver, 1999). Estudos longitudinais na área da vinculação têm sugerido que determinadas experiências precoces promovem e facilitam o bem-estar, a competência social, o funcionamento cognitivo e a resiliência para lidar com a adversidade (Sroufe, 2005). Assim, e apesar do reconhecimento inegável da importância das mudanças biológicas, cognitivas e sociais e da sua potencial contribuição para a psicopatologia, os fatores contextuais assumem um papel determinante no aparecimento e manutenção dos problemas emocionais e comportamentais, nesta etapa desenvolvimental.

Nos últimos anos, descobertas surpreendentes acerca da mente humana (e.g., estudos com imagiologia cerebral) têm revelado mudanças extraordinárias (e de grande dimensão) na estrutura e função cerebral, durante a adolescência (Spear, 2013; Steinberg, 2010b). O desenvolvimento cerebral de um adolescente mais do que conceptualizado como um mero processo de maturação ("maturidade" *versus* "imaturidade") deve ser encarado como uma parte vital e necessária da nossa existência individual e coletiva. A adolescência não é apenas uma fase para passar, rapidamente. É uma etapa de vida que devemos cultivar com cuidado e dedicação, e que permite

o aparecimento de certas competências, imprescindíveis ao funcionamento adulto. Além disso, as alterações e a maturação cerebral ocorrem para promover a aquisição de competências de regulação emocional e comportamental flexíveis face a ambientes sociais variados (e.g., gestão de aceitação pelos pares, estabelecer relações íntimas, independência em relação aos pais). Assim, durante esta fase desenvolvimental, o cérebro é mais sensível e reativo aos contextos e pistas sociais, para guiar os comportamentos e a motivação para o envolvimento social (Schribera & Guyera, 2016).

Com efeito, os estudos das neurociências sobre o desenvolvimento cerebral sugerem que o cérebro possui uma plasticidade (que se mantém), continuamente aberto às influências do ambiente, ao longo da vida (Siegel, 2001). A evidência de que os padrões de mudança do cérebro na adolescência são suscetíveis às influências ambientais, sugere que os fatores contextuais desempenham um papel importante nas diferenças individuais nas trajetórias de desenvolvimento normativas ou atípicas (Steinberg et al., 2006). De facto, o desenvolvimento cerebral influencia o comportamento dos adolescentes, mas isso opera dentro do contexto.

1.2.2. Desenvolvimento Neuronal e sua Relevância para a Regulação Emocional

A puberdade, enquanto um processo neurobiológico, envolve não só alterações endócrinas, mas outras funções cerebrais centrais (Sisk & Foster, 2004). Especificamente, as regiões cerebrais associadas ao processamento afetivo (em particular as redes neuronais ventrais e que incluem a amígdala/hipocampo, estriado ventral e hipotálamo) estão densamente enervadas pelos recetores dos esteroides gonadais (Nelson et al., 2005). Estes esteroides exercem um papel central nos sistemas de neurotransmissores relacionados com a responsividade afetiva e social, e que incluem a dopamina, a serotonina, os opiáceos endógenos, a oxitocina e a vasopressina (Nelson et al., 2005). Além disso, os esteroides gonadais possuem um efeito direto nos processos afetivos (McEwen, 2001). Neste sentido, a multiplicidade de mudanças ocorridas na puberdade apresenta importantes contributos para a compreensão dos processos emocionais durante esta etapa de vida, o que nos ajuda a ter uma visão mais integrada e realista de como a vulnerabilidade para experienciar sofrimento e mal-estar emocional se encontra intimamente relacionada com a adolescência. O desenvolvimento emocional está intrinsecamente associado aos processos cognitivos, biológicos, sexuais e interpessoais operados na transição para a puberdade. As drásticas mudanças físicas do crescimento pubertário coincidem com a restruturação dos papéis sociais, expectativas e relações com a família, grupo de pares e ambiente escolar. Por outro lado, estas mudanças fisiológicas (e.g. aumento hormonal) estão, também, associadas às variações afetivas e no estado de humor (Brooks-Gunn & Graber, 1994) que os adolescentes manifestam.

A forma como o adolescente lida com estas mudanças depende das ferramentas e estratégias que possui para lidar com a adversidade e sofrimento no geral, assim como da sua vulnerabilidade psicológica prévia presente no desencadear da puberdade. Com efeito, na adolescência a emocionalidade negativa mostra-se mais elevada e significativa, existe uma maior sensitividade para as interações sociais relacionadas com os pares, para uma procura de recompensas e gratificações e um progressivo envolvimento em objetivos sociais mais complexos e a longo-prazo (Nelson et al, 2005). Contudo, e acrescido às mudanças necessárias para a autonomia e maturação adulta, a adolescência gera uma vulnerabilidade potencial para a desregulação comportamental e emocional (Steinberg, 2005). A título ilustrativo, um estudo longitudinal levado a cabo por O´Brien e Bierman (1988) revelou que a média no estado de humor numa semana é mais negativa no início da adolescência, notando-se um declínio nas emoções negativas com a proximidade da adultez, em que a estabilidade do estado de humor parece aumentar com a idade.

Pelo exposto percebe-se que dificuldades (ou défices) na regulação das emoções relacionam-se não só com a presença de problemas comportamentais e emocionais, como têm impacto numa diversidade de condições psicopatológicos, comuns na adolescência (e.g., McLaughlin et al., 2011; Silk, Steinberg, & Morris, 2003; Silvers, McRae, Gabrieli, Gross, Remy, & Ochsner, 2012). A regulação emocional tem sido abordada de diferentes formas, sendo que a mais conhecida e aceite define-a como processo através do qual os indivíduos influenciam quais as emoções que têm, quando as têm e como experienciam e expressam essas emoções (Gross, 1998). Um grande número de estudos levados a cabo no âmbito dos processos de regulação emocional tem-se centrado no estudo de estratégias específicas, que envolvem um esforço propositado, consciente e voluntário, com vista a modelar os componentes da resposta emocional (Gross, Richards, & John, 2006). A sua categorização funcional, quer em relação aos processos de regulação emocional adaptativos (e.g., aceitação, autocompaixão), quer mal-adaptativos (e.g., evitamento, ruminação, autocriticismo), é feita com base nos efeitos subsequentes de cada uma das estratégias no afeto, no comportamento, na cognição e na psicopatologia (Aldao & Nolen-Hoeksema, 2010). A investigação tem mostrado que a desregulação emocional é um fator transdiagnóstico relevante para diversas formas de psicopatologia (Aldao & Nolen-Hoeksema, 2010; McLaughlin et al., 2011), pelo que o seu conhecimento terá importantes implicações para ações prevetivas e de intervenção nos problemas de saúde mental na adolescência.

1.2.3. VINCULAÇÃO E MATURAÇÃO NEUROBIOLÓGICA DA MENTE

A Teoria da Vinculação (Bowlby, 1969, 1973, 1980) deu um contributo determinante para a compreensão da importância das relações precoces no desenvolvimento da criança e do seu bem-estar. Segundo Bowlby (1969, 1973, 1980), a vinculação é um sistema motivacional biologicamente adaptativo que motiva a criança para procurar proximidade junto da figura de vinculação; dá um sentido de segurança (i.e., quando a criança está em *stress*, esta pode ser tranquilizada pela figura de vinculação); e permite o desenvolvimento de modelos de construção interna (i.e., um esquema interno da interação eu–outro), que irá permitir a segurança necessária para explorar o mundo externo e o efeito de tranquilização nos momentos de *stress* ou perturbação. Tais representações internas permitirão não só experienciar a "base segura" necessária para a exploração do mundo externo e relacional, mas também facilitar a capacidade para tolerar e regular as respostas internas à ameaça e ao *stress* (Schore, 2001), o que por sua vez irá influenciar os estilos relacionais subsequentes (Mikulincer & Shaver, 2005, 2007).

As relações precoces caracterizadas por vínculos previsíveis de segurança e afeto com as figuras significativas contribuem para o desenvolvimento adaptativo das funções regulatórias do cérebro e do bem-estar mental, assim como promovem o estabelecimento de relações próximas e a resiliência ao longo do desenvolvimento (Schore, 1994, 1998, 2001; Sroufe, 2005). Em contraste, as vinculações de natureza traumática estão associadas a problemas na maturação da função regulatória do cérebro e a dificuldades na saúde mental na infância e na adultez (Schore, 1994, 1998, 2001). Mais recentemente, existe suporte empírico de que os ambientes precoces caracterizados por suporte, carinho, afeto vão moldar diferentes fenótipos sociais, comparativamente aos ambientes adversos (Boyce & Ellis, 2005; Ellis, Essex, & Boyce, 2005). Em conjunto, as conclusões dos estudos das neurociências convergem na noção de que o cérebro está desenhado para ser moldado pelo ambiente em resposta a experiências ao longo do ciclo de vida (Siegel, 2001). Percebe-se assim que o sentido do eu seja apenas uma mera construção genética e social (Slavich & Cole, 2013).

1.2.4. EVOLUÇÃO, MENTALIDADES SOCIAS E FENÓTIPOS SOCIAIS

De acordo com a perspetiva evolutiva, o cérebro humano é um produto da evolução, desenhado para desenvolver várias motivações biossociais para atingir objetivos sociais específicos e formar tipos particulares de relações (Buss, 2003; Gilbert, 1989, 2005). Estas motivações para coconstruir papéis sociais, incluem a procura de cuidados e a prestação de cuidados (i.e., vinculação), a competição por recursos e a formação de posições sociais (dominância-submissão), a cooperação e a formação de alianças, e a reprodução sexual (Buss,

2003; Gilbert, 1989). A par destas motivações básicas e fruto do produto da evolução social humana, o cérebro também desenvolveu competências psicológicas e cognitivas evoluídas para dar um sentido às motivações inerentemente sociais, incluindo a teoria da mente, a metacognição, a empatia, e a mentalização (Choi-Kain & Gunderson, 2008; Hrdy, 2009; Liotti & Gilbert, 2011).

Gilbert (1989, 2005, 2000a) sugere que diferentes interações entre motivações, rotinas de processamento da informação e comportamento dão origem a diferentes padrões internos de atividade neurofisiológica, a que este autor designa de **mentalidades sociais**. O mesmo autor refere que uma mentalidade social é uma forma de descrever o modo como determinadas motivações (para formar certos tipos de relações sociais) permitem dirigir apropriadamente a atenção, recrutar o processamento cognitivo relevante, e guiar as emoções e as respostas comportamentais. É a coreografia e o sincronismo entre estes padrões de atividade cerebral (ou mentalidades sociais) que permite a coconstrução de papéis sociais, que têm como função a resolução de determinados desafios sociais (Gilbert, 2005). Estes padrões são coreografados por estímulos externos (i.e., a forma como os outros sinalizam e se comportam em relação ao eu, por exemplo, com amor ou hostilidade), e por estímulos e sistemas de processamento internos, que dão significado e sentido aos sinais externos (ou sociais) (Gilbert, 2005). Por exemplo, os sistemas de vinculação requerem mecanismos atencionais que são sensíveis à proximidade para cuidar dos outros, e sistemas fisiológicos para reagir aos sinais de cuidado (Gilbert, 2014).

Segundo Gilbert (2005, 2007) a motivação e a competência inata para o cuidar envolvem a aproximação ao outro, o pedido de ajuda e a procura do outro, a sensibilidade aos sinais de sofrimento ou *stress*, a avaliação das necessidades, a responsividade aos sinais de cuidado, as respostas comportamentais de altruísmo e empatia. Estas competências são semelhantes, quer para a procura, quer para a prestação de cuidados (Gilbert, 2005, 2007, 2014). O cuidar envolve a motivação para proteger, salvar, suportar e ajudar, mas também estimula o desenvolvimento de um sentido de autoidentidade confiante de ser merecedor de apreço, afeto, gratidão e segurança e de ser capaz de lidar com o sofrimento (Gillath, Shaver, & Mikulincer, 2005). A capacidade para ser sensível às necessidades dos outros difere de indivíduo para indivíduo, podendo estas diferenças serem justificadas, quer pela variação genética, quer pelas competências cognitivas envolvidas como, por exemplo, a mentalização, a empatia, o *mindfulness* social, e os traços de personalidade (Gilbert, 2014; Liotti & Gilbert, 2011; Van Doesum, Van Lange, & Van Lange, 2013). Estas competências podem estar comprometidas em indivíduos com perturbações do desenvolvimento (e.g., perturbações do espectro do autismo) ou outras perturbações psicológicas (e.g., esquizofrenia; Gilbert, 2014). Também as competências para a procura e o pedido de ajuda e a solicitação de cuidados podem estar inibidas devido a entraves no processo de aprendizagem facultado pela vinculação. De facto, na literatura está amplamente documentado o papel da não responsividade materna, frieza ou inconsistência parental e das experiências traumáticas com

figuras significativas no desenvolvimento dos estilos de vinculação insegura ou evitante (Cassidy & Shaver, 1999; Gillath, Shaver, & Mikulincer, 2005), assim como em prejuízos no desenvolvimento das arquiteturas básicas do cérebro e dos processos psicobiológicos (Schore, 1994, 2001).

1.2.4.1. MENTALIDADE DE COMPETIÇÃO SOCIAL

O ser humano é inerentemente social e os grupos e as interações sociais implicam também a competição por recursos e hierarquias. A mentalidade de competição social envolve "relationship forming for direct competition for resources, gaining and maintaining rank/status (dominance/leader), accommodation to those of higher rank (submission/follower), and competing in ways that lead to being 'chosen' by others for certain roles (e.g. as an ally, sexual partner or leader)" (Gilbert, 2005, p. 16). Uma vez que esta mentalidade permite a resolução de problemas dos constantes desacordos, lutas e a coesão social, quando ela é eficaz está associada à assertividade, à confiança social e ao entusiasmo com o sucesso social. Mas quando o indivíduo perde na competição social surgem sentimentos de derrota, disforia e ansiedade (Gilbert, 1992, 1993, 2014; Gilbert & Allan, 1998; Price, 1972). Porém, a competição social não envolve apenas a motivação para obter recursos e ganhar estatuto, mas também envolve a tentativa de estimular afeto positivo e impressões positivas na mente dos outros sobre o eu (e.g., ser valorizado, ser admirado pelos outros). Embora estas competências cognitivas para ser sensível 'ao modo como os outros nos veem' (e.g., mentalização, metacognição) sejam funcionais para a coesão social e a não exclusão do grupo (dado que isso seria uma ameaça à sobrevivência), estas preocupações podem tornar-se excessivas quando o indivíduo tenta impressionar os outros para evitar ser rejeitado ou humilhado, demonstrando comportamentos de submissão ou aprovação (Gilbert, 1998a, 1998b, 2000b, 2005, 2007; Gilbert, McEwan, Bellew, Mills, & Gale, 2009; Liotti & Gilbert, 2011).

Os vários trabalhos de investigação conduzidos por Gilbert e colaboradores (e.g., Gilbert, 1997; Gilbert, Price, & Allan, 1995) têm procurado compreender a psicopatologia à luz desta **mentalidade de competição social**, porque, tal como referido anteriormente, esta mentalidade foca-se na ameaça e no poder social, envolvendo os seguintes aspetos: lutar e competir para ser valorizado pelos outros com o objetivo de inclusão social (ou para exercer controlo sobre os outros); procurar o estatuto social aos 'olhos dos outros' para ser escolhido nas competições para obter uma posição social; elevada sensibilidade às comparações sociais e medos de 'não ser suficientemente bom ou ser inferior'. Esta mentalidade está associada a sentimentos de vergonha, derrota, inferioridade, rejeição, perseguição e à ativação de comportamentos defensivos (e.g., agressão, submissão). A investigação tem evidenciado que os indivíduos com uma vinculação

insegura estão mais vulneráveis ao desencadear destes ciclos de vergonha-inferioridade, uma vez que sentem constantemente que o seu lugar social não é seguro, e que têm de se esforçar continuamente para sentir que são apreciados ou amados e escolhido pelos outros (Gilbert, 1989, 1992, 1997, 1998b, 2000a, 2000b, 2005, 2007). Vários estudos, conduzidos em amostras de adultos, têm mostrado que a mentalidade de competição social, quando marcada, aumenta a vulnerabilidade para várias perturbações psicológicas, nomeadamente ansiedade social (Gilbert, 2000b; Gilbert & Miles, 2000; Matos, Pinto-Gouveia, & Gilbert, 2013), paranoia (Pinto-Gouveia, Matos, Castilho, & Xavier, 2012), perturbações do comportamento alimentar (Pinto-Gouveia, Ferreira, & Duarte, 2012), depressão (Cheung, Gilbert, & Irons, 2004) e comportamentos autolesivos (Gilbert et al., 2009; Gilbert, McEwan, Irons, Bhundia, Chritie, Broomhead, & Rockliff, 2010).

Uma vez que as características desenvolvimentais da adolescência, em particular, as competências sócio-cognitivas, que envolvem a auto- e heteroavaliação, a autoconsciência, o pensamento autocrítico e autofocado, tornam-se especialmente apuradas e aumentadas durante esse período, tais características podem vulnerabilizar o adolescente para a preocupação com as avaliações sociais negativas e com a autoapresentação, e consequentemente para problemas de internalização (Wolfe & Mash, 2006). Adicionalmente, durante a adolescência à medida que cresce a autonomia em relação aos pais, aumentam as preocupações com a necessidade de ser aceite, valorizado e integrado pelo grupo de pares (Steinberg & Morris, 2001). A forma como os adolescentes vão lidar com os novos desafios e contextos sociais vai depender de uma série de fatores relacionados com a estabilidade e ecologia do grupo, bem como com as predisposições psicológicas resultantes do temperamento e história prévia (Gilbert & Irons, 2009). Mais especificamente, Irons e Gilbert (2005) procuraram compreender de que forma a história prévia de vinculação (i.e., os modelos internos do eu e dos outros) pode vulnerabilizar os adolescentes para estilos intrapessoais de comparação e competição social, assim como para a sintomatologia depressiva, ansiosa e de *stress*. Neste estudo em particular, os adolescentes (N = 140, com uma média de idades de 14.63) que se classificavam com uma vinculação segura tendiam a fazer comparações sociais favoráveis, enquanto aqueles com vinculação insegura (evitante ou ambivalente) tendiam a fazer comparações sociais desfavoráveis. Mais ainda, o efeito da vinculação insegura na sintomatologia depressiva ocorreu através da ativação de comparações sociais desfavoráveis e de comportamentos submissos. Curiosamente, para os adolescentes que se classificaram com uma vinculação segura, as variáveis de competição social não se revelaram mediadoras significativas. Por outras palavras, parece que a vinculação insegura vulnerabiliza os adolescentes para serem mais sensíveis à ameaça e à competição social, fazendo com que se sintam numa posição inferior e vulnerável em relação aos seus pares, aumentando os comportamentos defensivos de submissão, e consequentemente os sintomas psicopatológicos.

1.2.4.2. EVOLUÇÃO, SISTEMAS DE REGULAÇÃO DE AFETO E EXPERIÊNCIAS PRECOCES

O cérebro humano possui padrões psicobiológicos inatos de resposta (i.e., mentalidades sociais) que organizam a mente em diferentes modos e estão associados a cognições e emoções distintas. Quando os ambientes são ameaçadores e hostis, os humanos têm acesso (frequentemente rápido) a um menu evoluído de respostas estratégicas (incluindo, emocionais, cognitivas e comportamentais) especializadas a responder de modo adaptativo e eficaz, garantindo assim a sobrevivência. O sistema responsável por este padrão automático de resposta é o **sistema de ameaça-defesa,** que está funcionalmente focado na ameaça e na autoproteção, deteta rapidamente estímulos de ameaça, e aciona as respostas emocionais (e.g., ansiedade, raiva, aversão), cognitivas e comportamentais específicas e necessárias (e.g., luta, fuga, submissão, pensamento dicotómico, sobregeneralização; Gilbert, 2000a, 2001, 2009a; LeDoux, 1998). Neste sistema de ameaça-defesa a regulação sináptica de serotonina desempenha um papel importante (Caspi & Moffitt, 2006; Gilbert, 2009a), parcialmente devido à regra defensiva da mente "*mais vale prevenir que remediar*", que constitui um sistema facilmente condicionado e fonte de psicopatologia (LeDoux, 2003).

Em contraste, quando o ambiente não é ameaçador e envolve sinais de segurança, os indivíduos sentem-se seguros e reagem com outro conjunto de respostas estratégicas (incluindo, respostas emocionais, cognitivas e comportamentais) para poderem explorar esse contexto, alcançar objetivos e necessidades, ou relaxar e serenar (Gilbert, 2005). Particularmente, existe uma variedade de emoções positivas associadas a diferentes sistemas de regulação de afeto. O **sistema de procura de recursos/incentivos** (associado à dopamina) foca-se no 'modo de fazer', está orientado para a obtenção de objetivos, e é responsável pela ativação de sentimentos de vitalidade, energia, prazer, entusiasmo, que guiam os comportamentos de procura e de aquisição de recursos, o que conduz à prosperidade e ao bem-estar (Depue & Morrone-Strupinsky, 2005). Este sistema pode ser desativado quando o indivíduo não antecipa recompensas nem as procura, e sente-se satisfeito e num estado de contentamento, o que mostra a presença de outro sistema de afeto positivo com funções e efeitos diferentes (Castilho, 2011). O **sistema focado na afiliação, calor e *soothing*** não está focado nem na ativação nem na procura (i.e., não está no 'modo de ameaça' ou no 'modo de fazer e obter'), mas envolve os sentimentos de quietude, tranquilidade, segurança e bem-estar e está associado ao sistema de opiácios e oxitocina (Depue & Morrone-Strupinsky, 2005). Quando o indivíduo se sente seguro e tranquilo tende a ser mais criativo na resolução dos problemas e mais pró-social (Gilbert, 2005). Este sistema de regulação do afeto coocorre com o desenvolvimento do sistema de vinculação, uma vez que é estimulado por sinais de segurança, cuidado e compaixão por parte dos outros, agentes de tranquilização e segurança (Gerhardt, 2004). Isto fornecerá à criança memórias emocionais positivas que poderão ser

recrutadas no futuro, quer em contetxos interpessoais (formação de ligações afiliativas), quer na autorregulação face a situações de *stress* e de sofrimento (Gilbert et al., 2008). Dito de outra forma, este sistema está implicado na desativação das emoções ligadas ao sistema de ameaça, e das emoções causadas quando o sistema de procura de recompensas é interrompido (e.g., frustração, desapontamento; Depue & Morrone-Strupinsky, 2005; Gilbert, 1989, 2005, 2007, 2009a, 2014).

Como referido anteriormente, o cérebro humano evoluiu para integrar as motivações básicas (ou mentalidades sociais), as emoções, os pensamentos e os comportamentos numa coreografia coordenada, interativa e síncrona entre si e o contexto ou os estímulos externos. As experiências precoces com as figuras significativas vão ter um papel importante no desenvolvimento das representações mentais eu–outro (Mikulincer & Shaver, 2007) e vão contribuir para a estimulação (aumentando ou diminuindo) destes sistemas de regulação de afeto. A vinculação segura e as relações afiliativas promovem sentimentos de calor, tranquilização e conexão com os outros, e permitem a regulação dos afetos, bem como reduzir o sofrimento em resposta à ameaça (Gilbert et al., 2008; Schore, 2001). Ou seja, crianças com padrões de vinculação securizantes evidenciam um crescimento mais positivo, com maior flexibilidade emocional e melhores competências cognitivas e sociais (Cassidy & Shaver, 1999), o que lhes confere uma capacidade de resiliência consistente para lidarem com a adversidade no futuro. Pelo contrário, as experiências adversas na infância (e.g., rejeição, abuso, negligência, abandono, vergonha, invalidação, criticismo) estão associadas à sobre-estimulação do sistema de ameaça-defesa (Dickerson & Kemeny, 2004; Perry, Pollard, Blakey, Baker, & Vigilante, 1995; Taylor, 2010) e ao subestimulação do sistema afiliativo, de calor e *soothing* (Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006), o que aumenta a vulnerabilidade para dificuldades psicológicas e interpessoais. Dito de outra forma, os diferentes tipos de experiências negativas precoces predispõem os indivíduos a uma maior rigidez emocional, a défices relacionais e comunicacionais com os outros, a falhas atencionais, a dificuldades na leitura e compreensão da mente dos outros e a uma menor capacidade de recuperação perante a adversidade e *stress* (baixa resiliência). Portanto, crianças que provêm de ambientes abusivos, hostis, negligentes e ameaçadores estão mais vulneráveis a manifestarem défices nos sistemas de regulação de afeto (Schore, 1994).

Em síntese, importa, pois, compreender de que forma as interações sociais precoces podem influenciar o desenvolvimento da representação dos outros e do eu, assim como a estimulação dos diferentes sistemas de regulação de afeto.

1.3. COMO É QUE AS EXPERIÊNCIAS EMOCIONAIS PRECOCES DE AMEAÇA, SUBORDINAÇÃO E DESVALORIZAÇÃO INTERAGEM COM O DESENVOLVIMENTO CEREBRAL PARA MOLDAR A AUTOIDENTIDADE?

Segundo Gilbert e colaboradores (2003), a recordação de sentimentos pessoais na relação precoce com outros significativos parece ser mais importante do que apenas a recordação do comportamento dos outros para consigo na explicação das subsequentes dificuldades psicológicas. Gilbert (1992, 2001) sugere ainda que as relações entre pais-criança são relações de poder. Quer isto dizer que os ambientes precoces caracterizados por abuso, rejeição, invalidação emocional, negligência e criticismo aumentam a vulnerabilidade da criança para se sentir ameaçada, subordinada e desvalorizada pelos seus pais e para se sentir forçada a adotar comportamentos defensivos e submissivos automáticos e indesejados (e.g., evitamento, inibição passiva) para lidar com esse ambiente *stressante*. A ativação destas estratégias defensivas tem como objetivo a tentativa de reduzir e desativar o criticismo e agressão do outro dominante e/ou a sua intenção hostil (Allan & Gilbert, 1997; Gilbert et al., 2003). Neste fenótipo social de dominância-subordinação, as estratégias de aproximação, confiança e abertura em relação aos outros são mal-adaptativas e inúteis, enquanto a atenção e a vigilância constante ao poder e ameaça dos outros são mais adaptativas e funcionais. Estas estratégias automáticas defensivas protegem a criança, na medida em que a rebeldia (ou a assertividade) poderá revelar-se contraprodutiva ao aumentar a escalada do criticismo parental (e.g., ataque verbal, sentimentos de frustração, irritação) e até mesmo ao diminuir o vínculo emocional. Embora estas estratégias sejam automaticamente recrutadas e emitidas, aumentam a vulnerabilidade para a ansiedade, desmobilização, inibição psicomotora e disforia (depressão) (Gilbert, 1993, 2003, 2005). Tais estratégias guiam as emoções e os comportamentos, mas também influenciam a auto-organização e autoidentidade (Gilbert, 2002, 2005). Com efeito, a exposição repetida a tais experiências de criticismo, rejeição e ameaça no seio familiar contribui para o desenvolvimento da representação dos outros como hostis, poderosos e dominantes e de um sentido do eu sem valor, vulnerável e inferior (Bolwby, 1969; Gilbert et al., 2003), contribuindo, assim, para moldar e maturar uma autoidentidade focada na mentalidade de competição social (Gilbert, 2005).

Vários estudos retrospetivos na adultez têm mostrado que a recordação deste tipo de sentimentos pessoais de ameaça, subordinação e desvalorização nas interações precoces com a família está associada a dificuldades psicológicas, nomeadamente vergonha, depressão, ansiedade, e paranoia (Castilho, Pinto-Gouveia, Amaral, & Duarte, 2014; Gilbert, 1993; Sloman, Gilbert, & Hasey, 2003; Pinto-Gouveia et al., 2014). De um modo geral, estes estudos indicam que os indivíduos que cresceram neste tipo de contextos desenvolveram uma predisposição para

estar atentos à competição, ao estatuto e ao poder dos outros em relação a eles próprios, tendendo a envolver-se em comparações sociais desfavoráveis e a percecionar-se como inferiores em relação aos outros. Paralelamente, sentem-se rapidamente ansiosos em situações inseguras, e procuram evitar conflitos interpessoais, envolvendo-se em comportamentos de submissão (e.g., apaziguar os outros, evitar o contacto visual), o que os torna mais vulneráveis a uma ampla variedade de dificuldades emocionais e comportamentais (Gilbert, 2005, 2014).

Além disso, esta mentalidade de competição social também envolve o medo de (ou os esforços para evitar) criar emoções negativas na mente dos outros, de ser envergonhado, humilhado e, consequentemente, rejeitado pelos outros. Como foi referido anteriormente, a perceção de intenções ameaçadoras ou hostis dos outros e a autoperceção de que os outros nos veem como agentes sociais não-atrativos (e.g., ser criticado, ridicularizado, rejeitado, abusado) dificulta a coconstrução de papéis sociais favoráveis, compromete a regulação emocional eficaz e ativa o sistema de ameaça-defesa (Gilbert, 1989, 1992, 1997, 1998a, 1998b, 2000a, 2003, 2007). Concretamente, quando o indivíduo tenta esconder, ocultar ou ainda camuflar certas características pessoais, que acredita serem visíveis negativamente aos olhos dos outros, há uma ativação da vergonha que incita a escapar da situação social (Tangney & Dearing, 2002), em vez de motivar para a aproximação, exploração, cooperação ou partilha com os outros (Liotti & Gilbert, 2010). Vários estudos têm mostrado consistentemente que a **vergonha** está associada ao desenvolvimento e manutenção de problemas na saúde mental em adultos, em particular depressão (e.g., Andrews, Qian, & Valentine, 2002; Ashby, Rice, & Martin, 2006; Cheung, Gilbert, & Irons, 2004), ansiedade (e.g., Pinto-Gouveia & Matos, 2011; Tangney, Wagner, & Gramzon, 1992), ansiedade social e paranoia (e.g., Gilbert, 2000b, Matos et al., 2013; Pinto-Gouveia et al., 2014).

1.3.1. Ativação do Sistema de Ameaça-Defesa, Vergonha e Autocriticismo

O mesmo padrão de resultados tem sido encontrado em amostras de adolescentes, com os sentimentos de vergonha a mostrarem-se elevados durante a adolescência, e a tenderem a diminuir durante a adultez média. Como esperado, apresentam-se negativamente relacionados com o bem-estar psicológico ao longo do desenvolvimento (Orth, Robins, & Soto, 2010). De facto, a vergonha está implicada no desenvolvimento da psicopatologia presente ao longo da adolescência (Reimer, 1996), em particular, da depressão (Åslund, Nilsson, Starrin, & Sjöberg, 2007; De Rubeis & Hollenstein, 2009). Além disso, as experiências e os comportamentos parentais adversos parecem contribuir para a relação entre a vergonha e as dificuldades psicológicas. Por exemplo, Stuewing e McCloskey (2005) conduziram um estudo longitudinal que mostrou que as

experiências de maus-tratos na infância (e.g., abuso sexual, parentalidade rígida, violência doméstica) e os estilos parentais na adolescência (e.g., rejeição parental) influenciam a propensão para a vergonha, o que, por sua vez, conduz à depressão.

Estas evidências empíricas têm conduzido a investigação para explorar os potenciais mecanismos psicológicos mediadores entre as experiências de vergonha e/ou os sentimentos de vergonha e a psicopatologia. Parece que é, sobretudo, quando as experiências de vergonha têm características de memórias traumáticas e se tornam centrais para a autoidentidade, que vulnerabilizam os indivíduos para a sintomatologia ansiosa e depressiva (Matos, 2011a, Matos & Pinto-Gouveia, 2010; Pinto-Gouveia & Matos, 2011). Adicionalmente, as experiências de vergonha traumáticas e os sentimentos de vergonha têm um impacto nos sintomas depressivos, especialmente quando os indivíduos se envolvem em processos emocionais e cognitivos mal-adaptativos de regulação emocional, nomeadamente ruminação, supressão do pensamento e dissociação (Cheung et al., 2004; Matos, Pinto-Gouveia, & Costa, 2013). Estes resultados obtidos em amostras de adultos também foram replicados e corroborados numa amostra de adolescentes da comunidade (N = 354, 12–18 anos de idade; Cunha, Matos, Faria, & Zagalo, 2012). De um modo geral, este estudo (Cunha et al., 2012) mostrou que os adolescentes que reportam experiências de vergonha que funcionam como traumáticas e centrais para a sua identidade, tendem a experienciar níveis mais elevados de sentimentos de vergonha (i.e., acreditar que possuem características negativas – vergonha interna –, e que existem na mente dos outros também de uma forma negativa – vergonha externa), o que, por sua vez, conduz a experienciarem níveis mais elevados de sintomatologia depressiva e ansiosa. Outro estudo em adolescentes da comunidade (N = 141, 11-16 anos de idade) mostrou que o efeito da predisposição para a vergonha na sintomatologia depressiva é mediado pelo uso de estratégias de *coping* de evitamento, sendo que este efeito mediador foi transversal e longitudinalmente significativo (De Rubeis & Hollenstein, 2009). A abordagem biospsicossocial da vergonha (Gilbert, 1997, 1998b, 2003, 2007) postula a existência de dois tipos de vergonha, a vergonha externa e a vergonha interna. A vergonha externa, em que o mundo social é experienciado como hostil e inseguro, origina a ativação de estratégias defensivas, em que o indivíduo se esforça, comportamentalmente, para atingir uma imagem positiva na mente dos outros (e.g., submissão, agradar, obedecer, apaziguar). Mais ainda, a internalização destas experiências pode resultar numa desvalorização do eu, no mesmo sentido: o indivíduo sentir-se inferior, defeituoso, diminuído e globalmente falhado e diferente (Castilho et al., 2012; Gilbert, 1998b; Gilbert et al, 2004). Estas autoavaliações e atribuições negativas, conhecidas como **autocriticismo**, constituem um tipo de relação interna que ativa as estratégias de dominância-subordinação usadas na resposta a estímulos externos de ameaça social, e que são responsáveis pelo surgir de emoções negativas e psicopatologia (Castilho, Pinto-Gouveia, & Duarte, 2015b), quer internalizada, quer externalizada (e.g., Matos,

Pinto-Gouveia, & Gilbert, 2013; Pinto-Gouveia, Castilho, Matos, & Xavier, 2013). Com base nisto, é compreensível e empiricamente validado que as experiências precoces de dominância-subordinação formem também a base para o desenvolvimento do **autocriticismo**. Especificamente, os comportamentos parentais de excessiva restrição e rejeição estão relacionados prospectivamente com o desenvolvimento de autocriticismo nos seus filhos, e este traço disposicional de autocrítica permanece estável desde o início da adolescência até à jovem adultez, especialmente para o sexo feminino (Koestner, Zuroff, & Powers, 1991). Também Irons, Gilbert, Baldwin, Baccus, e Palmer (2006) encontraram, numa amostra de jovens adultos, que a recordação de vivências de rejeição e sobreproteção parental está associada ao autocriticismo, acrescentado, contudo, que é particularmente o desenvolvimento desta relação interna do eu com o eu focada na crítica e hostilidade, que explica o aumento da vulnerabilidade para a depressão. Pelo contrário, a recordação de experiências de afeto parental (que envolvem sentimentos de segurança, calor e suporte) está associada à capacidade de autotranquilização, sobretudo em momentos de desapontamento ou fracassos (Irons et al., 2006).

A relação entre a forma como os outros se relacionaram connosco e a forma como nos relacionamos connosco próprios (autocriticismo *versus* autotranquilização) pode ser entendida à luz do Modelo Evolutivo Biopsicossocial das Mentalidades Sociais (Gilbert, 1992, 1997, 1998b, 2000a, 2003, 2007). Como já foi referido anteriormente, e de acordo com Gilbert (1989, 2000a, 2005), as mentalidade sociais guiam os indivíduos para procurar formar certos tipos de papéis sociais com os outros (e.g., a criança procura a vinculação e a proteção da figura significativa; os adultos procuram os outros para obter amizades, alianças e parceiros sexuais), guiam as interpretações dos papéis sociais que os outros estão a tentar sinalizar em relação ao eu (e.g., os outros agem de um modo amigável, sexual, ou competitivo), e também guiam as respostas emocionais e comportamentais (e.g., se o outro é amável então o eu aproxima-se e também age amigavelmente; se o outro é hostil então o eu ataca ou evita). Assim, a organização interna das mentalidades e a sua integração serão moldadas ao longo do desenvolvimento pela interação com o ambiente social (Gilbert, 2000a). Desta forma, estas mentalidades sociais podem ser recrutadas internamente para a relação do eu com o eu (Gilbert, 2000a). De acordo com esta linha de pensamento, a forma como os indivíduos se relacionam consigo próprios (de uma forma crítica e severa ou de uma forma calorosa e empática) opera através de sistemas psicológicos e neurofisiológicos similares àqueles usados nas interações com os outros (Gilbert, 2000a, 2005; Longe et al., 2010). Quer isto dizer que os humanos podem responder aos autoataques e autocondenações com os mesmos sistemas de resposta (emocional, cognitivo e comportamental) que usam para lidar com as ameaças e ataques externos (Gilbert, 2000a, 2005). Este tipo de relação interna designa-se de **autocriticismo** e representa uma relação hostil-dominante, onde uma parte do eu encontra falhas, acusa e condena (e até mesmo odeia) o eu; e outra parte do eu

responde, submetendo-se a esse ataque (Gilbert & Irons, 2005). O autocriticismo, inscreve-se na mentalidade de competição social e, por isso, vai ativar o sistema de processamento ameaça-defesa, conduzindo a emoções negativas, a comportamentos submissos e de evitamento e consequentemente ao aparecimento de psicopatologia (Gilbert, 1989, 1992, 1993, 2000a, 2000b; Gilbert & Irons, 2005; Gilbert, Clarke, Hempel, Miles, & Irons, 2004). Um estudo acerca dos correlatos neuronais do autocriticismo revelou que o autocriticismo está associado à região do córtex pré-frontal dorsolateral e ao cíngulo anterior dorsal, o que significa que este estimula áreas corticais especificamente relacionadas com o processamento do erro (e sua resolução) e com a inibição comportamental (Longe et al., 2010).

Quando o indivíduo se confronta com situações de vida difíceis ou perceciona fracassos em tarefas importantes, podendo resultar em desaprovação social e ser uma ameaça para o eu, surge frequentemente o autocriticismo associado a sentimentos de inadequação e de derrota, ou a sentimentos hostis de raiva, desprezo e ódio pelo eu (Gilbert et al., 2004). O autocriticismo cuja função é a tentativa de melhorar e corrigir o comportamento ou características pessoais parece ser menos patológico do que o autocriticismo que envolve sentimentos de raiva e ódio pelo eu, focando-se na tentativa de perseguir, agredir e excluir o eu (Gilbert et al., 2004; Gilbert & Irons, 2009). A qualidade mais patogénica do autocriticismo reside na intrusividade das cognições avaliativas negativas e na textura emocional negativa associada, ou seja, no sentimento de hostilidade, condenação e desprezo dirigidos ao eu (Gilbert et al., 2004; Gilbert & Irons, 2009; Whelton & Greenberg, 2005). A este respeito, um estudo conduzido por Gilbert, Baldwin, Irons, Baccus, e Palmer (2006) mostra que os indivíduos com um traço autocrítico elevado, perante a perceção de fracassos, tendem a experienciar o seu autocriticismo como intenso e poderoso com sentimentos de raiva, aumentado a vulnerabilidade para a sintomatologia depressiva. Adicionalmente, estes indivíduos manifestaram uma maior dificuldade em criar imagens de tranquilização e suporte para consigo próprios para lidar com a perceção de fracasso, enquanto os indivíduos com um traço de autotranquilização elevado foram capazes de aceder a imagens de suporte e sentimentos de calor e tranquilização perante a mesma situação de fracasso (Gilbert et al., 2006).

Por outro lado, outras qualidades patogénicas do autocriticismo residem não só na fácil acessibilidade a imagens críticas perante situações de fracasso, mas também na incapacidade para aceder a imagens compassivas, a pensamentos e sentimentos de calor, tranquilização e segurança (Gilbert, 2005; Gilbert & Irons, 2009; Gilbert et al., 2004, 2006). De facto, a investigação tem mostrado que os indivíduos provenientes de contextos precoces adversos, com níveis elevados de vergonha e autocriticismo, manifestam dificuldades sérias em autotranquilizarem-se e a terem uma atitude de cuidado e compreensão empática quando em sofrimento (Gilbert & Procter, 2006).

Nestes casos, quer o mundo externo, quer o mundo interno são vivenciados como hostis e ameaçadores.

Vários estudos têm inequivocamente evidenciado que o autocriticismo está associado à recordação de contextos adversos na infância e a vários indicadores psicopatológicos (e.g., vergonha, comparação social, submissão, ansiedade, paranoia, perturbações de personalidade e perturbações do comportamento alimentar) (e.g., Castilho et al., 2012; Irons et al., 2006; Pinto-Gouveia et al., 2014), constituindo mesmo um fator de vulnerabilidade para a depressão (e.g., Zuroff, Igreja, & Mongrain, 1990). Por exemplo, Pinto-Gouveia, Castilho, Matos, e Xavier (2013) encontraram que o efeito da centralidade das memórias de vergonha na sintomatologia depressiva em indivíduos adultos passa pela ativação do autocriticismo. Porém, a maioria destes estudos tem sido conduzida em amostras de adultos da população geral ou clínica.

Apesar de escassa, a investigação também aponta para o efeito negativo do autocriticismo na adolescência. Por exemplo, Shahar, Blatt, Zuroff, Kupermine, e Leadbeater (2004) analisaram prospectivamente, desde o início da adolescência até à idade adulta, o efeito do autocriticismo, e concluíram que se trata de uma característica estável com efeitos recíprocos entre este traço disposicional e a depressão, sobretudo no sexo feminino. Adicionalmente, o autocriticismo também tem implicações na ansiedade dos adolescentes, em particular na ansiedade aos exames. A este respeito, Cunha e Paiva (2012) encontraram numa amostra de adolescentes Portugueses (N = 449, 15–21 anos de idade) que os indivíduos com níveis mais elevados de ansiedade aos exames apresentam elevado autocriticismo e baixa autotranquilização, comparativamente àqueles com níveis mais baixos de ansiedade aos exames. Além disso, este estudo mostra também que o autocriticismo focado nos sentimentos de inadequação (i.e., Eu inadequado) e a ausência de competências de aceitação e *mindfulness* contribuem significativamente para explicar os níveis mais elevados de ansiedade aos exames, sobretudo no sexo feminino (Cunha & Paiva, 2012). Outro estudo, conduzido numa amostra de adolescentes da comunidade (N = 86, 12–19 anos de idade), mostrou que o impacto das experiências de maus-tratos na infância (em particular, abuso emocional) no envolvimento em comportamentos autolesivos é mediado pelo autocriticismo, mesmo controlando o efeito dos sintomas depressivos (Glassman, Weierich, Hooley, Deliberto, & Nock, 1997). Com efeito, parece que as experiências adversas podem resultar na tendência para internalizar o criticismo em relação ao eu e que esta atitude autocrítica desempenha um papel importante nas dificuldades psicológicas e comportamentos disfuncionais dos adolescentes. Uma vez que as experiências na infância não podem ser alteradas ou modificadas, o conhecimento sobre os processos psicológicos proximais das dificuldades psicológicas revela-se crucial para o desenvolvimento de programas psicológicos de prevenção e intervenção nesta faixa etária. Contudo, os referidos processos psicológicos continuam por explorar na adolescência e, por isso, o seu estudo constitui uma necessidade premente.

1.4. De que Forma as Experiências Precoces de Calor, Afeto e Segurança com a Família Poderão ter um Papel Protetor no Desenvolvimento da Psicopatologia?

Em contraste com os resultados supracitados, as experiências de afeto, segurança e cuidado durante a infância estão associadas a vários indicadores psicológicos positivos (e.g., autoestima, felicidade) e à saúde mental ao longo do desenvolvimento. Como tivemos oportunidade de reportar anteriormente, as relações precoces de afeto e segurança com as figuras de vinculação vão influenciar os modelos de construção interna acerca dos outros (e.g., como disponíveis, responsivos e que dão suporte) e do eu (e.g., como merecedor de afeto e suporte), bem como as relações interpessoais subsequentes (Bowlby, 1969, 1973, 1980; Mikulincer & Shaver, 2005, 2007). A experiência de que os outros nos aceitam, nos dão suporte, são afetuosos e carinhosos, torna o nosso mundo seguro, o que nos permite não só explorar o contexto físico e social, mas também sentir a 'base segura' para regressar.

Quando as crianças crescem em ambientes de suporte, calor e afeto, elas sentem que podem confiar nos outros, tornam-se sensíveis a sinais de simpatia e empatia, apresentam maiores capacidade de regulação do afeto porque têm acesso a memórias dos outros como capazes de dar suporte em momentos de sofrimento ou *stress*, e têm menos probabilidade de adotar comportamentos defensivos (Gilbert & Irons, 2005, 2009; Gilbert et al., 2004, 2006). Este tipo de experiências de afeto, calor e segurança estão associadas à mentalidade de prestação de cuidados e vão estimular o desenvolvimento do sistema de afiliação, calor e *soothing*, que diz respeito a sentimentos de quietude, tranquilização, calor e segurança, e permite desativar o sistema de ameaça-defesa (onde se incluem, por exemplo, as emoções de raiva, ansiedade, tristeza, e os comportamentos de agressão ou fuga). Os sentimentos de calor e acalmia envolvem três atributos principais. Primeiro, fornecem sinais de cuidado e investimento e ativam a organização interna de segurança (i.e., a criança sente-se amada e valorizada). Segundo, são sentimentos que envolvem a partilha de afeto positivo entre os indivíduos, o que estimula a coesão social. Terceiro, estão presentes, particularmente, quando os indivíduos se sentem seguros nas relações interpessoais (Gilbert, 2005). Assim, as experiências de segurança e acalmia não estão apenas associadas à ausência de ameaça, mas também à presença de sinais específicos e de experiências afiliativas (e.g., afeto, ser-se valorizado), que contribuem para memórias positivas de segurança e acalmia, que são a chave para regular os estados afetivos (Baldwin & Dandeneau, 2005; Gilbert, 2005; Richter, Gilbert, & McEwan, 2009).

1.4.1. SISTEMA DE TRANQUILIZAÇÃO E AUTOCOMPAIXÃO

Existe evidência empírica de que a recordação de memórias de calor, segurança e suporte durante a infância está associada à capacidade de autotranquilização e a menores níveis de sintomas psicopatológicos, como, por exemplo, depressão na adultez (Richter et al., 2009). Na adolescência a recordação de experiências de calor e segurança também se mostrou associada a menores níveis de sintomas de depressão, ansiedade e *stress* (Cunha, Xavier, Martinho, & Matos, 2014). Além disso, os adolescentes que se classificaram com um estilo de vinculação seguro reportaram mais memórias de calor e segurança na interação precoce com a sua família. Estas memórias emocionais precoces estão também positiva e significativamente associadas à autocompaixão (Cunha, Martinho, Xavier, & Espírito Santo, 2013; Cunha, Xavier, & Martinho, 2013). De um modo geral, estes estudos sugerem que este tipo de memórias e estados emocionais associados podem contribuir para o crescimento adaptativo dos adolescentes como adultos psicologicamente saudáveis e autocompassivos.

Tal é provável de acontecer porque, quando as crianças experienciam o mundo social como seguro, ou seja, quando as figuras significativas são capazes de fornecer cuidado, calor e validação emocional, isto vai estimular o sistema de afiliação, calor e *soothing* e desenvolver um sentido do eu valorizado, amado, apreciado. Estas crianças vão explorar e entrar no mundo social motivadas para criar papéis sociais de cooperação e afiliação e vão usar estratégias orientadas para a empatia e simpatia para coconstruir esses papéis sociais (Gilbert, 2005). Além disso, estas crianças, por terem crescido em ambientes de afeto, suporte e segurança, vão ter memórias de terem sido amadas e apoiadas em momentos de sofrimento ou *stress* e vão ser mais capazes de se relacionarem consigo próprias de uma maneira carinhosa, empática, tolerante e compassiva (Gilbert, 2005; Neff & Dahm, 2015).

Gilbert (2009a, 2009b, 2010), com base na perspetiva evolutiva, defende que a compaixão é uma capacidade evoluída dos mamíferos que tem origem nos sistemas comportamentais da vinculação e afiliação. A compaixão emerge, então, da mentalidade de prestação de cuidados, que envolve a intenção e a motivação para aliviar o sofrimento dos outros, e os atributos de sensibilidade atencional, simpatia, tolerância ao sofrimento, empatia e não-julgamento. Em termos da direção ou alvo da compaixão, os sentimentos compassivos podem ser expressos em relação ao próprio, em relação aos outros, ou ainda ser alvo de compaixão por parte dos outros. Quando tais características são recrutadas para o sistema cognitivo e emocional interno, então, a compaixão está a ser dirigida ao eu. A **autocompaixão** pode assim ajudar a regular os estados de afeto negativo, permite desativar o sistema de ameaça (associado aos sentimentos de vinculação insegura, ativação autonómica e defensiva) e ativar o sistema de afiliação, calor e *soothing* (associado aos sentimentos de segurança, calor, afeto), facilitando a expressão e comunicação dos

sentimentos de calor, segurança e acalmia (Gilbert, 2005, 2009a, 2009b, 2010). De facto, a investigação mostrou que a autotranquilização e autocompaixão ativam regiões cerebrais similares àquelas que são ativadas quando se expressa compaixão e empatia em relação aos outros (Longe et al., 2010). Adicionalmente, quando os indivíduos praticam exercícios breves de autocompaixão (e.g., imaginar uma imagem visual da figura compassiva ideal a manifestar sentimentos de aceitação e amor incondicional dirigidos ao eu), isso permite baixar os níveis da hormona de *stress* de cortisol e também aumentar a variabilidade cardíaca que está associada à capacidade de autotranquilização perante situações de stress ou perturbação (Rockliff, Gilbert, McEwan, Lightman, & Glover, 2008).

Os trabalhos de investigação de Neff (2003a, 2003b) foram pioneiros a explorar e a demonstrar os benefícios da autocompaixão. De acordo com a autora (2003a, 2003b), a autocompaixão é uma atitude adaptativa e saudável de relação do eu com o eu e é relevante em circunstâncias de inadequações pessoais, erros ou falhas (Neff, 2003a, 2003b, 2004, 2009). A autocompaixão é operacionalizada em três componentes principais: calor/compreensão, condição humana e *mindfulness*. Estes componentes interagem entre si para criar um estado da mente compassivo (Neff, 2003a, 2003b, 2016). Para avaliar a autocompaixão, Neff (2003a) desenvolveu a Escala de Autocompaixão e também a aplicou em adolescentes (Neff & McGehee, 2010). Esta escala tem sido amplamente usada em vários países, e também foi validada para a população Portuguesa de adolescentes (Cunha, Xavier, & Castilho, 2016; Cunha, Xavier, & Vitória, 2013) e adultos (Castilho, Pinto-Gouveia, & Duarte, 2015a; Costa, Marôco, Pinto-Gouveia, Ferreira, & Castilho, 2015), tendo apresentado boas características psicométricas. Um número crescente de estudos, conduzidos na sua maioria em amostras de adultos, mostra a associação entre a autocompaixão e o funcionamento psicológico adaptativo, nomeadamente satisfação com a vida, felicidade, otimismo, inteligência emocional, *mindfulness*, conexão social (e.g., Barnard & Curry, 2011; Neff, Rude, & Kirkpatrick, 2007). Adicionalmente, a autocompaixão está associada a menores níveis de indicadores psicopatológicos, como, por exemplo, menores níveis de ansiedade, depressão, *stress*, ruminação, vergonha, supressão do pensamento, evitamento (e.g., Barnard & Curry, 2011; Neff, Kirkpatrick, & Rude, 2007; Macbeth & Gumley, 2012; Raes, 2010), e a uma maior capacidade para lidar com fracassos académicos (Neff, Hsieh, & Dejitterat, 2005).

Apesar da investigação sobre a autocompaixão na adolescência ainda ser relativamente escassa, alguns estudos têm surgido recentemente. De um modo geral, os resultados destes estudos na adolescência mostram que a autocompaixão está positivamente associada à vinculação segura, ao suporte materno, ao *mindfulness*, à satisfação com a vida (Cunha et al., 2013; Bluth & Blanton, 2014, 2015; Marshall et al., 2015; Neff & McGehee, 2010) e negativamente associada ao afeto negativo, aos sintomas traumáticos e de depressão, ansiedade e *stress*, à desregulação emocional, aos comportamentos agressivos (Barry, Loflin, & Doucette, 2015; Bluth & Blanton,

2015; Tanaka, Wekerle, Schmuck, & Paglia-Boak, 2011; Vettese, Dyer, Li, & Wekerle, 2011; Zeller, Yuval, Nitzan-Assayag, & Bernstein, 2014).

Em muitos aspetos, a autocompaixão é uma atitude adaptativa de relação interna (i.e., eu com o eu) que pode facilitar a regulação dos estados emocionais negativos, na medida em que perante acontecimentos de vida negativos ou perturbadores (por exemplo, experiências de vergonha, *bullying*) os sentimentos dolorosos ou desagradáveis não são evitados nem são perpetuados através de atitudes autocríticas, mas, em vez disso, são encarados como fazendo parte da experiência humana através de uma atitude de aceitação, compassiva e não julgadora. Com efeito, o crescimento destas competências ao longo do desenvolvimento, nomeadamente na adolescência, é extremamente importante para lidar com tarefas desenvolvimentais *stressantes*, conduzindo a comportamentos pró-ativos para promover e manter o bem-estar, assim como permitindo aumentar a resiliência e o ajustamento psicológico (Bluth & Blanton, 2014, 2015; Neff, & McGehee, 2010; Persinger, 2012).

1.4.2. Bloqueio do Sistema de Tranquilização: Medos Afiliativos

Apesar dos benefícios associados ao desenvolvimento da compaixão dirigida aos outros e ao eu, os indivíduos podem ter crenças negativas acerca da compaixão e manifestar medos, resistências e evitamento de sentimentos positivos e compassivos. A este conjunto de crenças e medos, Gilbert (2009a) designou de **medos da compaixão**. O autor constatou que, no contexto clínico, os indivíduos que cresceram em ambientes precoces adversos, e que não têm memórias de terem sido acalmados, amados e valorizados pelas figuras significativas, tendem a internalizar a vergonha e um estilo autocrítico (associados à sobreativação do sistema de ameaça-defesa), e, por isso mesmo, a apresentar dificuldades em aceder a memórias e a sentimentos de autotranquilização e compaixão (associadas à ativação do sistema de afiliação, calor e *soothing*; Gilbert & Procter, 2006). Além disso, estes indivíduos relatavam medo de experienciar sentimentos compassivos dos outros (i.e., medo da compaixão dos outros), medo de manifestar sentimentos compassivos em relação aos outros (i.e., medo de receber compaixão por parte dos outros) e medo de dirigir sentimentos positivos e compassivos em relação a si próprio (i.e., medo da autocompaixão) (Gilbert, McEwan, Matos, & Rivis, 2011). Estes medos envolvem, muitas vezes, a crença de que ser bondoso, amável e compreensivo torna-nos pessoas fracas e submissas, ou torna-nos um alvo fácil para os outros, que irão obter vantagem dessas características. Neste caso, a autocompaixão pode ser vista com suspeição e tradutora de autoindulgência e fraqueza. Associadas a estas crenças estão também as funções do autocriticismo, na medida em que o

indivíduo pode acreditar que, ao tornar-se compreensivo e compassivo consigo mesmo, irá perder o seu autocriticismo e tornar-se preguiçoso, indesejado e não amado (Gilbert, 2009a).

Estes medos da compaixão estão associados a entraves na aprendizagem de competências compassivas no contexto psicoterapêutico (Gilbert, 2009a, 2009b). Além disso, a investigação conduzida com populações de adultos da comunidade e clínicas mostra que os medos da compaixão estão associados ao medo de emoções positivas (e.g., felicidade), ao autocriticismo, aos sintomas de depressão, ansiedade e *stress*. Os medos da compaixão estão ainda associados a dificuldades no processamento emocional (e.g., alexitimia), nas capacidades de *mindfulness* e em experienciar sentimentos de autotranquilização e segurança (Gilbert, McEwan, Catarino, & Baião, 2014; Gilbert, McEwan, Catarino, Baião, & Palmeira, 2014; Gilbert et al., 2011, 2012).

De um modo geral, os estudos de investigação supracitados convergem na noção de que a compaixão e as emoções afiliativas associadas desempenham um papel importante na regulação do afeto, sobretudo perante situações difíceis ou inadequações pessoais (Gilbert, 2005, 2009a; Neff, 2003a, 2003b, 2004, 2009). Tendo em consideração a importância das ações de prevenção e intervenção precoces para o desenvolvimento de competências psicológicas e emocionais adaptativas, torna-se importante averiguar o papel dos medos da compaixão em faixas etárias mais novas, pois podem constituir entraves nessas intervenções.

Apesar de os processos internos de regulação das emoções, ora focados na ameaça e na competição social ora focados na afiliação, compaixão e no cuidado, terem origem nas interações precoces com as figuras significativas, as relações com o grupo de pares na adolescência também podem ter um papel importante na formação da autoidentidade e na vulnerabilidade para a psicopatologia.

1.5. Qual o Papel das Relações com o Grupo de Pares no Desenvolvimento da Psicopatologia?

Uma das tarefas desenvolvimentais característica da adolescência é o aumento da autonomia em relação aos pais e, por sua vez, a aproximação em relação ao grupo de pares. Quer isto dizer que a natureza do vínculo, que os adolescentes têm com os seus pais como figuras de vinculação muda, e os amigos tornam-se as fontes de suporte social mais importante durante este período. Apesar de os adolescentes começarem a confiar mais no *feedback* dos seus pares para o desenvolvimento de uma autoidentidade mais autónoma e independente, eles continuam também a beneficiar da relação com os seus pais. O caminho saudável para a adultez faz-se através da interdependência entre o adolescente e os seus pais, e não pelo completo isolamento em relação aos mesmos. Por outras palavras, a adolescência implica aprender a ser autónomo em relação à

necessidade dos cuidados dos outros durante a infância, e paralelamente implica a aproximação ao grupo de pares para dar atenção e cuidado aos outros e receber ajuda dos outros (Siegel, 2013; Steinberg & Morris, 2001). Mas é o equilíbrio entre esta aproximação aos pares e a supervisão e a negociação parental que possibilita uma interdependência bem-sucedida (Siegel, 2013; Steinberg et al., 2006).

De um modo geral, esta motivação para o envolvimento social, para aumentar a ligação emocional aos pares e para criar novas relações (e.g., de amizade, amorosas, de companheirismo) permite o desenvolvimento de relações de suporte e de confiança que, tal como comprovam os estudos empíricos, são os melhores preditores do bem-estar, longevidade, e felicidade ao longo da vida (Nelson et al., 2005; Siegel, 2013; Steinberg et al., 2006).

No entanto, estas relações entre pares vão implicar a necessidade de aceitação, a popularidade, a competição por um lugar seguro e o reconhecimento do estatuto ou lugar social pelos seus pares. Esta pressão percebida para ser aceite, valorizado ou aprovado pelos outros aumenta as preocupações dos adolescentes acerca do que é valorizado no grupo, da autoapresentação e da possibilidade de falhar ou não nesta apresentação de características valorizadas (por exemplo, firmeza e agressividade nos rapazes e aparência física nas raparigas) (Gilbert & Irons, 2009). Estas preocupações podem ser entendidas à luz da Teoria das Mentalidade Sociais proposta por Gilbert (1992, 1997, 1998b, 2000a, 2003, 2005, 2007), segundo a qual os seres humanos apresentam a necessidade inata para o grupo de pertença e para a competição pela atração social. De acordo com este modelo, a sobrevivência humana e o seu desenvolvimento vão depender da capacidade para estimular afeto positivo e impressões positivas na mente dos outros sobre si (i.e., ser valorizado e admirado pelos outros), com o objetivo de ser escolhido para coconstruir papéis sociais vantajosos (e.g., como aliado, amigo, membro de equipa, parceiro sexual).

Assim, quando o contexto do grupo de pares se torna ameaçador, ou seja, quando o adolescente se sente ridicularizado, rejeitado, estigmatizado ou ameaçado nestes contextos, é possível que aumentem os medos de existir negativamente na mente dos outros e, por isso, de ser rejeitado, excluído pelos outros. Desta forma, as experiências de vitimização pelos pares ou *bullying*, ao desencadear sentimentos de desapontamento e frustração com o eu, podem ativar o sistema de ameaça-defesa, a vergonha, o autocriticismo e os comportamentos defensivos (Gilbert & Irons, 2009). De facto, os adolescentes que tendem a fazer comparações desfavoráveis de si próprios em relação aos seus pares tendem a manifestar mais comportamentos submissos e a experienciar níveis mais elevados de sintomatologia depressiva e ansiosa (Irons & Gilbert, 2005).

Na literatura está amplamente documentado que **as experiências de vitimização pelos pares ou *bullying*** aumentam a vulnerabilidade para a psicopatologia, nomeadamente para

problemas de internalização (e.g., depressão, ansiedade), sintomas psicossomáticos, dificuldades académicas e abandono escolar, ideação suicida, tentativas de suicídio e comportamentos autolesivos (e.g., Hawker & Boulton, 2000; Turner, Exum, Brame, & Holt, 2013; van Geel, Goemans, & Vedder, 2015). No entanto, o estudo dos mecanismos psicológicos que possam mediar essa relação continua por explorar na adolescência. Esse conhecimento poderia dar pistas importantes para programas de prevenção e intervenção no *bullying*, uma vez que os vários estudos, que avaliaram a eficácia de abordagens que apresentam informações factuais das consequências adversas de determinados comportamentos (e.g., comportamentos agressivos como, por exemplo, *bullying*), têm consistentemente indicado que tais abordagens têm pouco impacto na mudança dos comportamentos (Merrell, Gueldner, Ross, & Isava, 2008).

Apesar da elevada ocorrência do *bullying* no contexto escolar e do reconhecimento das suas consequências negativas para o bem-estar mental dos adolescentes, as relações com o grupo de pares também envolvem frequentemente **aborrecimentos ou problemas diários com os amigos** (e.g., discussões com os amigos). Estes problemas diários com os amigos e o grau da sua intensidade (i.e., gravidade), juntamente com outras vulnerabilidades pessoais e genéticas, podem ser percebidos como negativos e *stressantes*, resultando no uso de estratégias de regulação cognitiva e emocional mal-adaptativas e, consequentemente, em sintomas psicopatológicos (e.g., depressão, ideação suicida) (e.g., Garnefski, Boon, & Kraaij, 2003; Mazza & Reynolds, 1998; Pinquart, 2009). Desta forma, parece ser igualmente importante estudar o papel, quer das experiências de vitimização pelos pares, quer dos problemas diários com os pares nas dificuldades emocionais e comportamentais experienciadas pelos adolescentes.

Em suma, as características desenvolvimentais e a maturação cerebral que ocorrem durante a adolescência são normativas e comuns a todos os adolescentes. As interações entre o cérebro e o contexto social vão ter um papel crucial no desenvolvimento da autoidentidade e dos processos de regulação das emoções. Quando estas condições são acompanhadas de fatores psicossociais que dificultam os processos desenvolvimentais saudáveis, sobredesenvolvem a mentalidade de competição social e ativam o sistema de ameaça-defesa, como, por exemplo, experiências traumáticas na infância, disposições temperamentais, ambientes constantemente ameaçadores e natureza inconsistente e hostil das relações interpessoais (e.g., família, pares), podem surgir diversas dificuldades psicológicas ao longo do desenvolvimento. Uma vez que as perturbações emocionais estão associadas às memórias emocionais, torna-se importante compreender o modo como as experiências de vida vão moldar os padrões neuronais do cérebro e a (des)ativação dos sistemas de regulação de afeto. Importa, pois, compreender melhor de que modo é que as relações com os outros significativos (e.g., família, pares) podem moldar a autoidentidade e, assim, ter implicações nas emoções, pensamentos e comportamentos dos adolescentes. Neste sentido, consideramos pertinente estudar qual o papel dos processos de

(des)regulação emocional na relação entre as experiências emocionais e os sintomas psicopatológicos na adolescência. O nosso interesse, em particular, foi estudar o impacto conjunto destas experiências emocionais e da (des)regulação emocional nos comportamentos autolesivos na adolescência.

1.6. PORQUÊ O ESTUDO DOS COMPORTAMENTOS AUTOLESIVOS NA ADOLESCÊNCIA?

Os comportamentos autolesivos são um fenómeno preocupante e inquietante porque envolvem atos diretos e deliberados de dano físico corporal, cujas funções e razões são complexas e difíceis de tratamento, com interferência significativa no bem-estar psicológico e nas áreas de funcionamento de vida do individuo (e.g., social, académico).

1.6.1. DEFINIÇÃO E CARACTERIZAÇÃO DOS COMPORTAMENTOS AUTOLESIVOS

Uma revisão da literatura indica que várias definições e taxonomias têm sido usadas para conceptualizar os comportamentos autolesivos (Klonsky, Muehlenkamp, Lewis, & Walsh, 2011). A título ilustrativo mencionam-se: automutilação, autodano deliberado, parasuicídio, autolesão repetitiva, autoferimento, autolesão episódica e repetitiva, e comportamento autodestrutivo. Estes esforços para definir tais comportamentos têm sido úteis na operacionalização e distinção entre, por exemplo, comportamentos autolesivos e tentativa de suicídio. Embora ambos os comportamentos coocorram frequentemente (Nock, Joiner, Gordon, Lloyd-Richardson, & Prinstein, 2006), a investigação tem demonstrado que os comportamentos autolesivos têm características e aspetos únicos (Klonsky et al., 2011). Por exemplo, o suicídio e os comportamentos autolesivos diferem entre si, nomeadamente, em relação a taxas de prevalência, de frequência, concomitantes, letalidade dos métodos, funções e cognições associadas, e abordagens de tratamento clínico (Jacobson & Gould, 2007; Klonsky, May, & Glenn, 2013; Klonsky et al., 2011; Muehlenkamp & Kerr, 2010).

Apesar de existirem algumas divergências na comunidade científica relativas à definição dos comportamentos autolesivos, sobretudo no que diz respeito à presença ou não de intenção suicida, encontram-se na literatura anglo-saxónica dois grandes grupos.

Os **comportamentos autolesivos deliberados** (do inglês, *deliberate self-harm*, *DSH*) referem-se a uma categoria mais ampla de métodos autolesivos (e.g., cortes na superfície corporal, queimar o corpo, sobredosagem), cujos comportamentos são culturalmente inaceitáveis, e

envolvem o ato direto e deliberado de dano físico do corpo, independentemente da presença de ideação suicida e na ausência de uma perturbação do desenvolvimento (Hawton, Saunders, & O'Connor, 2012; Madge et al., 2008; Vrouva, Fonagy, Fearon, & Roussow, 2010).

Os **comportamentos autolesivos não suicidários** (do inglês, *non-suicidal self-injury*, *NSSI*) envolvem atos diretos e intencionais de destruição do tecido corporal do próprio, na ausência de intencionalidade de suicídio e de um propósito não sancionado socialmente. Esta última definição foi recentemente incluída na categoria "condições que requerem investigação" na quinta edição do Manual Diagnóstico e Estatístico de Perturbações Mentais (DSM-V; American Psychiatric Association [APA], 2013), o que demonstra o interesse crescente em adotar uma definição e terminologia estandardizadas, objetivas e consistentes nos domínios quer clínico quer de investigação.

No presente trabalho de investigação foram usadas ambas as nomenclaturas, sendo que, num primeiro momento, optou-se por estudar os comportamentos autolesivos deliberados (DSH) de acordo com a sua definição mais ampla (cf. Estudos Empíricos IV e V), e posteriormente decidiu-se utilizar a terminologia mais recente (i.e., comportamentos autolesivos não suicidários, NSSI), adotando o critério de exclusão de presença de ideação e intenção de suicídio (cf. Estudos Empíricos VI, VII, VIII, IX e X). Esta decisão teve por base a tendência dos estudos de investigação mais recentes que defendem a importância de diferenciar a função dos comportamentos autolesivos (i.e., função sem intencionalidade de suicídio) e de usar medidas de avaliação contínuas (ao invés de dicotómicas) para obter uma medida mais objetiva e fiável destes comportamentos (Fox et al., 2015; Klonsky et al., 2011). Contudo, a análise dos comportamentos autolesivos, tendo como referência a sua definição mais ampla (DSH) e que norteou dois dos nossos Estudos Empíricos (cf. Estudos Empíricos IV e V), não fica comprometida uma vez que recentemente uma revisão sistemática de estudos empíricos conduzidos entre 2005 e 2011 sobre a prevalência de DSH e NSSI em amostras de adolescentes da comunidade, mostrou que a prevalência de ambos é comparável a nível internacional e que se referem a um fenómeno similar (Muehlenkamp, Claes, Havertape, & Plener, 2012).

As formas mais comuns de comportamentos autolesivos são cortes na superfície da pele, queimar a superfície da pele, arranhar gravemente a superfície da pele, morder e bater (Klonsky, 2007; Klonsky et al., 2011; Ross & Heath, 2002). Outros métodos também foram reportados, como por exemplo, engolir deliberadamente substâncias tóxicas, escoriação de feridas, e partir deliberadamente ossos, embora este último seja menos frequente (Whitlock, Eckenrode, & Silverman, 2006). Embora alguns indivíduos com comportamentos autolesivos usem apenas um único método, a maioria dos indivíduos que se envolve nestes comportamentos usa múltiplos métodos autolesivos (Klonsky & Muehlenkamp, 2007).

1.6.2. EPIDEMIOLOGIA, IDADE DE INÍCIO E CURSO

Apesar das taxas de prevalência poderem variar consoante as definições, terminologias e metodologias de avaliação usadas, os comportamentos autolesivos são um problema relativamente comum na adolescência. Os estudos de prevalência indicam que estes comportamentos ocorrem entre 10% a 40% em amostras de adolescentes da comunidade (Cerutti, Manca, Presaghi, & Gratz, 2011; Giletta, Scholte, Engels, Ciairano, & Prinstein, 2012; Muehlenkamp & Gutierrez, 2004; Ross & Heath, 2002) e entre 40% a 60% em amostras clínicas de adolescentes (Klonsky et al., 2011; Nock & Prinstein, 2004). Em Portugal, apesar de escassos, os estudos sugerem taxas de prevalência semelhantes (Guerreiro & Sampaio, 2013; Matos, 2011b).

Perante este panorama internacional, tem-se assistido a um aumento crescente da atenção, por parte dos investigadores e dos clínicos, para este fenómeno, sendo mesmo considerado uma prioridade para as políticas internacionais de saúde mental. A respeito da situação nacional, estes comportamentos encontram-se, recentemente, integrados no Plano Nacional de Prevenção do Suicídio (Carvalho et al., 2013).

Muitos indivíduos adultos com comportamentos autolesivos relatam que o início destes comportamentos ocorreu durante a adolescência (Klonsky et al., 2011). De facto, os estudos verificam que a média de idades para o início dos comportamentos autolesivos varia consistentemente entre os 12 e os 16 anos de idade (Muehlenkamp & Gutierrez, 2004; Nock & Prinstein, 2004; Ross & Heath, 2002).

De um modo geral, vários estudos apontam que a prevalência dos comportamentos autolesivos tem tido uma evolução ascendente ao longo dos últimos anos e tal prevalência é maior em populações de adolescentes do que em populações de adultos (Nock, 2010). Para além da sua elevada prevalência, parece que quando os comportamentos autolesivos estão associados a outros indicadores psicopatológicos tendem a persistir ao longo do desenvolvimento até à adultez (Klonsky, May, & Glenn, 2013; Klonsky et al., 2011). Contudo, não existem estudos longitudinais que analisem as taxas de prevalência dos comportamentos autolesivos e, portanto, a evolução e o curso destes comportamentos na adolescência continuam por explorar. Do nosso conhecimento, existe apenas um estudo que analisou prospectivamente o curso dos comportamentos autolesivos numa amostra de adultos (N = 299; 18–35 anos de idade) com diagnóstico de Perturbação *Borderline* de Personalidade (Zanarini, Frankenburg, Hennen, Reich, & Silk, 2005). Este estudo encontrou um decréscimo na presença de comportamentos autolesivos ao longo de um período temporal de 6 anos (no início do estudo 81% dos pacientes reportou envolvimento em comportamentos autolesivos, enquanto 26% desses pacientes reportaram NSSI no *follow up* após 6 anos; Zanarini et al., 2005).

1.6.3. DIFERENÇAS DE GÉNERO

Relativamente às diferenças de género, encontram-se na literatura resultados mistos. Enquanto alguns estudos indicam que o sexo feminino tende a envolver-se com mais frequência em comportamentos autolesivos do que o sexo masculino (Bresin & Schoenleber, 2015; Madge et al., 2008, 2011; Laye-Gindhu & Schonert-Reichl, 2005), outros estudos não encontram diferenças de género (e.g., Muehlenkamp & Gutierrez, 2004). Contudo, quando são analisados os métodos para os comportamentos autolesivos verificam-se as seguintes diferenças de género: o sexo masculino tende a queimar-se ou a bater-se com o objetivo de magoar, enquanto o sexo feminino reporta cortar-se (Klonksy & Muehlenkamp, 2007; Klonksy et al., 2011; Laye-Gindhu & Schonert-Reichl, 2005).

1.6.4. MODELOS ETIOLÓGICOS E DE MANUTENÇÃO DOS COMPORTAMENTOS AUTOLESIVOS

Vários modelos teóricos têm sido propostos para explicar o motivo pelo qual os indivíduos se envolvem em comportamentos autolesivos. Os estudos empíricos, que procuram analisar os fatores associados a estes comportamentos, encontram consistentemente a presença de experiências de abuso na infância e perturbações psiquiátricas, o que conduziu a conceptualizar os comportamentos autolesivos como um sintoma de uma perturbação psiquiátrica (e.g., Perturbação *Borderline* da Personalidade). No entanto, estes comportamentos ocorrem na presença de várias perturbações e não são um comportamento sintomático de uma perturbação específica, e, além disso, ocorrem também com elevada frequência em indivíduos da comunidade (e.g., adolescentes e jovens adultos; Nock, 2009), como já exposto anteriormente.

O modelo que tem recebido maior suporte empírico na explicação do desenvolvimento e manutenção dos comportamentos autolesivos é o modelo proposto por Nock (2008, 2009, 2010). Este modelo baseia-se na abordagem funcional comportamental, segunda a qual os comportamentos são determinados pelos seus antecedentes imediatos e suas consequências (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). Inicialmente, Nock e Prinstein (2004) propuseram e avaliaram, numa amostra clínica de adolescentes (N = 108; 12–17 anos de idade), um modelo com quatro funções divididas em contingências, automáticas e/ou sociais, e reforços (positivo ou negativo). De acordo com este modelo, os comportamentos autolesivos podem ser usados com a função de reduzir a tensão ou outros estados emocionais negativos (e.g., "*para parar sentimentos maus*"; i.e., reforço negativo automático); ou de gerar um estado fisiológico desejado (e.g., "*para sentir alguma coisa, mesmo que seja dor*"; i.e., reforço positivo automático). Ainda segundo este modelo, os comportamentos autolesivos podem servir a função social para

modificar ou regular o contexto social, por exemplo, para escapar de exigências interpessoais (e.g., "*evitar a crítica dos outros*"; i.e., reforço social negativo); ou para ganhar a atenção dos outros ou obter o acesso a materiais (e.g., "*para mostrar aos outros o quão infeliz me sinto*", i.e., reforço social positivo). Neste estudo, conduzido por Nock e Prinstein (2004), os adolescentes reportaram que o envolvimento em comportamentos autolesivos servia a função de reforço automático (i.e., para regular, tipicamente para diminuir ou aumentar, os estados emocionais), embora alguns adolescentes tenham também referido a função de reforço social. Alguns autores defendem que os adolescentes podem iniciar o envolvimento em comportamentos autolesivos devido a razões sociais, mas a manutenção do envolvimento nestes comportamentos poderá ser explicada por variáveis intrapessoais (i.e., reforço interno) (Hilt, Nock, Lloyd-Richardson, & Prinstein, 2008; Nock & Prinstein, 2004; Tatnell, Kelada, Hasking, & Martin, 2014).

De facto, e de um modo geral, a hipótese da função de reforço automático ou de regulação emocional dos comportamentos autolesivos é aquela que tem obtido suporte empírico mais consistente, em populações de adolescentes e adultos (Klonsky, 2007, 2009; Nock & Prinstein, 2004, 2005). Quer isto dizer que os comportamentos autolesivos servem a função efetiva e imediata de regular os estados emocionais (i.e., experiências afetivas e cognitivas). Perante a ativação emocional intensa (e.g., sintomas depressivos, solidão, ansiedade) o indivíduo tenta de alguma forma escapar, ou lidar com estes estados emocionais intensos e indesejados, envolvendo-se nos comportamentos autolesivos que reduzem ou eliminam temporariamente tal ativação emocional, havendo um alívio emocional. No entanto, a longo prazo aumentam os sentimentos de culpa, vergonha, criticismo, estabelecendo-se assim um ciclo vicioso de repetido reforço negativo, fortalecendo a associação entre estados emocionais intensos e os comportamentos autolesivos (Chapman, Gratz, & Brown, 2009; Klonsky, 2009; Nock, 2009, 2010). Existe evidência empírica de estudos laboratoriais (experimentais e/ou psicofisiológicos), em amostras clínicas e não clínicas, de que os comportamentos autolesivos servem para reduzir a ativação emocional, mas também para reduzir a valência negativa dos afetos (e.g., Franklin et al., 2010). É a repetição dos comportamentos autolesivos e a sua associação com a experiência de alívio emocional, que fortalece, por reforço negativo (e.g., redução da ativação emocional e valência negativa) e positivo (e.g., aumento do afeto positivo), a manutenção dos mesmos ao longo do tempo e em situações semelhantes (Chapman et al., 2006; Franklin et al., 2010, 2013; Nock & Prinstein, 2004). De facto, encontramos na literatura que o preditor mais robusto dos comportamentos autolesivos é a ocorrência prévia e repetida destes comportamentos (Fox et al., 2015).

Tendo em consideração este ciclo vicioso focado na tentativa de escapar dos estados emocionais negativos, Chapman, Gratz e Brown (2009) conceptualizam os comportamentos autolesivos como comportamentos que se podem incluir na ampla classe dos comportamentos de

evitamento experiencial. O evitamento experiencial inclui qualquer comportamento cuja função seja evitar ou escapar de experiências internas avaliadas como indesejadas (e.g., emoções, sensações, pensamentos, memórias) ou dos contextos que as ocasionam (Hayes, Strosahl, & Wilson, 1999; Hayes et al., 1996) e é considerado um fator transdiagnóstico explicativo da psicopatologia (Spinhoven, Drost, de Rooij, van Hemert & Penninx, 2014). Em particular, numa amostra de adolescentes da comunidade, Howe-Martin, Murrell, e Guarnaccia (2012) encontraram que a repetição dos comportamentos autolesivos está associada a formas comuns de evitamento experiencial (e.g., supressão do pensamento, alexitimia, evitamento e fusão cognitiva) e que estas formas de evitamento experiencial permitem diferenciar entre adolescentes sem e com história prévia de comportamentos autolesivos.

Alguns estudos têm também identificado outra função principal dos comportamentos autolesivos que é a autopunição. Por exemplo, Nock e Prinstein, (2004) encontraram, numa amostra clínica de adolescentes, que uma das razões para estes se envolverem em comportamentos autolesivos era a autopunição. Noutro estudo ainda, Gilbert e colaboradores (2010) encontraram, numa amostra clínica de adultos, que os comportamentos autolesivos estão associados às diferentes formas e funções do autocriticismo, especialmente à função de autoperseguição, e a outras variáveis associadas (e.g., vergonha, sentimentos de inferioridade). Outro estudo conduzido por Castilho, Pinto-Gouveia e Bento (2010), numa amostra de adolescentes Portugueses (n = 40 da comunidade, n = 22 com psicopatologia e n = 19 com psicopatologia e comportamentos autolesivos), mostrou que os adolescentes com comportamentos autolesivos são mais autocríticos, têm mais vergonha internalizada e sintomatologia depressiva, apresentam mais experiências dissociativas, uma vinculação mais ansiosa e evitante e, consequentemente, uma ligação e proximidade ao grupo social mais pobre, comparativamente aos adolescentes sem comportamentos autolesivos e adolescentes da comunidade. E, no caso específico de indivíduos diagnosticados com Perturbação *Borderline* da Personalidade, a presença da forma do autocriticismo mais tóxica e patogénica (i.e., Eu detestado, que diz respeito aos sentimentos de raiva e desprezo pelo eu) aumenta a probabilidade de pertença ao grupo com essa condição clínica e com comportamentos autolesivos (Castilho, 2011). Perante algumas destas evidências, alguns autores defendem que os comportamentos autolesivos servem a função de dirigir a raiva e a aversão em relação ao eu, e hipotetizam que tal pode ser resultado de experiências precoces de abuso (físico ou emocional) ou de criticismo repetido (Klonksy et al., 2011; Glassman et al., 2007).

De um modo geral, estes resultados são importantes ao evidenciar, por um lado, que a natureza dos estados de afeto pode funcionar como marcador específico para o subsequente envolvimento em comportamentos autolesivos, destacando-se o papel da raiva, vergonha e ódio dirigidos ao eu. Por outro lado, a razão de autopunição e de autoperseguição para muitos

indivíduos com comportamentos autolesivos parece indicar que o envolvimento nestes comportamentos é, de algum, modo congruente com a visão negativa de si próprio e que, por isso, merecedora de punição (Castilho, 2011; Gilbert et al., 2010; Hooley & Germain, 2013). No entanto, este possível fator específico associado aos comportamentos autolesivos está pouco estudado na adolescência, pelo que é premente a continuidade da investigação.

1.6.5. COMPORTAMENTOS AUTOLESIVOS: FATORES DE RISCO

Os vários estudos empíricos, que procuram compreender os fatores de risco para o envolvimento em comportamentos autolesivos, sugerem que tais riscos são aumentados por fatores de vulnerabilidade intrapessoais e interpessoais que geram uma predisposição para apresentar dificuldades na regulação dos afetos e dos comportamentos (Nock, 2010). Em relação aos fatores de vulnerabilidade intrapessoais, a investigação mostra que os adolescentes com história de comportamentos autolesivos experienciam elevada ativação fisiológica em resposta a tarefas frustrantes ou acontecimentos *stressores* e uma capacidade pobre para tolerar o sofrimento experienciado (Nock & Mendes, 2008). Ainda dentro dos fatores de vulnerabilidade intrapessoal, verifica-se que os indivíduos adolescentes e jovens adultos com comportamentos autolesivos relatam níveis mais elevados de depressão (e.g., Guerry & Prinstein, 2009; Lundh, Wångby-Lundh, Ingesson, & Bjärehed, 2010), ansiedade, impulsividade (e.g., Madge et al., 2011), uma maior tendência para a ruminação perante acontecimentos negativos ou *stressantes* (e.g., Hilt, Cha, & Nolen-Hoeksema, 2008; Voon, Hasking, & Martin, 2014), estados dissociativos e sentimentos de vazio (Rallis, Deming, Glenn, & Nock, 2012), supressão de pensamentos e sentimentos (Najmi, Wegner, & Nock, 2007), autocriticismo (Glassman et al., 2007), estratégias de *coping* focadas no evitamento e baixos níveis de inteligência emocional (Mikolajczak, Petrides, & Hurry, 2009), elevada reatividade emocional e desregulação emocional (e.g., Gratz, & Roemer, 2008). No que concerne às vulnerabilidades interpessoais, os indivíduos com comportamentos autolesivos tendem a manifestar competências sociais e de comunicação pobres, e poucas competências de resolução de problemas (Hilt et al., 2008b; Nock & Mendes, 2008).

De facto, estes fatores de vulnerabilidade desenvolveram-se como resultado da presença de fatores genéticos e da sua interação com ambientes precoces negativos. Como já referido anteriormente, as experiências precoces adversas afetam o desenvolvimento, moldam e influenciam a maturação biológica, a expressão dos genes, a regulação emocional, o comportamento interpessoal e a vulnerabilidade para a psicopatologia (Gilbert & Perris, 2000; Perris, 1994; Schore, 1994). Em particular, os comportamentos autolesivos têm sido associados à presença de experiências de abuso físico e sexual, ambientes de invalidação emocional, ambientes hostis e críticos com figuras significativas na infância (e.g., Hankin, & Abela, 2011; Kaess et al.,

2013; Klonsky & Moyer, 2008; Madge et al., 2011; Swannell et al., 2012). Mas não é apenas a natureza das relações com os pais que explica o desenvolvimento e manutenção dos comportamentos autolesivos, as relações com o grupo de pares na adolescência também desempenham um papel importante. Na verdade, vários estudos têm encontrado o impacto negativo das experiências de *bullying* e vitimização pelo grupo de pares no envolvimento em comportamentos autolesivos (Gilletta et al., 2012; Jutengren, Kerr, & Stattin, 2011; Lereya et al., 2013; Madge et al., 2011; McMahon, Reulbach, Keeley, Perry, & Arensman, 2012).

Estes fatores gerais de risco aumentam igualmente a probabilidade para o desenvolvimento de outros comportamentos mal-adaptativos usados com a mesma função (e.g., uso e abuso de álcool e de drogas; perturbações alimentares), bem como de outras perturbações do humor, o que explica a coocorrência frequentemente encontrada entre estas perturbações e os comportamentos autolesivos (Nock, 2010).

Então, face a este conjunto de dados, surge inevitavelmente a seguinte questão: Porque é que alguns indivíduos continuam a optar pelo envolvimento em comportamentos autolesivos em vez de optar por comportamentos saudáveis e mais agradáveis de alívio da dor emocional (como, por exemplo, assistir a um filme, praticar desporto, falar com um amigo)?

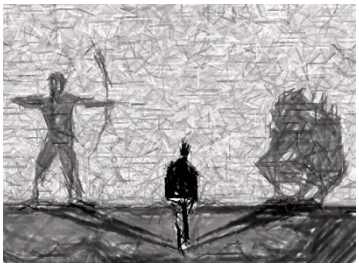
Para responder a esta questão alguns autores têm proposto várias hipóteses, nomeadamente a hipótese da aprendizagem social (e.g., efeito de contágio pelos pares, impacto dos *blogs* na internet), a hipótese da autopunição, a hipótese dos sinais sociais, a hipótese da dissociação, a hipótese da analgesia à dor, a hipótese pragmática (para uma revisão mais detalhada cf. Klonsky et al., 2011; Nock, 2009, 2010). No entanto, estas hipóteses ainda carecem de suporte empírico quer na adolescência, quer na adultez.

1.7. SÍNTESE

Em conjunto, estes resultados apontam linhas de investigação futura para explorar porque é que alguns indivíduos escolhem usar os comportamentos autolesivos para regular as emoções intensas e outros não. Adicionalmente, a adolescência é uma população de risco para os comportamentos autolesivos, tal como apontam as taxas de prevalência. Pela revisão da literatura científica referida anteriormente também se constata que o desenvolvimento cerebral ainda está a decorrer na adolescência e que o cérebro é extremamente sensitivo às interações e às aprendizagens com o contexto social. Assim, a natureza das experiências precoces com os pais e das experiências com os pares pode moldar a representação dos outros e a autoidentidade dos adolescentes. A qualidade pautada pelos sentimentos de segurança, apreço e afeto das relações de vinculação na infância e na adolescência permite a sobre-estimulação do sistema de afiliação,

calor e *soothing* e o desenvolvimento da capacidade de autotranquilização e autocompaixão, imprescindíveis para lidar com o *stress* e ameaça, e para a conexão e afiliação social. Contudo, em contextos de elevada ameaça, a ativação, rápida e automática, do sistema de ameaça-defesa e a utilização de estratégias orientadas para a competição e defesa parecem ser mais adaptativas. No entanto, a repetição constante destas experiências adversas e a ausência de experiências de afeto, calor e segurança, podem contribuir para uma mentalidade de competição social dominante no processamento externo (relação do eu com o outro) e interno (relação do eu com o eu), e consequentemente para dificuldades psicológicas ao longo do desenvolvimento. As predisposições psicológicas resultantes dos fatores biológicos e da história prévia vão interagir com a ecologia dos grupos. Na fase desenvolvimental da adolescência as relações com o grupo de pares assumem uma importância preponderante e a natureza destas relações também pode influenciar as experiências emocionais e comportamentais dos jovens. A forma como as relações com a família e com os pares vão influenciar as predisposições intrapessoais para a vergonha, para a sensibilidade à competição social e para os modelos de relação interna orientados para o criticismo ou para o cuidado e compaixão podem ajudar a compreender a vulnerabilidade, o desenvolvimento e a manutenção das dificuldades emocionais e comportamentais na adolescência.

Com efeito, todo o referencial teórico e empírico aqui apresentado, aliado ao nosso interesse e à prática da Psicologia Clínica, conduziram-nos a refletir e a colocar algumas questões, nomeadamente: De que forma as experiências emocionais precoces poderão ter um impacto no envolvimento em comportamentos autolesivos nos adolescentes? Qual o papel desempenhado pelo grupo de pares? Quais são os mecanismos ou processos psicológicos através dos quais as experiências emocionais influenciam o envolvimento em comportamentos autolesivos nos adolescentes? Poderão os processos de (des)regulação emocional funcionar como mediadores nessa relação? Será que os adolescentes com uma atitude autocrítica, sentimentos de vergonha e medo da compaixão estarão mais vulneráveis para o envolvimento em comportamentos autolesivos? Poderá a autocompaixão funcionar como variável protetora para o envolvimento em comportamentos autolesivos? Será que a visão negativa acerca do eu e o desejo de punição do eu poderão ser mecanismos psicológicos envolvidos no desenvolvimento e manutenção dos comportamentos autolesivos? Estas são algumas questões de investigação que nos parecem merecer atenção e que procuramos responder com o presente trabalho de investigação.



CAPÍTULO 2 |

OBJETIVOS E METODOLOGIA GERAL DA INVESTIGAÇÃO

2. OBJETIVOS E METODOLOGIA GERAL DA INVESTIGAÇÃO

No presente capítulo apresentamos a sistematização dos objetivos gerais e específicos que guiaram a nossa investigação, assim como as opções metodológicas gerais inerentes à sua concretização. Com este capítulo pretendemos aumentar a compreensão global sobre a forma como os dez estudos empíricos da presente dissertação se encontram organizados e interligados. Similarmente, as opções metodológicas da presente investigação são descritas na sua globalidade neste capítulo, uma vez que os procedimentos metodológicos específicos de cada estudo serão descritos detalhadamente nos Estudos Empíricos apresentados posteriormente no Capítulo 3.

2.1. OBJETIVOS GERAIS E ESPECÍFICOS

Estabelecemos como objetivo geral da presente dissertação, compreender o papel das experiências emocionais com os pais e com o grupo de pares, e dos processos de (des)regulação emocional para o desenvolvimento e manutenção dos comportamentos autolesivos na adolescência. Para alcançar este objetivo foi necessário, numa primeira fase, **validar para a população Portuguesa de adolescentes um conjunto de medidas de autorresposta,** que nos permitissem avaliar, de forma fidedigna, os constructos que pretendíamos estudar e que não estavam anteriormente validados para esta população. Desta forma, a primeira fase do nosso trabalho consistiu na validação dos seguintes instrumentos de autorrelato: *Early Life Experiences Scale* – ELES (para avaliação das memórias emocionais de ameaça, subordinação, e desvalorização; Gilbert et al., 2003); *Ruminative Responses Scale* – RRS (para avaliação da ruminação enquanto processo cognitivo mal-adaptativo de regulação emocional; Treynor, Gonzalez, & Nolen-Hoeksema, 2003); e o *Risk-taking and Self-harm Inventory for Adolescents* – RTSHIA (para medir os comportamentos de risco e autolesivos; Vrouva et al., 2010). Os Estudos Empíricos I, II e III apresentam os respetivos estudos de validação das medidas de autorrelato.

De seguida, foi possível **investigar os fatores de risco distais e proximais para o envolvimento em comportamentos autolesivos**. Em primeiro lugar, pretendeu-se estudar o efeito das experiências emocionais precoces, positivas e negativas, com a família, e das experiências emocionais negativas com o grupo de pares no envolvimento em comportamentos autolesivos (Estudos Empíricos IV e V). Como os resultados destes estudos confirmaram a importância das experiências emocionais com os pais e com os pares no envolvimento em

comportamentos autolesivos, interessou-nos, de seguida, analisar se este efeito seria mediado pelo autocriticismo e pela sintomatologia depressiva (Estudo Empírico VI).

Estes estudos resultam do nosso interesse em testar algumas das hipóteses postuladas pelo Modelo Evolutivo Biopsicossocial das Mentalidades Sociais (Gilbert, 1992, 1997, 1998b, 2000a, 2003, 2007). Mais especificamente, procurámos explorar o efeito das memórias emocionais de ameaça, subordinação e desvalorização, ou de ausência de calor e segurança no desenvolvimento do autocriticismo e da sintomatologia depressiva, e o seu consequente impacto no envolvimento em comportamentos autolesivos. Estes estudos empíricos analisaram as interações precoces com a família e acrescentaram as relações com o grupo de pares que, como já foi referido anteriormente no Capítulo 1, assumem um papel preponderante na fase desenvolvimental da adolescência, sobretudo quando envolvem experiências de aborrecimento ou *stress*, rejeição, vitimização ou *bullying*.

Ainda de acordo com a Teoria das Mentalidades Sociais (Gilbert, 1992, 1997, 1998b, 2000a, 2003, 2007), as experiências precoces com a família podem vulnerabilizar os indivíduos para o desenvolvimento e acentuação de uma mentalidade de competição social e, consequentemente, de comportamentos defensivos que estão associados à psicopatologia. Para compreender esta relação, realizámos de seguida um conjunto de estudos que nos permitisse perceber o contributo das variáveis inscritas na mentalidade de competição social para o envolvimento em comportamentos autolesivos. Assim, procurámos analisar **o efeito das variáveis disposicionais** (nomeadamente, a vergonha, o autocriticismo e o medo da autocompaixão) **e contextuais** (em particular, os problemas diários com o grupo de pares) no envolvimento em comportamentos autolesivos. Particularmente, procurámos analisar se o impacto das variáveis disposicionais (i.e., vergonha, autocriticismo e medo da autocompaixão) nos comportamentos autolesivos seria mediado pelos problemas diários com o grupo de pares e pela presença de sintomatologia depressiva (Estudo Empírico VII).

A Teoria das Mentalidades Sociais (Gilbert, 1992, 1997, 1998b, 2000a, 2003, 2007) também sugere que os seres humanos apresentam a motivação inata para cuidar dos outros e de si próprios. Em particular, a qualidade da relação do eu com o eu caracterizada por sentimentos de calor, compreensão, empatia, tranquilização e compaixão, parece ajudar os indivíduos a lidar eficazmente com os estados emocionais negativos e as circunstâncias difíceis de vida (Gilbert, 2005, 2009a, 2009b; Neff, 2003a, 2003b). Com base neste referencial teórico e nos estudos conduzidos anteriormente, que evidenciaram o contributo quer dos problemas diários com os pares, quer da sintomatologia depressiva para o envolvimento em comportamentos autolesivos, procurámos ainda analisar se este impacto poderia ser amortecido ou protegido pela autocompaixão (Estudo Empírico VIII).

Tendo em conta o papel da variável contextual com o grupo de pares na manifestação dos comportamentos autolesivos, pretendemos analisar se o impacto dos problemas diários com os pares nos comportamentos autolesivos seria mediado por processos de regulação emocional focados no evitamento (nomeadamente, ruminação, evitamento experiencial e dissociação) e pela sintomatologia depressiva (Estudo Empírico IX). Uma vez que as conceptualizações teóricas postulam a existência de diferenças de género na forma como podem ser reguladas as emoções em resposta a experiências de vida ou *stressores* (e.g., Nolen-Hoeksema, 2001, 2012), fomos igualmente estimulados a hipotetizar a importância de analisar as diferenças de género na explicação dos comportamentos autolesivos em função destes processos de regulação emocional focados no evitamento (Estudo Empírico IX).

Finalmente, dado que os estudos transversais anteriormente referidos mostraram o papel do autocriticismo e da sintomatologia depressiva nos comportamentos autolesivos (em particular, Estudos Empíricos VI e VII), e as conceptualizações teóricas salientam a importância destes fatores intrapessoais (Klonsky et al., 2011; Nock, 2008, 2009, 2010), julgámos pertinente analisar longitudinalmente se o autocriticismo e os sintomas depressivos poderiam influenciar a manutenção dos comportamentos autolesivos (Estudo Empírico X).

2.2. METODOLOGIA GERAL DA INVESTIGAÇÃO

2.2.1. DESENHO DA INVESTIGAÇÃO

A maioria dos Estudos Empíricos que integra a presente dissertação apresenta um desenho transversal. A opção por este desenho de investigação teve por base a revisão da literatura sobre as áreas de interesse desta investigação que permitiu a formulação de hipóteses acerca da relação entre as variáveis em estudo. Apesar da natureza transversal não permitir o estabelecimento de influências causais entre variáveis, este tipo de desenho pode contribuir para compreender as possíveis associações entre as variáveis e se essas associações são consistentes com o modelo teórico subjacente (Hayes, 2013; Mueller & Hancock, 2008).

A presente dissertação também inclui um Estudo Empírico de natureza longitudinal (cf. Estudo Empírico X). Os estudos longitudinais apresentam várias vantagens comparativamente aos estudos transversais porque permitem analisar a influência do tempo (e.g., estabilidade e mudança) e as relações sequenciais/temporais entre as variáveis, e ainda controlar estatisticamente o efeito prévio das variáveis dependentes (Cole & Maxwell, 2003; Fritz & MacKinnon, 2012; Maxwell, Cole, & Mitchell, 2011). Para fazer este tipo de inferências temporais e causais são necessários pelo menos dois momentos de avaliação no tempo (Cole & Maxwell, 2003).

Com efeito, consideramos que a presente dissertação ao combinar estudos transversais, que exploram as relações entre as variáveis em estudo, e um estudo longitudinal, que analisa as ligações temporais entre as variáveis, apresenta uma metodologia de investigação adequada e complementar.

2.2.2. Participantes e Procedimentos de Recolha da Amostra

A recolha das amostras ocorreu entre janeiro de 2013 e dezembro de 2015, em sete escolas do 3º ciclo do ensino básico e ensino secundário, públicas e privadas, situadas em zona urbana ou rural, da região Centro do País, nomeadamente a Escola Básica do 2º e 3º ciclos do Agrupamento de Escolas Martim de Freitas de Coimbra, a Escola Básica do 2º e 3º ciclos do Agrupamento de Escolas Marquês de Marialva de Cantanhede, a Escola Pedro Teixeira de Cantanhede, o Instituto Pedro Hispano de Soure, a Escola Técnico-Profissional de Cantanhede, a Escola EB Carlos de Oliveira e a Escola Secundária do Agrupamento de Escolas Lima-de-Faria de Cantanhede. Em cada estabelecimento de ensino, o recrutamento dos indivíduos realizou-se através da técnica de amostragem não probabilística, por conveniência.

No seu conjunto, foram recolhidos dados de 2863 adolescentes com idades compreendidas entre os 12 e os 19 anos, a frequentar entre o 7º e o 12º ano de escolaridade. A descrição detalhada das amostras utilizadas na realização dos estudos da presente dissertação encontra-se em cada respetivo Estudo Empírico no Capítulo 3.

2.2.3. Cumprimento da Legislação e Respeito pelos Princípios Éticos Inerentes à Investigação

Os procedimentos e métodos de recolha da informação previstos no projeto de investigação foram submetidos à apreciação da **Comissão Nacional de Proteção de Dados** e da **Direção-Geral da Educação (DGE)**, através do sistema de Monitorização de Inquéritos em Meio Escolar (MIME), com número de registo 0082000004 e 0082000009, tendo sido devidamente aprovados pelas mesmas. Posteriormente, o projeto de investigação foi apresentado aos Órgãos Diretivos dos Estabelecimentos de Ensino selecionados. Após a autorização por parte destas entidades, a investigadora procedeu à entrega dos consentimentos informados para os encarregados de educação ou representantes legais dos adolescentes. Os encarregados de educação ou representantes legais dos jovens foram informados dos objetivos do estudo, da natureza confidencial da informação recolhida, do caráter voluntário da participação e do procedimento de recolha da informação para fins de investigação. A fim de esclarecer eventuais dúvidas relacionadas com aspetos gerais do estudo em questão, foram disponibilizados os

contactos do Centro de Investigação onde a investigadora se encontra afiliada (Centro de Investigação do Núcleo de Estudos e Intervenção Cognitivo-Comportamental - CINEICC) e/ou do Psicólogo Escolar de cada estabelecimento de ensino, com o qual a investigadora teve um contacto prévio.

Todas as recolhas da informação foram previamente agendadas e decorreram em unidades curriculares que não comprometessem as atividades letivas (e.g., direção de turma; enriquecimento curricular). A administração do protocolo de questionários de autorresposta foi realizada no contexto de sala de aula na presença do professor e da investigadora. Os participantes foram informados dos objetivos do estudo, da natureza confidencial da informação recolhida e do caráter voluntário da participação. Foram garantidas a **obtenção do consentimento informado** do encarregado de educação ou representante legal e do **assentimento informado** do adolescente para a participação no estudo. No caso de ausência de consentimento e assentimento para participar no estudo, o adolescente não participava na investigação, mas permanecia na sala de aula a realizar silenciosamente uma atividade académica proposta pelo professor. A investigadora esteve sempre presente durante a administração dos questionários, assegurando a independência das respostas e esclarecendo eventuais dúvidas no preenchimento dos questionários.

No caso da recolha da informação para a realização do estudo longitudinal foi usado um código único para cada participante com o objetivo de combinar as respostas nos dois momentos de avaliação. Em ambos os momentos de avaliação foi explicado este procedimento aos participantes, assegurando o respeito pela confidencialidade das respostas, o acesso restrito da investigadora aos questionários e a análise exclusivamente coletiva dos dados para fins de investigação.

Na constituição das amostras foram considerados alguns critérios de exclusão: (i) protocolos com dados sociodemográficos não respondidos; (ii) questionários de autorrelato não respondidos ou invalidados; (iii) indivíduos com idades iguais ou superiores a 19 anos (este último critério não foi considerado no estudo de natureza longitudinal; cf. Estudo Empírico X).

2.2.4. INSTRUMENTOS DE MEDIDA

Os instrumentos de avaliação psicológica através do autorrelato utilizados na presente investigação foram escolhidos com base em dois motivos. O primeiro motivo prende-se com a revisão da literatura realizada acerca das áreas de interesse teóricas e de investigação que foram descritas no Capítulo 1 e a opção por instrumentos que permitissem avaliar os constructos de interesse. O segundo motivo diz respeito à análise das propriedades psicométricas e sua adequabilidade para a população de adolescentes. No caso de instrumentos de autorrelato que

ainda não tinham sido adaptados e validados para a população Portuguesa de adolescentes, mas que mostravam boas características psicométricas em populações Anglo-saxónicas de adolescentes ou em populações Portuguesas de adultos, propusemos como objetivo da presente dissertação, numa primeira fase da investigação, a realização da validação dos instrumentos de medida (cf. Estudo Empírico I, II e III).

Os dados apresentados na presente dissertação foram recolhidos através de uma breve ficha de dados sociodemográficos (e.g., sexo, idade, escolaridade) e de questionários de autorrelato que avaliam, de um modo geral, experiências emocionais precoces, relações com o grupo de pares, processos de regulação emocional, sintomas psicopatológicos e comportamentos de risco e autolesivos. A sistematização dos questionários utilizados por cada Estudo Empírico encontra-se na Tabela 1. A descrição detalhada dos mesmos é apresentada em cada Estudo Empírico consoante a sua utilização.

2.2.5. Tratamento e Análise Estatística dos Dados

As análises estatísticas utilizadas nesta investigação encontram-se descritas em cada um dos estudos empíricos realizados. Nesta parte serão apenas referidos alguns aspetos gerais sobre este tópico.

O tratamento estatístico dos dados foi realizado através do recurso ao *software* PASW (*Predictive Analytics Software*) *Statistics* (versão 18 e versão 22; SPSS Inc, Chicado, IL, USA) para as estatísticas descritivas e inferenciais. Foi também utilizada a macro PROCESS (versão 2.13) para o *software* PASW *Statistics* para conduzir uma Análise do Processo Condicional, que diz respeito à integração formal das análises de mediação e moderação, ou seja, esta análise foca-se na estimação e interpretação da natureza condicional (componente da moderação) e dos efeitos diretos e indiretos (componente da mediação) de uma ou mais variáveis na relação entre a variável independente e a variável dependente (Hayes, 2013). Esta macro PROCESS foi usada especificamente no Estudo Empírico V.

No tratamento estatístico dos dados foi também utilizado o *software* AMOS (*Analysis of Moment Structures*; versão 19 e versão 22; AMOS Development Corporation, Crawfordville, FL, USA) para a realização de Análises Fatoriais Confirmatórias, Análise de Regressão Linear Múltipla Multivariada, e Análises de Trajetórias (*Path Analysis*). Foi ainda utilizado o *software Mplus* (versão 6.11; Muthén & Muthén, 1998-2012) para a realização de uma Análise Fatorial Confirmatória com a utilização de um método específico de estimação dos parâmetros, nomeadamente *robust weighted least square* (WLSMV), que é recomendado para dados que comprometem a distribuição normal multivariada e para variáveis ordinais (Brown, 2006; Flora

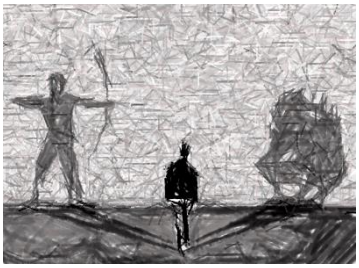
& Curran, 2004; Hsu, 2009; Muthén, 1984; Muthén, du Toit, & Spisic, 1997). A Análise Fatorial Confirmatória efetuada com recurso a este *software Mplus* foi realizada no Estudo Empírico III.

Tabela 1

Questionários de autorrelato utilizados na presente dissertação

	Estudos Empíricos									
	I	**II**	**III**	**IV**	**V**	**VI**	**VII**	**VIII**	**IX**	**X**
Dados sociodemográficos	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Early Life Experiences Scale (ELES) [1]	✓			✓	✓	✓				
Early Memories of Warmth and Safeness Scale (EMWSS) [2]	✓					✓				
Daily Hassles Microsystem Scale (DHMS) [3]			✓		✓		✓	✓	✓	
Peer Relations Questionnaire (PRQ) [4]			✓			✓				
Fears of Compassion Scale (FCS) [5]				✓			✓			
Other as Shamer Scale (OAS2) [6]							✓			
Forms of Self-Criticizing/attacking and Self-Reassuring Scale (FSCRS) [7]						✓	✓			✓
Self-Compassion Scale (SCS) [8]								✓		
Ruminative Responses Scale (RRS) [9]		✓							✓	
Avoidance and Fusion Questionnaire for Youth (AFQ-Y) [10]									✓	
Adolescent Dissociative Experiences Scale-II (A-DES-II) [11]									✓	
Positive and Negative Affect Schedule (PANAS) [12]	✓		✓	✓	✓					
Depression Anxiety and Stress Scales (DASS-21) [13]		✓				✓	✓	✓	✓	✓
Risk-taking and Self-harm Inventory for Adolescents (RTSHIA) [14]			✓	✓	✓	✓	✓	✓	✓	✓

[1] Gilbert et al., 2003
[2] Richter et al., 2009
[3] Seidman et al., 2008
[4] Rigby & Slee, 1993
[5] Gilbert et al., 2010
[6] Matos, Pinto-Gouveia, Gilbert, Duarte, & Figueiredo, 2015
[7] Gilbert et al., 2004
[8] Neff, 2003a
[9] Treynor et al., 2003
[10] Greco, Lambert, & Baer, 2008
[11] Armstrong, Putman, Carlson, Libero, & Smith, 1997
[12] Watson, Clark, & Tellegen, 1998
[13] Lovibond & Lovibond, 1995
[14] Vrouva et al., 2010



CAPÍTULO 3 |

ESTUDOS EMPÍRICOS

ESTUDO EMPÍRICO I

ASSESSING EARLY MEMORIES OF THREAT AND SUBORDINATION: CONFIRMATORY FACTOR ANALYSIS OF THE EARLY LIFE EXPERIENCES SCALE FOR ADOLESCENTS

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ASSESSING EARLY MEMORIES OF THREAT AND SUBORDINATION: CONFIRMATORY FACTOR ANALYSIS OF THE EARLY LIFE EXPERIENCES SCALE FOR ADOLESCENTS

José Pinto Gouveia, Ana Xavier, & Marina Cunha

ABSTRACT

The Early Life Experiences Scale (ELES) is a self-report questionnaire that assesses personal feelings of perceived threat and submissiveness in interactions within family. This paper presents the adaptation and validation of the ELES in Portuguese language for adolescents. The sample was composed of 771 adolescents from community schools with ages between 13 and 18 years old. Along with ELES, participants also answered the Early Memories of Warmth and Safeness Scale and the Positive and Negative Affect Schedule for Children and Adolescents. Confirmatory factor analysis (CFA) was performed to test the factor structure of the ELES and results confirm a three-factor structure, composed by Threat, Submissiveness and Unvalued dimensions. These emotional memories focused on perceived threat, submissiveness and unvalued seem to have a distinct nature. The scale also showed adequate internal consistency, good test-retest reliability and convergent validity with measures of positive emotional memories, positive and negative affect. There were sex differences for threat subscale and age differences for submissiveness subscale. Overall, these findings suggest that the ELES in its Portuguese version for adolescents may be a useful tool for research, educational and clinical contexts with school-aged adolescents.

Keywords: Adolescence; Confirmatory Factor Analysis; ELES; Submissiveness; Threat

INTRODUCTION

In the last decades, research has consistently shown the influence of parental practices and behaviors on the development and maintenance of psychological and emotional difficulties in children and adolescents. For instance, literature on socialization practices and their effects provides evidence that warmth, loving and caring environments are related to positive developmental outcomes (Muris, Meesters, & van den Berg, 2003; Roelofs, Meesters, ter Huurne, Bamelis, & Muris, 2006; Steinberg, 2002; Williams et al., 2009). In contrast, early exposure to threats, in the form of abuse, rejection, neglect, criticism and bullying, are known to be associated with increased vulnerabilities to mental health difficulties and can be translated in psychopathology and maladjustment in adulthood (Gilbert & Irons, 2005; Gilbert, Baldwin, Irons, Baccus, & Palmer, 2006; Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006; Matos & Pinto-Gouveia, 2010; Matos, Pinto-Gouveia, & Costa, 2011; Matos, Pinto-Gouveia, & Duarte, 2013; Richter, Gilbert, & McEwan, 2009; Slavich, & Cole, 2013; Stuewig & McCloskey, 2005). Indeed, the core idea here is that growing-up in loving, warmth, and caring environments will shape different phenotypes compared to growing up in adverse environments (Boyce & Ellis, 2005; Ellis, Essex, & Boyce, 2005).

The majority of research focused on parenting style, practices and socialization was encouraged by attachment theory (Bowlby, 1969), which states that interactions between child-parent form the basis for internal working models of self and of others (Bowlby, 1969; Mikulincer & Shaver, 2007). Based on attachment theory, there are several measuring instruments that ask people to recall early parents-children interactions and parental behaviors in childhood, in order to assess parenting styles/practices and attachment styles. For instance, in the case of children and adolescents the self-report measures widely used to assess parental behaviors are the EMBU for Children (EMBU-C; Castro, Toro, Arrindel, Van der Ende, & Puig, 1990; Castro, Toro, Van Der Ende, & Arrindell, 1993), which assess the children's perception of their parents rearing behaviors, and the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987), which assess both parent and peer attachment; the Childhood Trauma Questionnaire (Bernstein, Ahluvalia, Pogge, & Handelsman, 1997), which assess recall of traumatic early life experiences (such as physical, sexual and emotional abuse).

However, more than evaluating parental behaviors it might be important assess the emotional experience of adolescents in the interactions with their parents. In this context, Gilbert, Cheung, Grandfield, Campey and Irons (2003) argue that the emphasis on recall of how one felt in relation to the behavior of others may be more important than just recall others' behavior. According to the Social Rank Theory (Gilbert, 1992) parent-child interactions can be conceptualized as power/hierarchical relationships within an attachment context. Although both

theories complement each other, attachment theory mainly refers to lack of warmth or excessive parental control, whereas social rank theory emphasize down rank threats and submissive behavior (Gilbert, 1992; Gilbert et al., 2003). In line with this evolutionary view (Gilbert, 1992, 2009; Gilbert et al., 2003), when growing in an early background characterized by parental criticism, rejection, emotional invalidation and neglecting, a child may feel stressed, unvalued and frightened of their parents and feel forced to adopt unwanted or involuntary submissive and defensive behaviors (e.g., avoiding, passive inhibition, backing down if challenged, appeasing others) to deal with these potential harmful environments. The activation of these submissive-defensive strategies has the purpose of reducing or deactivating the criticism and aggression of the dominant other or its hostile intention (Allan & Gilbert, 1997). At first, these involuntary defensive behaviors are protective since the rebellion of a child may have a counterproductive outcome by increasing the parental criticism or even decreasing the emotional bonding. Over time, a child with repeated experiences of criticism, rejection and depreciation in the family context may develop representations of others as powerful, hostile and dominant; and of the self as unvalued, vulnerable and inferior (Baldwin, 1992; Gilbert, 2000a, 2000b; Gilbert & Irons, 2005). In addition, this child tends to be overly attentive to threats and more sensitize to critical, shaming or rejection external cues rather than being able to rely on parents' safety, emotional support and secure attachment (Gilbert, 2000a, 2000b; Gilbert et al., 2003; Gilbert & Irons, 2005). This kind of power dynamics is linked to vulnerability to several emotional and social difficulties later in life (Castilho, Pinto-Gouveia, Amaral, & Duarte, 2014; Gilbert, 1993; Gilbert, Allan, Brough, Melley, & Miles, 2002; Sloman, Gilbert, & Hasey, 2003).

As a result, Gilbert et al. (2003) developed the Early Life Experiences Scale (ELES) to measure recall of personal feelings of perceived threat and subordination in childhood. The value of this scale is measuring how one felt as a child, instead of parental behaviors, which may reduce defensive strategies in assessment early interactions with parents. In the development and psychometric study of ELES (Gilbert et al., 2003) an Exploratory Factor Analysis was conducted in a sample of undergraduate population ($N = 220$, aged between 18 and 53 years old) and results showed a 3-factor solution: (i) *Threat* factor taps perceived threat and fearful in the interaction with parents (i.e., parents as powerful and dominant); (ii) the *Submissiveness* factor includes items related to feeling subordinate and acting in a submissive way; (iii) the *(Un)valued* factor involves a more cooperative, affiliative and safe feelings. This scale could be examined through these three subscales or through its total score, with higher scores representing a recall of perceived threat, submissiveness and unvalued feelings in the family. The original study (Gilbert et al. 2003) obtained good internal reliability, with Cronbach's alphas of .92 for total score, .89 for threat, .85 for submissiveness and .71 for unvalued. The authors found significant correlations between early threat and submissiveness experiences and recall of parenting behaviors, in particular positive

correlations with rejection and also with overprotection and negative correlation with emotional warmth (measured by EMBU). In addition, early threat and submissiveness experiences were positively associated with depression and shame and negatively correlated with favorable social comparisons. Moreover, recall of feeling subordinate in the family was found to be the independent and best predictor of depressive symptoms whereas recall of parental behaviors was not (Gilbert et al., 2003).

In sum, there is recently a large evidence that excessive concerns with feeling inferior to others, a tendency for submissive behavior and believing that others are potential harmful or hostile and look down on the self are highly associated with depression and anxiety in adults (Gilbert, 2000a, 2000b; Matos & Pinto-Gouveia, 2014; Sloman et al., 2003). To date, only a handful of studies in adolescence have highlighted the potential impact of these social rank variables (e.g., shame, social comparison, submissive behavior) on psychopathology (Cunha, Matos, Faria, & Zagalo, 2012; Irons & Gilbert, 2005; Gilbert & Irons, 2009; Öngen, 2006). Altogether, these studies suggest that also in adolescence the experiences of shame, self-criticism and submissive behaviors may increase the vulnerability to psychopathology. Therefore, these findings emphasize the need of continuing research as well as available and reliable instruments to assess these features in adolescents.

The main purpose of this study is to adapt and validate the Early Life Experiences Scale (ELES) for adolescents. Firstly, we set out to confirm the underlying factor structure of the ELES using a Confirmatory Factor Analysis method, in a community sample of adolescents. Secondly, we intent to examine the psychometric properties of the factor structure, specifically item's analysis and internal consistency, test-retest reliability and convergent validity, by comparing the ELES to measures of early memories of warmth and safeness, positive affect and negative affect.

METHOD

Participants

The total sample is composed by 771 adolescents, among them 364 are boys (47.2%) and 407 girls (52.8%) with ages between 13 and 18 years old (M = 15.21, SD = 1.54). These adolescents attend between 7th and 12th grade (M = 9.79, SD = 1.41), from middle and secondary schools in the district of Coimbra, Portugal. No gender differences were found for age, $t_{(769)}$ = -1.123, p = .262, and years of education, $t_{(769)}$ = 1.877, p = .061.

Procedure

According to recommendations of the International Test Commission (ITC, 2005) and other best-practice publications (e.g., Hambleton & Lee, 2013; Van de Vijver & Hambleton, 1996), the scale was subjected to a rigorous translation and back-translation process in order to guarantee the comparability of content of the ELES Portuguese version and the original one. First, a psychologist with strong English language skills, spoken and written, translated the items into Portuguese. Lexical and conceptual aspects were analyzed in order to maintain each item content. The instructions were adapted for adolescents and some items were added examples, with a simple and friendly language. Then, an English translator verified the content of the final version of the ELES through a back-translation process, repeated until the meaning of each item corresponded to the original item of the ELES.

This adolescents' sample was collected from public and private schools in the district of Coimbra, Portugal. Prior to administration of self-report questionnaires, ethics approval was granted by the Head Teacher of the schools and parents were informed on the goals of the research and gave their consent. Adolescents were informed about the purpose of the study, aspects of confidentiality and consent. They filled out the questionnaires in the classroom in the presence of teacher and researcher to clarify doubts and to ensure the independent response.

Measures

The **Early Life Experiences Scale** (**ELES;** Gilbert et al., 2003) is a self-report instrument to measure emotional memories in one's family, linked to recall of feeling devalued, frightened and having to behave in a subordinate way. Whereas many recall of early life ask about recalling specific experiences or how one parent acted towards one, this scale asks about memories of personal feelings. This scale consists of 15 items and three subscales: (i) Threat (six items; e.g. "I experienced my parents as powerful and overwhelming"); (ii) Submissiveness (six items; e.g. "I often had to give in to others at home"); and (iii) Unvalued (three reversed items; e.g. "I felt very comfortable and relaxed around my parents"). Participants were asked how frequently each statement was true for them and rated each item on a five-point measure (ranging from 1 = *completely untrue*, to 5 = *very true*). The scale can be used as a single construct or as three separate subscales. Gilbert et al. (2003) found Cronbach's alphas of .89 for threat, .85 for submissiveness, .71 for (un)valued and .92 for the total score.

The **Early Memories of Warmth and Safeness Scale** (**EMWSS;** Richter, Gilbert, & McEwan, 2009; Portuguese version for adolescents by Cunha, Xavier, Martinho, & Matos, 2013) is a self-report questionnaire and assess recall of feeling warm, safe and cared for in childhood,

i.e., early positive memories of warmth and affect (e.g., "I felt secure and safe."). This is a 21-item scale and is rated on a 5-point Likert scale (ranging from 0 = *no, never* to 4 = *yes, most of the time*). On the original version, Richter et al. (2009) found an unidimensional structure with a high Cronbach's alpha of .97. The Portuguese version of EMWSS also revealed an excellent internal consistency for adult population (α = .97; Matos et al., 2014) and for adolescents (α = .95; Cunha et al., 2013). In the current study, Cronbach's alpha was .95.

The **Positive and Negative Affect Schedule for Children and Adolescents** (**PANASN**; Sandin, 1997; Portuguese version by Carvalho, Baptista, & Gouveia, 2004) is a 20-item scale and comprises two mood scales, one measuring positive affect (ten items) and the other measuring negative affect (ten items). Participants were asked to rate the degree to which they felt each emotion in the last month using a 3-point scale (ranging from 1 = *never* to 3 = *many times*). Thus, scores ranging between 10 and 30 for each subscale and higher scores indicate higher levels of positive and negative affect, respectively. Sandin (2003) found adequate internal consistency with Cronbach's alphas of .73 and .72 for positive affect and .74 and .75 for negative affect. The Portuguese version (Carvalho et al., 2004) obtained good internal reliability with Cronbach's alphas of .76 for positive affect and .83 for negative affect. In the current study the Cronbach's alpha was .81 for positive affect and .85 for negative affect.

Data Analyses

Statistical analyses were carried out using PASW Software (Predictive Analytics Software, version 20, SPSS, Chicago, IL, USA) for PCs and AMOS software (Analysis of Moment Structures) version 18 (Amos Development Corporation, Crawfordville, FL, USA) (Arbuckle, 2009).

Descriptive statistics were computed to explore demographic variables and independent sample t-tests were performed when conducting between-group analyses (Field, 2013). The one-way independent ANOVA was used to compare means in different groups of age and grade in school (Field, 2013).

Pearson product-moment correlation coefficients were computed to assess the relationship between ELES and their subscales and other convergent measures, particularly EMWSS and PANASN (Tabachnick & Fidell, 2013).

A Confirmatory Factorial Analysis (CFA) was performed in order to test the model fit to the data and its factorial validity (Byrne, 2010; Kline, 2005). Based on the theoretical model and previous studies with adult population (Gilbert et al., 2003), a three-factor CFA measurement model of the ELES was tested with the following latent variables: (i) Threat, (ii) Submissiveness,

and (iii) Unvalued. A Maximum Likelihood (ML) parameter estimation was used because ML seems to be relatively robust and efficient if the sample size is sufficiently large (Iacobucci, 2010; Kline, 2005; Schermelleh-Engel, Moosbrugger & Müller, 2003) and because it is one of most frequently used estimation methods in this statistical procedure (Byrne, 2010). In the evaluation of the model, we used the model chi-square, which measures the discrepancy between the predicted model and the data (Byrne, 2010) and which smaller values were required. However, since this index is very sensitive to sample size (Schermelleh-Engel et al., 2003), we used simultaneously other global fit indices. The following goodness-of-fit indices and recommended cut-points were used to evaluate overall model fit (Byrne, 2010; Kline, 2005): Goodness of Fit Index (GFI ≥ .90, good; Jöreskog & Sörbom, 1996), Comparative Fit Index (CFI ≥ .90, good; Hu & Bentler, 1998), Tucker-Lewis Index (TLI ≥ .90, acceptable, and ≥ .95, very good; Hu & Bentler, 1998), Root Mean Square Error of Approximation (RMSEA ≤ .06, good fit; ≤ .08, acceptable fit; ≥ .10, poor fit; Arbuckle, 2009). Then, *post hoc* model modifications were performed in an attempt to develop a better fitting and possibly more parsimonious model (Schreiber, Nora, Stage, Barlow, & King, 2006). The improvement of model fit was based on Modification Indexes (MI; values greater than 11; $p \leq .001$; Kline, 2005) by adding sequentially correlational measurement errors for the residuals with higher MI values and according with theoretical content of each item. In order to compare both models (original model *versus* parsimony or simplified model) each of the models was evaluated using Chi-square difference test. Additionally, some indexes were used to compare alternative models (Schermelleh-Engel et al., 2003), such as Akaike Information Criterion (AIC) and Expected Cross-Validation Index (ECVI), with smaller AIC and ECVI values indicating superior models (Arbuckle, 2009; Kline, 2005) and more stable model for population under study (Maroco, 2010).

In regard to local adjustment of the model, the adequacy of any model can also be judge by investigating the factor loadings. All factor loadings should be significant ($p < .05$) and the standardized factor loadings for each item should present values of $\lambda \geq 0.50$ (Byrne, 2010; Maroco, 2010). We also considered the Squared Multiple Correlations of the factor loadings ($R^2 \geq 0.25$) (Maroco, 2010).

Scale reliability was assessed using both Cronbach's alpha and composite reliability, which provides a much less biased estimate of reliability than alpha and is more appropriate for multidimensional scales (Maroco, 2010).

Preliminary Data Analysis

The univariate and multivariate normality were screened and there was no severe violation of normal distribution ($Sk < |3|$ and $Ku < |8|$-$|10|$; Kline, 2005). The presence of

multivariate outliers were inspected for all variables by using Mahalanobis Distance statistic (D^2; $p < .001$) (Kline, 2005). Although, some cases presented D^2 values indicating possible outliers, these were retained since their elimination did not alter the results and excluding those cases would decrease factor's variability. There is no missing data in this sample.

RESULTS

Construct Validity

Descriptive Statistics

Table 1 presents descriptive statistics for the total score of ELES and respectively dimensions. The total and subscale scores are computed by calculating the mean of item responses. In this sample, the mean for total score of ELES was 2.10 ($SD = 0.64$). Submissiveness and Unvalued subscales showed the highest mean scores and Threat subscale demonstrated the lowest mean score (Table 1).

Table 1

Means, standard deviation, minimum, maximum and percentiles for the Portuguese version of the ELES total score and three subscales in an adolescents' sample (N = 771)

					Percentiles		
	M	***SD***	**Minimum**	**Maximum**	**25**	**50**	**75**
ELES total	2.10	0.64	1	5	1.60	2.07	2.47
Threat	1.88	0.75	1	5	1.33	1.67	1.67
Submissiveness	2.25	0.73	1	5	1.67	2.17	2.17
Unvalued	2.25	0.84	1	5	1.67	2.33	2.33

Note. ELES = Early Life Experiences Scale for Adolescents

Confirmatory Factor Analysis (CFA)

Based on theoretical framework (Gilbert et al., 2003), a CFA was performed to assess the three-factor structure of the ELES for adolescents: (i) Threat, (ii) Submissiveness, and (iii) Unvalued. Chi-square value for the overall model fit was significant, $X^2_{(87)} = 362.050$, $p < .001$ suggesting a lack of fit between the hypothesised model and the data. However, due to the sensitivity of chi-square in large samples, other fit indices were assessed (Kline, 2005). Examination of these indices showed acceptable model fit with GFI = .94, CFI = .91, TLI = .89, RMSEA = .06 ($p < .001$), except for TLI and RMSEA indexes. The initial comparison indexes were: AIC = 428.050, ECVI = .556. However, high values in modification indices (MI > 11)

suggested freeing the covariance between two error terms, namely add a covariance between item 13 and item 14. This step of correlational measurement errors is also theoretically justified, based on item content. A subsequent model freeing this path was found to have better fit to the constrained model, $\chi^2_{(86)} = 315.406$, $p < .001$, GFI = .95, CFI = .93, TLI = .91, RMSEA = .06 ($p = .018$). Moreover, this modified model was statistically superior to the original model in our sample (chi-square difference test: $\chi^2_{dif} = 46.644 > \chi^2_{0.95;\,(1)} = 3.841$) and presented lower values of comparison indexes (AIC = 383.406, ECVI = .498) than the original model. Given the significant improvement in overall fit the model allowing the error covariances was considered the better model (Figure 1).

In regard to local adjustment, all factor loadings were significant ($p < .001$) and all items have good loading coefficients ($\lambda \geq .50$; ranging between .49 and .70) and good squared multiple correlations ($R^2 \geq .25$; ranging between .25 and .49), except for item 12 that revealed the lowest factor loading and R^2 ($\lambda = .43$, $R^2 = .18$) (Figure 1). The correlations between Threat and Submissiveness subscales was $r = .89$, $p < .001$, Threat and Unvalued was $r = .64$, $p < .001$ and Submissiveness and Unvalued was $r = .67$, $p < .001$ (Figure 1). The composite reliability of each factor was very good (>0.70), with .84 for Threat subscale, .81 for Submissiveness subscale and .78 for Unvalued subscale.

Given the high correlation between Threat and Submissiveness subscales, we tested a two-factor model with Threat and Submissiveness combined and results indicated that this two-factor structure had a poor fit to the data ($\chi^2_{(89)} = 407.638$, $p < .001$, GFI = .93, CFI = .89, TLI = .88, RMSEA = .07, $p < .001$).

Item Reliability Analysis

Table 2 presents means, standard deviations, corrected item-total correlation, Cronbach's alpha if item deleted and Cronbach's alpha for total score (15 items) and subscales of the ELES. As can be seen in Table 2, the analysis of the items' quality revealed item-total correlations varying between .36 (item 12) to .57 (item 8). The Cronbach's alpha obtained for the total score of ELES was very good ($\alpha = .86$) and for its subscales ranged between adequate to low, with Cronbach's $\alpha = .77$ for Threat subscale, $\alpha = .74$ for Submissiveness subscale and $\alpha = .68$ for Unvalued subscale (Table 2). Additionally, all items positively contributed to the internal consistency of the Portuguese version of the ELES for adolescents, since the reliability did not improve if any item was deleted (cf. Table 2).

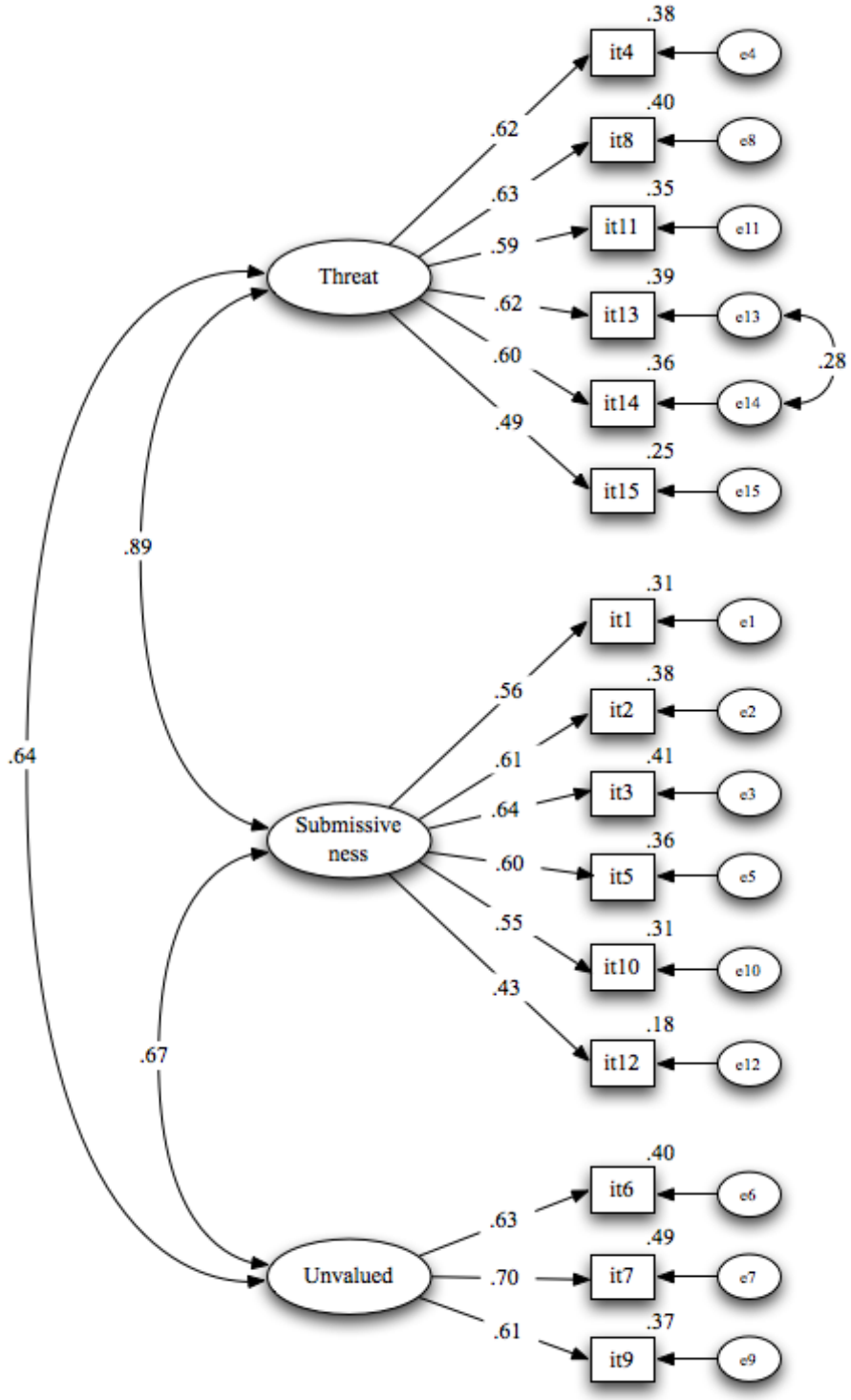

Figure 1. Confirmatory Factor Analysis of the three-factor model of the ELES for adolescents ($N = 771$). Standardized coefficients and measurement errors are shown; all paths are statistically significant ($p < .001$).

Table 2

Means (M), standard deviations (SD), corrected item-total correlations and Cronbach's alpha for ELES and subscales for adolescents (N = 771)

Items	*M*	*SD*	*r item-total*	*Cronbach's α*
Threat (6 items)	11.30	4.53		.77
4. There was little I could do to control my parents' anger once they became angry.	2.39	1.26	.46	.75
8. My parents could hurt me if I did not behave in the way they wanted.	1.93	1.13	.57	.72
11. My parents exerted control by threats and punishments.	1.98	1.19	.51	.73
13. In order to avoid getting hurt I used to try to avoid my parents.	1.48	0.91	.56	.73
14. The atmosphere at home could suddenly become threatening for no obvious reason.	1.43	0.94	.56	.73
15. I experienced my parents as powerful and overwhelming.	2.08	1.17	.46	.75
Submissiveness (6 items)	13.47	4.38		.74
1. I often had to give in to others at home.	2.75	1.09	.47	.70
2. I felt on edge because I was unsure if my parents might get angry with me.	2.41	1.17	.52	.69
3. I rarely felt my opinions mattered much.	2.55	1.19	.55	.68
5. If I didn't do what others wanted I felt I would be rejected.	2.14	1.23	.50	.69
10. I often felt subordinate in my family.	1.91	1.03	.44	.71
12. I often had to go along with others even when I did not want to.	1.72	0.93	.36	.73
Unvalued (3 items)	6.74	2.51		.68
6. I felt able to assert myself in my family. (r)	2.34	1.11	.49	.58
7. I felt very comfortable and relaxed around my parents. (r)	1.95	0.98	.53	.54
9. I felt an equal member of my family. (r)	2.45	1.13	.45	.63
ELES total (15 items)	31.51	9.66		.86

Note. (r) = reverse-scored items; ELES = Early Life Experiences Scale.

Test-retest Reliability

In the test-retest reliability analysis (Pearson product-moment *r*), 57 adolescents filled out a retest of the ELES after a 3-week interval. Results showed a good temporal stability of the time

with correlation coefficients of r = .82 for total score, r = .76 for Threat subscale and Submissiveness subscale and r = .71 for Unvalued subscale. Overall, the ELES for adolescents produce consistent results over the time.

Descriptive Data Concerning Sex, Age and Grade in School

To evaluate the influence of demographic variables in our data, we performed t-test Student mean differences for sex and one-way ANOVA for age and grade in school. Concerning sex, the means, standard deviations and t-test Student for all variables are presented in Table 3. Results showed that there are significant sex differences for Threat subscale, with boys reporting higher mean scores in Threat subscale than girls. There are also significant sex differences in negative affect, with girls reporting higher levels than boys (Table 3).

Table 3

Means (M), standard deviations (SD) and t-test differences by sex for ELES and their subscales, EMWSS and PANASN for adolescents (N = 771).

Variables	**Boys (*n* = 364)**		**Girls (*n* = 407)**		***t(df)***	***p***
	M	***SD***	***M***	***SD***		
Threat	1.95	0.74	1.82	0.77	2.494 (769)	**.013**
Submissiveness	2.26	0.71	2.23	0.75	0.497 (769)	.619
Unvalued	2.25	0.84	2.24	0.83	0.112 (769)	.911
ELES total	2.14	0.62	2.07	0.66	1.420 (769)	.156
EMWSS	64.02	13.27	64.34	13.81	0.324 (769)	.746
Positive Affect (PANASN)	23.30	3.52	23.06	3.55	0.568 (769)	.570
Negative Affect (PANASN)	16.41	4.12	18.44	3.98	6.949 (769)	**<.001**

Note. Bold values indicate statistical significance ($p \leq .05$); ELES = Early Life Experiences Scale; EMWSS = Early Memories of Warmth and Safeness Scale; PANASN = Positive and Negative Affect Schedule for Children and Adolescents.

Regarding age and grade in school, the means, standard deviations and ANOVA's F are shown in Table 4. The assumption of homogeneity of variance was not violated in this data ($p > .05$). Results demonstrated that at least two or three age groups differ significantly on their means scores of Submissiveness subscale (cf. Table 4). The *post hoc* comparisons, using the *Tukey's HSD post hoc* procedure, indicated that middle adolescents (15-16 years old) had significantly higher levels of submissiveness than those in the older group (17-18 years old). There were no significant differences for grade in school on mean scores of ELES and its subscales (Table 4).

Table 4

Means (M), standard deviations (SD) and one-way ANOVA's F differences by age and grade in school for ELES and their subscales, EMWSS and PANASN among adolescents (N = 771)

Age Group	**13-14 (*n* = 295)**		**15-16 (*n* = 296)**		**17-18 (*n* = 180)**		***F(df)***	***p***
	M	***SD***	***M***	***SD***	***M***	***SD***		
Threat	1.93	0.81	1.90	0.74	1.79	0.69	1.935 (768)	.145
Submissiveness	2.25	0.74	2.31	0.74	2.13	0.68	3.350 (768)	**.036**
Unvalued	2.23	0.88	2.27	0.83	2.22	0.79	0.280 (768)	.756
ELES total	2.12	0.67	2.14	0.64	2.01	0.60	2.262 (768)	.105
EMWSS	65.13	13.10	63.56	13.59	63.69	13.59	1.146 (768)	.318
Positive Affect (PANASN)	23.25	3.47	23.08	3.53	23.01	3.65	0.302 (767)	.739
Negative Affect (PANASN)	17.02	4.31	17.68	4.25	17.91	3.75	3.096 (767)	**.046**
Grade	**7-8 (*n* = 174)**		**9-10 (*n* = 346)**		**11-12 (*n* = 251)**		***F(df)***	***p***
	M	***SD***	***M***	***SD***	***M***	***SD***		
Threat	1.96	0.78	1.90	0.77	1.80	0.72	2.360 (768)	.095
Submissiveness	2.26	0.71	2.28	0.75	2.19	0.72	0.996 (768)	.370
Unvalued	2.29	0.89	2.24	0.84	2.23	0.80	0.328 (768)	.720
ELES total	2.14	0.64	2.12	0.65	2.04	0.63	1.487 (768)	.227
EMWSS	63.91	13.93	64.94	13.45	63.35	13.41	1.052 (768)	.350
Positive Affect (PANASN)	23.28	3.29	23.21	3.53	22.90	3.69	0.764 (767)	.466
Negative Affect (PANASN)	16.93	4.29	17.38	4.24	18.01	3.95	3.697 (767)	**.025**

Note. Bold values indicate statistical significance ($p \leq .05$); ELES = Early Life Experiences Scale; EMWSS = Early Memories of Warmth and Safeness Scale; PANASN = Positive and Negative Affect Schedule for Children and Adolescents.

Concerning other variables in this study, there are no significant differences in age and grade for early memories of warmth and safeness and for positive affect. For negative affect, results from Tukey's HSD *post hoc* indicate that adolescents with 17-18 years-old have higher levels of negative affect than adolescents with 13-14 years-old. The same pattern was found for grade in school (cf. Table 4).

Convergent Validity

Convergent validity was assessed by performing Pearson correlations coefficients between ELES total score and their subscales and other related constructs, namely early positive memories (EMWSS) and positive and negative affect (PANASN) (Table 5). Results show that the correlations between ELES total score and their subscales were highly correlated. Furthermore, there was a moderate and negative correlation between ELES total and EMWSS. In terms of affect, ELES total score was negatively associated with positive affect and was positively correlated with negative affect, with a low magnitude. In regard to ELES subscales, the threat subscale presented a low and negative correlation with EMWSS and positive correlation with negative affect and negative correlation to a less extent with positive affect. The submissiveness subscale was moderately and negatively associated with EMWSS, positively associated with negative affect and negatively correlated to a lesser extent with positive affect. The unvalued subscale presented a moderate and negative correlation with EMWSS, a low and negative correlation with positive affect and a low and positive association with negative affect. Finally, EMWSS was associated with positive affect (Table 5).

Table 5

Correlations (two-tailed Pearson's r) between early life experiences (ELES; N = 771), early positive memories (EMWSS; N = 771) and positive and negative affect (PANASN; N = 770) in adolescents' sample.

Variables	ELES	ELES T	ELES Sub	ELES Un	EMWSS	PANASN PA
ELES Threat	.89***					
ELES Submissiveness	.89***	.67***				
ELES Unvalued	.69***	.45***	.48***			
EMWSS	-.45***	-.29***	-.39***	-.52***		
PANASN Positive Affect	-.21***	-.11**	-.19***	-.27***	.36***	
PANASN Negative Affect	.29***	.23***	.27***	.24***	-.24***	-.19***

Note. $^{**}p \leq .01$. $^{***}p \leq .001$. ELES = Early Life Experience Scale, total score; ELES T = Threat subscale; ELES Sub = Submissiveness subscale; ELES Un = Unvalued subscale; EMWSS= Early Memories of Warmth and Safeness Scale for adolescents; PANASN = Positive Affect and Negative Affect Schedule for Children and Adolescents; PA = Positive Affect subscale.

DISCUSSION

The main aim of this paper is to adapt and validate the Portuguese version of the Early Life Experiences Scale (ELES) for adolescents. This self-report measure was originally developed, in light of the Social Rank Theory (Gilbert, 1992, 1993), to assess recall of threatened and submissiveness feelings in the interactions with family and was used with adult population (Gilbert et al., 2003). This scale allows assessing personal feelings in early interactions, instead of evaluating parental practices or behaviors. In the current study we analyzed the psychometric properties of the ELES and confirmed its three-factor structure using CFA method, in a sample of Portuguese adolescents from community schools with ages ranging between 13 and 18 years old.

Results from descriptive data in this adolescents' sample showed means scores for ELES very similar to that found by Gilbert et al. (2003) in a sample of undergraduate students. On the whole, adolescents present the higher mean score on Submissiveness and Unvalued subscales and the lowest mean score on Threat subscale. This pattern seems to occur in community samples (Gilbert et al., 2003) and may be different in clinical samples. Thus, future research should examine this construct in clinical samples of adolescents.

CFA results indicated good model fit of a 3-factor model (i.e., Threat, Submissiveness and Unvalued). Although the high correlation between Threat and Submissiveness subscales, the two-factor model (with Threat and Submissiveness combined) had a poor fit to the data. A possible explanation for these results might be related with the conceptualization about the Types of Affect Regulation System (Gilbert, 2009). According to this theoretical framework, although the threatening and subordination experiences (e.g., neglectful or abusive backgrounds) may contribute to the overdevelopment of an affect regulation system focused on threats and self-protection, it seems that this kind of memories have a different nature. For instance, Threat items focused on fear and feeling threatened (e.g., parents as dominants), whereas Submissiveness items tap feeling and acting in a submissive way. Although these two dimensions refer to negative experiences, they may activate different behaviors or feelings. For example, children who are fearful may not necessarily act subordinately and use withdrawal or aggressive strategies. Thus, the distinction of these memories and personal feelings may be valuable in the assessment. Overall, results from CFA procedure indicate that the ELES for adolescents presents a three-factor structure, composed of 15 items, assessing emotional memories of threat, submissiveness and unvalued in early interactions with caregivers.

Regarding the reliability analysis, results demonstrated an adequate internal consistency and very good test-retest reliability for the three subscales. In the main, the ELES in its Portuguese version for adolescents produces consistent results over the time. Sex differences on ELES

suggest that boys tend to perceive their parents as hostile dominant and remember feeling more threatened in the interaction with them, comparatively with girls. In literature about parental rearing behaviors, there are some support for gender differences, indicating that girls tend to perceive their parents (both mother and father) as more emotionally warm whereas boys tend to perceived higher levels of rejection and overprotection by mother (Muris et al., 2003; Roelofs et al., 2006). However, the ELES provides the assessment of people's memories of how they felt not what other people did to them.

Regarding age groups, middle adolescence (with ages between 15 and 16 years old) tend to feel more subordinate within family than older adolescents (with 17 and 18 years old). This finding may be understood from a developmental perspective. Since some developmental tasks vary along age stages (i.e., early adolescence, middle adolescence and late adolescence), adolescents will gradually acquire more autonomy from parents and more closeness with peers (Steinberg, 2002). Thus, it is expected that older adolescents are more independent from parents and experience less subordination feelings in this relationship, while 15-16 years old adolescents are still going through this transition.

Concerning convergent-related validity, results show statistical significant associations in the expected way. In the main, adolescents who recall feelings of threat, submissiveness and unvalued feelings are less likely to recall feelings of warmth, soothing and safeness. Surprisingly, among the three subscales, unvalued items are most highly negatively linked with memories of warmth and soothing. This result suggests that more than threatening and subordination feelings, the absence of cooperative, affiliative and safe feelings within parental context seems to play a main role in warmth and safeness memories (measured by EMWSS). In terms of affect, adolescents who had threat and submissive early experiences tend to report less levels of positive affect and higher levels of negative affect. Interestingly, submissiveness feelings are particularly important for negative affect, whereas warmth and safeness memories are especially linked to positive affect. These findings are similar to that found in adult population (Gilbert et al., 2003). In addition, these data are in accordance with previous research that demonstrate that adverse experiences in childhood (e.g., abuse, neglect, rejection, shaming, criticism and/or harsh parenting styles) are associated with the overdevelopment of the threat system (Dickerson & Kemeny, 2004), and with the under stimulation of the affiliative-soothing system (which involves feelings of warmth, contentment, reassurance, connectedness; Irons et al., 2006). This unbalance in affect regulation systems may lead to augmented vulnerabilities to mental health difficulties, such as depression (Gilbert et al., 2003; Matos & Pinto-Gouveia, 2014; Stuewig & McCloskey, 2005; Taylor et al., 2006; Webb, Heisler, Call, Chickering, & Colburn, 2007).

Some limitations should be noted in this study. Firstly, although the results had confirmed the three-factor structure of the ELES in a Portuguese sample of adolescents, future studies should seek to ensure the parsimony of the model testing its invariance in other samples. Secondly, the use of a nonclinical sample impairs generalization of results to a clinical population. Further studies should analyze the scale validity and reliability in clinical samples as well. Finally, self-report may not be the most reliable way to tap these early experiences with caregivers in this age group, although they do benefit from being anonymous.

Nevertheless, this study contributes to broaden the available measures for this age group, especially instruments that assess personal feelings and behaviors in the family interactions. Moreover, these findings confirm that the ELES in its Portuguese version for adolescents is a useful and robust tool for research, educational and clinical contexts with adolescents.

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ESTUDO EMPÍRICO II

RUMINATION IN ADOLESCENCE: THE DISTINCTIVE IMPACT OF BROODING AND REFLECTION ON PSYCHOPATHOLOGY

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RUMINATION IN ADOLESCENCE: THE DISTINCTIVE IMPACT OF BROODING AND REFLECTION ON PSYCHOPATHOLOGY

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ABSTRACT

Rumination has a crucial role in the onset, severity and maintenance of depression in adolescent and adult populations. The Ruminative Responses Scale (RRS) is the most widely self-report instrument used to assess individual differences in the tendency to engage in ruminative responses style. This paper aims to test the factor structure of the 10-item RRS and the gender-based measurement invariance, in a community sample of adolescents, using a Confirmatory Factor Analysis. Participants were 542 adolescents (53% females) with a mean age of 14 years old (*SD* = 1.75) from middle and secondary schools (years of education's mean = 9.46, *SD* = 1.60) in Portugal. Results confirm the two-factor structure of the RRS composed by brooding and reflection dimensions (GFI = .93, CFI = .90, TLI = .87, SRMR = .05, RMSEA = .11, 90% CI [0.092, 0.121]) and the invariance across gender (GFI = .91, CFI = .89, TLI = .85, RMSEA = .08, 90% CI [0.069, 0.090], $p < .001$). RRS and their dimensions presented a good internal reliability (Brooding: $\alpha = .80$; Reflection: $\alpha = .75$; RRS total: $\alpha = .85$). Brooding and reflection dimensions revealed moderate correlations with depression, anxiety and stress symptoms ($p < .001$). Multiple Regression Analysis through Structural Equation Modelling (SEM) showed that brooding is significantly and strongly associated with internalizing symptoms ($p < .001$). Female adolescents reported more levels of rumination than male adolescents. Overall, these findings support the usefulness of the Portuguese version of RRS and suggest that this short version is an economical, valid and reliable measure to assess ruminative response styles in adolescence.

Keywords: Adolescence; Brooding; Confirmatory Factor Analysis; Reflection; Rumination

INTRODUCTION

In literature, rumination has been widely studied in the domain of cognitive vulnerability styles for depression. According to Nolen-Hoeksema (1991) rumination is a relatively stable maladaptive coping strategy that consists of ''repetitively focusing on the symptoms of depression and on the causes, meanings, and consequences of those symptoms'' (p.569). The Response Styles Theory (RST; Nolen-Hoeksema, 1991, 2000) has strong empirical support, showing evidence that ruminative response style prolongs sad or dysphoric mood and has a negative impact on the engagement in pleasant or distracting activities and on effective problem solving in face of distress circumstances (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). A large body of empirical research shows that rumination predicts the onset, severity and maintenance of depression (Nolen-Hoeksema, 1991, 2000; Nolen-Hoeksema, Stice, Wade, & Bohon, 2007; Nolen-Hoeksema et al., 2008).

Based on the RST (Nolen-Hoeksema, 1991), Nolen-Hoeksema and Morrow (2001) develop the "Ruminative Responses Scale", the most commonly self-report instrument used to assess individual differences in the tendency to engage in ruminative thoughts and behaviors. This scale was initially composed by 22 items, but 12 items on the scale seem to overlap with the item content on scales measuring depressive symptoms, and consequently, were removed (Treynor, Gonzalez, & Nolen-Hoeksema, 2003). As a result, Treynor et al. (2003) found ten candidate items to tap ruminative response style. They performed a Principal Component Analysis that revealed two–factor solution, reflection (5 items) and brooding (5 items), which accounted for 50.5% of the total variance. The reflection factor includes items that tap an active and "a purposeful turning inward to engage in cognitive problem solving to alleviate one's depressive symptoms" (Treynor et al., 2003, p.256). The brooding factor reflects "a passive comparison of one's current situation with some unachieved standard" (Treynor et al., 2003, p. 256). Regarding reliability analysis, both components revealed adequate internal consistency (with α of .72 for reflection and α of .77 for brooding) and satisfactory temporal stability (r = .60 for reflection and r = .62 for brooding) (Treynor et al., 2003). The authors (Treynor et al., 2003) found a differential association between these two factors and depressive symptoms. That is, the reflection factor was correlated with more current depressive symptoms and with lower levels of depressive symptoms over time. On the contrary, the brooding factor of rumination not only showed a strong correlation with currently depressive symptoms but was also associated with increasing depressive symptoms one year later.

Additionally, gender differences were found in both dimensions, with women scoring higher than men on both the reflection and brooding factors; but it is only when rumination style takes the form of brooding is it linked to greater levels of depression concurrently and

longitudinally in women compared to men. For these reasons, brooding has been considered the maladaptive component of rumination (Treynor et al., 2003).

However, there is no consensus among authors with regard to the construct validity of brooding and reflection dimensions. While some studies found significant correlations between reflection component and psychopathology, others do not (Joormann, Dkane, & Gotlib, 2006; Rude, Maestas, & Neff, 2007). For instance, Whitmer and Gotlib (2011) demonstrate a distinction between brooding and reflection in two groups of currently non-depressed individuals, but not in a clinical depressed group.

Moreover, the content of RRS's items does not help to clarify the differences between the two rumination dimensions. Not only items from brooding subscale but also some items from reflection subscale involve self-focus attention centered on negative evaluations of the situation or emotional reactions (Rude et al., 2007). Specifically for reflection component, Whitmer and Gotlib (2011) conducted an exploratory factor analysis (EFA) and suggested that the item "write down what you are thinking and analyze it" (item 5) should be removed or replaced, because it had a small initial communality in three adult samples (i.e., currently depressed, formerly depressed and never depressed individuals) and did not load on either factor (in clinically depressed individuals), which means that it does not measure the same latent variable as the other items. Similarly, the psychometric study of the Portuguese version of RRS (Dinis, Pinto-Gouveia, Duarte, & Castro, 2011), conducted in a sample of 893 non-clinical adult sample (undergraduate students and general population), showed adequate internal consistency for both dimensions (.75 for reflection and .76 for brooding) and a low communality in item 5, which also suggests its elimination. On the contrary, in a community sample of adolescents, Burwell and Shirk (2007) conducted an EFA of the 22-item RRS and results showed a two factor-structure and an adequate factor loading of item "write down what you are thinking and analyze it" (.43) on the reflection factor. Clearly, these studies found mixed results and future research confirming the factor structure of the RRS appears warranted.

In line with adult research on rumination, results from cross-sectional and prospective studies in adolescents support the role of rumination in the onset, maintenance and exacerbation of depressive symptoms (Abela & Hankin, 2011; Abela, Vanderbilt, & Rochon, 2004; Burwell & Shirk, 2007; Nolen-Hoeksema et al., 2007; Rood, Roelofs, Bogels, Nolen-Hoeksema, & Schouten, 2009). For instance, Muris, Roelofs, Meesters, and Boomsma (2004) examined the contribution of rumination, worry and negative attributional style to the prediction of depressive and anxiety symptoms in a large sample of non-clinical adolescents, and found significant associations between rumination (measured by the Children's Response Style Scale) and depression (r = .34) and anxiety (r = .46). Papadakis, Prince, Jones, and Strauman (2006) analyzed

the influence of the two rumination components (i.e., brooding and reflection measured by the Response Styles Questionnaire developed by Nolen-Hoeksema & Morrow, 1991) on depressive symptoms among adolescent girls from middle and high schools and found that both brooding and reflection correlated significantly with depressive symptoms (r = .51 and r = .20, respectively). In turn, Burwell and Shirk (2007) conducted a short-term longitudinal study in a community sample of adolescents and found that both brooding and reflection were associated concurrently with depressive symptoms (r = .69, r = .17, respectively), but only brooding predicted the development of depressive symptoms over time, particularly for girls. Moreover, brooding (but not reflection) seems to play a moderator role in the relationship between stress (interpersonal stress) and depressive symptoms (Cox, Funasaki, Smith, & Mezulis, 2012), specially for girls with high levels of co-rumination (Bastin, Mezulis, Ahles, Raes, & Bijttebier, 2014). Although rumination is consistently considered in relation to depression, several studies have demonstrated associations between rumination and various internalizing symptoms, such as anxiety, worry, trauma-related symptoms and levels of stress (Nolen-Hoeksema et al., 2008). As a result, rumination is generally conceptualized as a maladaptive thought process with impact on several aspects of both mental and physical health (Smith & Alloy, 2009).

Overall, research in adults, adolescents and children support that rumination is a multifaceted or multidimensional construct, with brooding and reflection as distinct components (Burwell & Shirk, 2007; Cox et al., 2012; Lopez, Driscoll, & Kistner, 2009; Smith & Alloy, 2009; Verstraeten, Vasey, Raes, & Bijtterbier, 2010). Furthermore, brooding has been consistently associated with depressive symptoms, whereas the impact of reflection component in relation to depressive symptoms is not clear (Cox et al., 2012; Verstraeten et al., 2010).

Nolen-Hoeksema and Girgus (1994), based on RST, stated that the emergence of gender differences in depression during the transition from pre-adolescence to adolescence might be partially explained by ruminative tendencies in dealing with external stressors or stressful life events. Child and adolescent literature found mixed results (Rood et al., 2009). While the majority of studies have found that girls ruminate more than boys (Bastin et al., 2014; Lopez et al., 2009; Muris et al., 2004; Ziegert & Kistner, 2002), some studies reported that girls scored higher on reflection dimension than boys (Burwell & Shirk, 2007; Mezulis, Simonson, McCauley, & Stoep, 2011; Verstraeten et al., 2010), and other studies shown no gender differences (Abela & Hankin, 2011; Abela et al., 2004). Although multiple studies have examined mean levels differences in rumination between genders, there is no study, as far as we know, that has analyzed the invariance of the factor structure of the RRS across gender. The analysis of the factor structure invariance is a much needed statistical procedure in order to assure that the same construct is being assessed in each group and to use accurately RRS in different groups or samples (Chen, Souza, & West, 2005; Meredith, 1993).

Taken together, these findings emphasize the key value of rumination in the aetiology and maintenance of a range of psychological difficulties. The 10-item Ruminative Responses Scale (Treynor et al., 2003), as a brief and economical measure, has been widely used in both adult and adolescent populations, as well as adapted and validated in other countries, such as Turkey (Erdur-Baker & Bugay, 2010) or Spain (Extremera & Fernández-Berrocal, 2006). This scale was validated for the Portuguese adult population (Dinis et al., 2011) and also adapted to adolescents (Cunha et al., 2015). In the Portuguese study of the RRS for adolescents, an Exploratory Factor Analysis was conducted and results revealed a two-factor solution accounting for 51% of the total variance. Likewise studies in adult population (Dinis et al., 2011; Whitmer & Gotlib, 2011), this preliminary study among adolescents showed that the item 5 had a low communality and factor loading. Overall, the Portuguese version in adolescents demonstrated adequate internal reliability ($\alpha = .71$ and $\alpha = .73$ for brooding and reflection, respectively; Cunha et al., 2015). Thus, RRS seems to be a promising tool to facilitate the assessment of rumination among adolescents.

Although the large evidence of the relevance of rumination for several mental health difficulties, as well as the widespread use of the RRS for its assessment, there are few studies going beyond the RRS's exploratory and mean level differences analyses. Furthermore, the prior research on rumination has mainly been conducted among adult populations in the USA, suggesting the importance of gaining insight into components of rumination in other countries and populations. Some past studies have found good psychometric properties for the two-factor structure of the RRS (e.g., Burwell & Shirk, 2007), while others suggested the elimination of item 5 from reflection factor (e.g., Whitmer & Gotlib, 2011). Thus, it seems important to test how item 5 fared in other populations, to confirm the factorial structure of the RRS and to analyze the factor structure invariance across gender.

Therefore, using a Confirmatory Factor Analysis approach, the present paper aims to test the factor structure of the Ruminative Responses Scale (10-item version; Treynor et al., 2003) and the gender-based measurement invariance of the model, in a sample of adolescents. This study also aims to examine the psychometric properties of the RRS, specifically item's analysis, internal consistency and convergent validity, by comparing the RRS with measures of depression, anxiety and stress symptoms. Finally, the last goal is to analyze the distinctive contribution of brooding and reflection to explain emotional negative states among adolescents.

METHOD

Participants

The sample consists of 542 adolescents, with 255 males (47%) and 287 females (53%). This adolescents aged between 12 and 18 years old (M = 14.90, SD = 1.75) and attended between 7th and 12th grade (M = 9.46, SD = 1.60) from middle and secondary schools from Portugal. No gender differences were found regarding age, $t_{(540)} = 0.543$, $p = .587$, and years of education, $t_{(540)} = 1.818$, $p = .070$.

Instruments

The **Ruminative Responses Scale** – short version (**RRS**; Treynor et al., 2003; Portuguese version for adolescents by Amado, 2014) is a 10-item scale that measures the individuals' tendency to ruminate when in a sad or depressed mood. This scale comprises two subscales: brooding (5 items) and reflection (5 items). To the statement "what you generally do, not what you think you should do when feel down, sad or depressed" respondents rated each item on a 4-point scale (1 = *almost never* to 4 = *almost always*). Thus, scores may range between 10 and 40, with higher scores indicating higher levels of ruminative responses styles.

The **Depression Anxiety and Stress Scales** (**DASS-21**; Lovibond & Lovibond, 1995; Portuguese version by Pais-Ribeiro, Honrado, & Leal, 2004) is a self-report measure composed of 21 items and designed to assess three affective states of depression, anxiety and stress. The items indicate negative emotional symptoms and are rated on a 4-point scale (0–3). On the original version, Lovibond and Lovibond (1995) found the subscales to have high internal consistency (Depression subscale $\alpha = .91$; Anxiety subscale $\alpha = .84$; Stress subscale $\alpha = .90$). The concurrent validity was confirmed with two other measures of depression and anxiety (Beck Depression and Anxiety Inventories), ranging between moderate and high magnitude correlations. All three scales evidenced favourable temporal stability across some studies (ranging between $r = .71$ and $r = .81$). In the Portuguese version (Pais-Ribeiro et al., 2004), the subscales have Cronbach's alphas of .85 for depression, .74 for anxiety, and .81 for stress. In this study, the Cronbach's alpha for subscales were .91 for depression, .85 for anxiety and .88 for stress.

Procedures

This adolescents' sample was collected from five public schools in the district of Coimbra, Portugal. These schools were selected in accordance with convenience and accessibility of researchers. Previous to the administration of the questionnaires, ethical approvals were

obtained by the Ministry of Education and the National Commission for Data Protection from Portugal. Then, the head teacher of the schools and parents were informed about the goals of the research and gave their consent. Adolescents were informed about the purpose of the study, aspects of confidentiality and consent. They voluntary participated and filled out the questionnaires in the classroom. The teacher and researcher were present to provide clarification if necessary and to ensure confidential and independent responding.

Data Analysis

Statistical analyses were carried out using PASW Software (Predictive Analytics Software, version 18, SPSS, Chicago, IL, USA) and Amos Software (Analysis of Moment Structures, version 18, Amos Development Corporation, Crawfordville, FL, USA). Descriptive statistics were computed to explore demographic variables and independent sample t tests were performed when conducting between-group analyses (Field, 2013). In the reliability analysis the Cronbach's alpha with a cut-off of .70 was considered suitable and the item-total correlations equal or above .42 was considered appropriate (Field, 2013). We also assessed the Composite Reliability that estimates the internal reliability of each construct and indicates the degree to which the individual indicators are all consistent with their common latent construct. Composite Reliability' values equal or higher than .70 are considered acceptable reliability (Hair, Anderson, Tatham, & Black, 1998). Another measure of reliability is the Variance Extracted Measure (VEM), which reflects the overall amount of variance in the indicators accounted for by the latent construct. The VEM values should be equal or higher than .50 (Hair et al., 1998). Pearson product-moment correlation coefficients were performed to analyze the relationship between RRS and their subscales and depression, anxiety and stress symptoms (measured by DASS-21).

A Confirmatory Factorial Analysis (CFA) was performed in order to test the factor structure of the RRS. This CFA method from Structural Equation Modeling (SEM) family aims to analyze the relationship between observed indicators and latent factors (Kline, 2005). Since CFA has a theory-driven nature and empirical studies support the two-factor structure of the RRS, we chose the CFA approach to test the factorial validity of the RRS among Portuguese adolescents. A Maximum Likelihood (ML) parameter estimation was chosen over other estimation methods because ML has been found to be relatively robust and efficient if the sample size is sufficiently large (Kline, 2005; Schermelleh-Engel, Moosbrugger, & Müller, 2003) and because it is one of most frequently used estimation methods in this statistical procedure (Kline, 2005).

In the evaluation of the model, we used the chi-square goodness-of-fit, which measures the discrepancy between the predicted model and the data (Kline, 2005) and which smaller values

were required. However, since this index is very sensitive to sample size (Schermelleh-Engel et al., 2003), we used simultaneously other global fit indices. The following goodness-of-fit indices and recommended cut-points were used to evaluate overall model fit: Goodness of Fit Index (GFI ≥ .90, good, and ≥ .95, desirable; Hu & Bentler, 1998), Comparative Fit Index (CFI ≥ .90, acceptable, and ≥ .95, desirable; Hu & Bentler, 1998), Tucker-Lewis Index (TLI ≥ .90, acceptable, and ≥ .95, desirable; Hu & Bentler, 1998), Root Mean Square Error of Approximation (RMSEA ≤ .05, good fit; ≤ .08, acceptable fit; ≥ .10, poor fit; Hu & Bentler, 1998), Standardized Root Mean Square Residual (SRMR ≤ .08, good fit; = 0, perfect fit; Hu & Bentler, 1998).

Chi-square difference test was used to compare both models (original model *versus* parsimony or simplified model) and statistically significant difference (χ^2 0.95) indicates better models. Additionally, some indexes were used to compare alternative models (Schermelleh-Engel et al., 2003), such as Akaike Information Criterion (AIC) and Expected Cross-Validation Index (ECVI), with smaller AIC and ECVI values indicating superior models and more stable model for population under study (Kline, 2005).

In regard to local adjustment of the model, the adequacy of any model can also be judge by investigating the factor loadings. Therefore, we analyzed items' factor loadings (λ) of the observed variables, which represent the strength of the association between the latent variable and the observed variable. All factor loadings should be significant ($p < .05$) and the standardized factor loadings for each item should present values of $\lambda \geq 0.50$. We also considered the Squared Multiple Correlations of the factor loadings ($R^2 \geq 0.25$), which provides the amount of variance in the observed variable that the underlying construct is able to explain (Hair et al., 1998).

Furthermore, measurement invariance across gender was assessed through a multiple-group CFA approach using Amos software. The statistically significance was assessed by chi-square difference test (Meredith, 1993).

Finally, a Multiple Regression Analysis through Structural Equation Modeling (SEM) approach was performed in order to estimate the presumed causal relations among latent constructs and test theoretical relationships on the basis of covariation and correlations among variables (Kline, 2005). A ML method was used to evaluate the regression coefficients significance. Effects with $p < .05$ were considered statistically significant. The invariance of the structural model for genders was tested through the chi-square difference test and the critical ratios for differences among all parameter estimates (Byrne, 2010).

Preliminary Data Analyses

The assumptions of univariate and multivariate normality were examined and all items showed acceptable values of asymmetry and kurtosis (Sk < |3| and Ku < |8|–|10|; Kline, 2005). The presence of multivariate outliers were screened for all variables by using Mahalanobis Distance statistic (D^2) (Kline, 2005). Although, some cases presented D^2 values indicating possible outliers, these were retained since their elimination did not alter the results and excluding those cases would decrease factor's variability. The presence of multicollinearity was screened through the Variance Inflation Factor (VIF > 5.0) and no variable violated this assumption (Kline, 2005). Missing data completely at random were minimal (less than 5% of cases) and a single imputation method through mean substitution was used. The mean substitution is a most common approach and involved the replacement of a missing value with the overall sample average (Tabachnick & Fidell, 2007). All analyses were performed with the completed data from the participants.

RESULTS

Confirmatory Factor Analysis

Based on theoretical framework (Treynor et al., 2003) and preliminary results in adolescents (Cunha et al., 2015), in this study we tested two CFA models: (i) Model 1: two-factor oblique (i.e. allows the intercorrelation among factors), composed by brooding dimension (5 items) and reflection dimension (5 items); (ii) Model 2: two-factor oblique, composed by brooding dimension (5 items) and reflection dimension without item 5 ("write down what you are thinking and analyze it").

As can be seen in Table 1, in Model 1 the overall goodness of fit indicates a poor fit to the data. In addition, results from local adjustment showed that the item 5 ("write down what you are thinking and analyze it") has the lowest standardized regression weight or factor loading ($\lambda = .323$) and the lowest squared multiple correlation ($R^2 = .104$) and therefore, acting as an item without the essential qualities for being kept in the scale structure of the Portuguese version of RRS for adolescents. Then, we conducted a CFA model without this item ("write down what you are thinking and analyze it") and the overall goodness of fit in Model 2 showed a slightly increase in cut-off indexes in comparison with Model 1 (cf. Table 1). The elimination of item 5 allowed a reduction to some extent on the Chi-square value, although it remains statistically significant. As noted earlier, the Chi-Square is highly sensitive to sample sizes. Although some relative fit indices (TLI; RMSEA) are marginally closed to the recommended cut points, others fit indices are satisfactory, including GFI = .93, CFI = .90 and SRMR = .05, which give some support to the

adequacy of the model to the data. Additionally, this respecified model was statistically superior to the original model in our sample (chi-square difference test: χ^2_{dif} =22.808 > $\chi^2_{0.95;\,(8)}$ = 15.507) and has smaller values of comparison indexes (AIC and ECVI; cf. Table 1) than the original model. This model 2 (without item 5) is reinforced by previous data analysis that showed that item 5 was poor in terms of psychometric properties (e.g., internal consistency). Furthermore, other empirical studies (Cunha et al., 2015; Dinis et al., 2011; Whitmer & Gotlib, 2011) also found this pattern.

Moreover, in local adjustment, the standardized factor loadings ranged from .532 (item 6) to .793 (item 4) and all factor loadings were statistically significant ($p \leq .001$). Additionally, all items showed Squared Multiple Correlations ranging between .283 (item 6) and .629 (item 4) (Figure 1). On the whole, the respecified model showed a good local adjustment. The correlation between brooding dimension and reflection dimension was $r = .76$. Given the high correlation between both types of ruminative responses styles, the similarity in the content of items and the empirical inconsistency of the results regarding the distinction between both components, we also tested a one-factor structure of the RRS through CFA and the results showed a quite weak fit to the data ($\chi^2_{(35)}$ = 308.723, $p < .001$, GFI = .894, CFI = .841, TLI = .796, RMSEA = .120, 95% CI [.118, .133], $p < .001$, AIC = 348.723, ECVI = .645). In conclusion, the model 2 is considered a favorable model because it satisfies in terms of overall goodness of fit and strength of parameter estimates.

Table 1
Goodness-of-fit statistics for comparative models of the Ruminative Responses Scale for adolescents (N = 542)

Models	χ^2	***df***	**GFI**	**CFI**	**TLI**	**SRMR**	**RMSEA [90% CI]**	**AIC**	**ECVI**
Model 1: two-factor oblique	208.46***	34	.93	.89	.87	.05	.097*** [.087, .110]	250.46	.463
Model 2: two-factor oblique without item 5 respecified	185.65***	26	.93	.90	.87	.05	.107*** [.092, .121]	223.65	.413

Note. ***$p < .001$. *df* = degrees of freedom; GFI = Goodness-of-fit index; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Error of Approximation; CI = Confidence Interval; AIC = Akaike Information Criterion; ECVI = Expected Cross-Validation Index; SRMR = Standardized Root Mean Square Residual.

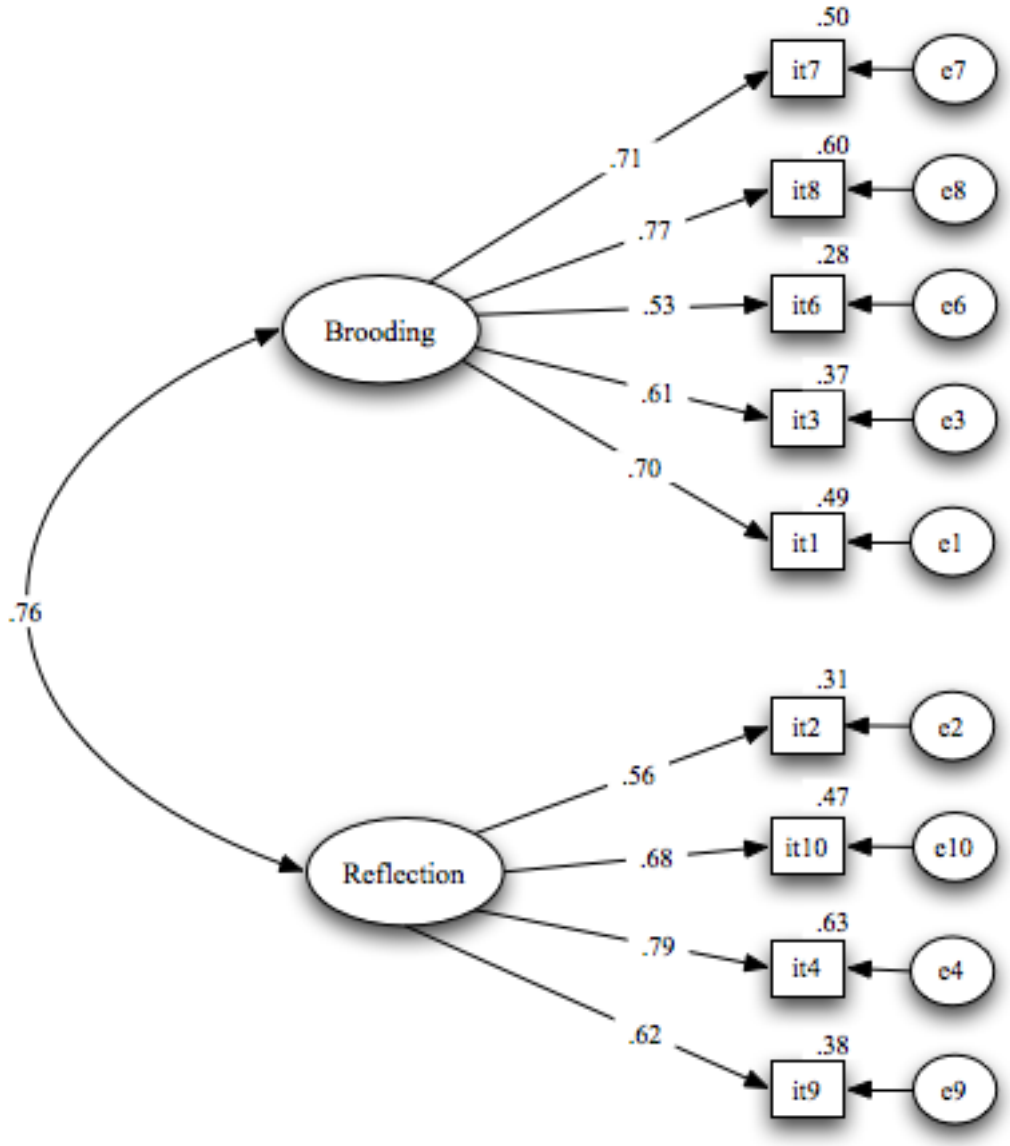

Figure 1. Confirmatory Factor Analysis of the two-factor of the RRS for adolescents ($N = 542$). Standardized coefficients are shown; all paths are statistically significant ($p < .001$).

Multiple-Group Analysis for Gender Invariance

Since gender may influence the psychometric properties of psychological trait or affect-related measures and empirical evidence shows the role of gender in tendencies for engage in rumination, it seems important to assess whether the underlying factor structure of the RRS is equivalent for gender (Meredith, 1993). A measure is invariant when its measurement properties are structurally equivalent in all groups of interest (Meredith, 1993).

In this study a multiple-group CFA for gender invariance of the RRS (model without item 5) was assessed through the comparison between the unconstrained model (i.e., less restrictive

model where parameters were freely estimated across groups) and the constrained model, by constraining various parameters across both groups. The first step is to test for configural invariance, that is, to fit a baseline model for each group separately (Meredith, 1993). The factorial model presented a reasonable fit to the data for both males and females adolescents: GFI = .911, CFI = .889, TLI = .846, RMSEA = .079, 90% CI [0.069, 0.090], $p < .001$. The second step involves metric invariance, meaning that equal factor loadings across groups are required to ensure equivalent relationships between latent factor and its indicators (items) in the factorial model (Meredith, 1993). Results confirm the invariance of measurement across gender for measurement weights (i.e., equal factor loadings) ($\chi^2_{dif\,(7)} = 3.720$, $p = .811 < \chi^2_{0.95;(7)} = 14.067$).

Descriptive Statistics and Reliability Analysis

Table 2 displays means, standard deviations, corrected item-total correlation, Cronbach's alpha if item deleted and Cronbach's alpha for total score (9 items) and subscales of the Ruminative Responses Scale in adolescents' sample.

Table 2

Means (M), standard deviations (SD), corrected item-total correlations, Cronbach's alpha and Cronbach's alpha if item deleted for Ruminative Responses Scale (RRS) and its dimensions in adolescents' sample (N = 542)

Items	***M***	***SD***	**Corrected item-total *r***	**α**
Brooding dimension	12.52	3.62		.80
1.Think "What am I doing to deserve this?"	2.50	0.96	.619	.75
3.Think "Why do I always react this way?"	2.37	0.94	.504	.78
6.Think about a recent situation, wishing it had gone better.	2.80	0.92	.474	.79
7.Think "Why do I have problems other people don't have?"	2.35	1.08	.632	.74
8.Think "Why can't I handle things better?"	2.51	0.98	.665	.73
Reflection dimension	9.38	2.94		.75
2.Analyse recent events to try to understand why you are depressed.	2.41	0.84	.494	.73
4.Go away by yourself and think about why you feel this way.	2.30	0.99	.652	.64
9.Analyse your personality to try to understand why you are depressed.	2.25	0.95	.529	.71
10.Go someplace alone to think about your feelings.	2.42	1.09	.540	.71
RRS total score	21.90	5.91		.85

Results showed high item-total correlations, ranging between .47 (item 6) and .67 (item 8), which confirm the adequacy of the items to the measure and its internal consistency (Tabachnick & Fidell, 2007). The Cronbach's alpha obtained for the total score of the RRS was very good (α = .85) and for its components was adequate, with α = .80 for brooding and α = .75 for reflection (Table 2). Additionally, all items positively contributed to the internal consistency of the Portuguese version of the RRS for adolescents, since the reliability would not improve if any item was deleted (Table 2).

The Composite Reliability obtained for brooding dimension was .87 and for reflection dimension was .84. The variance extracted measure value for brooding and reflection dimensions was .57, respectively, suggesting that individual indicators are truly representative of the latent construct.

Descriptive Data for Sex, Age and Grade in School

To evaluate the influence of demographic variables in RRS, we performed Pearson product-moment correlations for age and years of education. In this sample, there were no correlations between RRS and its dimensions and age and years of education. Regarding sex, the means, standard deviations and t-test differences for the total score of RRS and for the two dimensions are presented in Table 3. The total and subscale scores are computed by calculating the mean of item responses. Results showed that females reported higher levels of brooding, reflection and rumination (total score) than males (Table 3). According with Cohen's guidelines (1988 cited in Tabachnick & Fidell, 2007), the magnitude of the differences in the means presented a moderate effect (Table 3).

Table 3

Means (M), standard deviations (SD), t-test differences and eta-squared for effect size by sex for Ruminative Responses Scale (RRS) and their dimensions in adolescents' sample (N = 542)

	Males (*n* = 255)		**Females (*n* = 287)**		***t(df)***	***p***	**η^2**
	M	***SD***	***M***	***SD***			
Brooding (5 items)	2.34	0.69	2.65	0.72	5.060 (540)	<.001	0.06
Refection (4 items)	2.16	0.71	2.50	0.72	5.496 (540)	<.001	0.07
RRS total score (9 items)	2.26	0.64	2.58	0.64	5.869 (540)	<.001	0.10

Convergent Validity

To evaluate convergent validity of the overall score of RRS and their dimensions, Pearson product-moment correlations were computed between RRS (total and subscales) and depression, anxiety and stress symptoms (measured by DASS-21). Results showed that RRS total score was significantly and positively correlated with depression (r = .56, p < .001), anxiety (r = .51, p < .001) and stress symptoms (r = .60, p < .001). There were positive and moderate correlations between brooding dimension and depression (r = .57, p < .001), anxiety (r = .49, p < .001) and stress symptoms (r = .58, p < .001). There were positive and moderate correlations between reflection dimension and depression (r = .43, p < .001), anxiety (r = .43, p < .001) and stress symptoms (r = .50, p < .001).

The Contribution of Brooding and Reflection to Explain Depressive, Anxiety and Stress Symptoms

In this study we conducted a Multiple Regression Analysis through SEM approach in order to analyze the significance of each path analysis of the predictor variables (with multiple dependent variables) and the variance explained of the model (i.e., observed correlations or covariances) (Kline, 2005). In the theoretical model, brooding and reflection dimensions are exogenous variables and depression, anxiety and stress are endogenous variables. This is a saturated or just-identified model (i.e., with zero degrees of freedom), resulting in a perfect fit to the data: GFI = 1.000, CFI = 1.000, TLI = 1.000, SRMR = 0.000, RMSEA = .523 [.501, .546]. Figure 2 displays the multiple regression analysis through SEM with the standardized path coefficients, the squared multiple correlations (R^2) and the measurement error correlations among dependent variables. Results show that all paths are statistically significant (p < .001). Both brooding and reflection accounted for 37% of stress, 33% of depression and 26% of anxiety total variances. The paths from brooding to depression had a medium effect (b = 3.400, SE_b = .314, Z = 10.843, p < .001, β =.49), to anxiety had a medium effect (b = 2.196, SE_b = .287, Z = 7.648, p < .001, β = .36), and to stress had a medium effect (b = 2.997, SE_b = .293, Z = 10.232, p < .001, β =.45). The paths from reflection to depression had a small effect (b = .918, SE_b = .309, Z = 2.973, p = .003, β =.13), to anxiety had a small effect (b = 1.256, SE_b = .283, Z = 4.444, p < .001, β = .21), and to stress had a small effect (b = 1.465, SE_b = .288, Z = 5.081, p < .001, β = .22). The correlations between exogenous variables and between dependent variables are statistically significant (Figure 2).

Then, this model was tested by a multi-group approach to analyse gender differences in the relationships among rumination factors and depression, anxiety and stress. This multiple group analysis will allow us to test whether path coefficients in the model are equal or invariant

for groups (i.e., males vs. females) (Byrne, 2010). The comparison between the unconstrained model (i.e., with free structural parameter coefficients) and the equality constrained model (i.e., where the parameters are constrained equal across groups) was analyzed (Byrne, 2010). Results from the Chi-square difference test showed the invariance of the model for both genders, $\chi^2_{dif(6)} = 7.903$, $p = .245$. Finally, the critical ratio difference method provided by Amos software was calculated to test for differences between male and female adolescents among all parameter estimates and critical ratio values larger than 1.96 indicated a significant difference between genders on the corresponding parameter (Byrne, 2010). Results indicated no significant differences on parameters coefficients in all paths (Z values < 1.96).

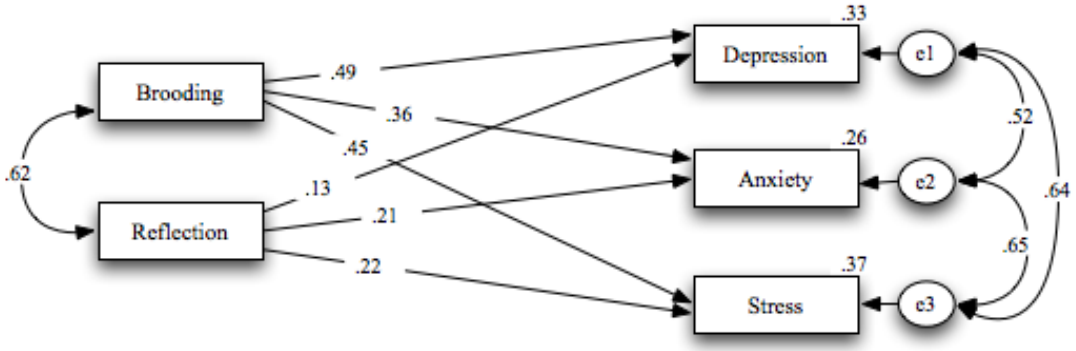

Figure 2. Multiple Regression Analysis Model (SEM) with brooding and reflection (exogenous variables) to predict depressive, anxiety and stress symptoms (endogenous variables) in an adolescents' sample ($N = 542$). Standardized coefficients are presented; all paths are statistically significant ($p < .001$).

DISCUSSION

The main purpose of this paper was to examine the factor structure of the 10-item version of the Ruminative Responses Scale (RRS; Treynor et al., 2003) in an adolescents' sample. Two alternative models were tested using a CFA approach, as suggested by previous studies concerning the structure of RRS in adults (Dinis et al., 2011; Treynor et al., 2003; Whitmer & Gotlib, 2011) and in adolescents (Cunha et al., 2015). In accordance to these previous studies, results showed that item 5 ("write down what you are thinking and analyze it") was not able to explain the variance of the underlying latent factor (reflection), as it presented low factor loading and squared multiple correlation (Kline, 2005). Thus, the item 5 was removed. Results showed that the two-factor structure of the RRS composed by brooding and reflection dimensions had a significantly better fit to the data and an adequate local adjustment than the model 1. These results support the distinction between brooding and reflection in adolescents, which is in accordance

with previous studies in this age group (Burwell & Shirk, 2007; Cunha et al., 2015; Erdur-Baker & Bugay, 2010). Moreover, the two-factor structure of RRS in adolescents' sample revealed equivalent for both males and females, supporting the invariance of measurement across gender.

Regarding internal reliability of the RRS in this adolescents' sample, results revealed a good internal consistency for the overall score of the RRS and an adequate internal consistency for both dimensions of rumination. These findings are very similar to those obtained among adult (Dinis et al., 2011; Treynor et al., 2003) and adolescent populations (Burwell & Shirk, 2007; Cox et al., 2012; Cunha et al., 2015).

Concerning sex differences, the data revealed that girls tend to ruminate more than boys, reporting higher levels of both brooding and reflection dimensions. This finding is in line with previous research on adolescents, demonstrating that girls are more likely than boys to engage in ruminative responses style (Bastin et al., 2014; Burwell & Shirk, 2007; Lopez et al., 2009; Mezulis et al., 2011; Muris et al., 2004; Rood et al., 2009; Verstraeten et al., 2010; Ziegert & Kistner, 2002).

The present results also suggest that the brooding factor demonstrated significant and moderate relationships with depression, anxiety and stress symptoms whereas reflection factor had low associations. This differential association pattern between the two dimensions and internalizing symptoms was also found in several empirical studies (Cox et al., 2012; Verstraeten et al., 2010). Moreover, results from multiple regression analysis through SEM demonstrate that brooding dimension is strongly linked to depressive, anxiety and stress symptoms than reflection dimension. Although reflection dimension had a significant and independent effect on these symptoms, its effect was of small magnitude. To sum up, these findings indicate that adolescents who brood about their own depressive or dysphoric emotions tend to present higher levels of depressive, anxiety and stress symptoms. These results are in accordance with empirical research in adolescent and adult populations. Indeed, it has been suggested that brooding is the most maladaptive and toxic component of rumination (Dinis et al., 2011; Nolen-Hoeksema et al., 2008; Smith & Alloy, 2009; Treynor et al., 2003; Whitmer & Gotlib, 2011). In adolescence, studies have also shown that brooding consistently predicts increased levels of depression (Bastin et al., 2014; Burwell & Shirk, 2007; Cox et al., 2012).

On the contrary to theoretical framework, reflection dimension is still significantly associated with psychopathology. Moreover, our results from CFA showed a high correlation between both dimensions (r = .76) but the one-factor structure had a poor fit to the data. There are two possible explanations for these results. Firstly, the semantic construction of the items ("Think" and "Analyze or Go away") may lead to obtaining two factors and not one. Secondly, the content of the items are similar because it tends to centre on negative evaluations of the

situation or emotional reactions to it, which may result in high correlation between both components. Thus, these two dimensions are not so different which can, at least partially, explain the significant association between reflection and psychopathology. As some studies have noted, when reflection is used in the context of perceived failure in problem solving it may trigger judgmental evaluations about one's feelings and reactions, which, in turn, might lead to self-perpetuating cycles of negative cognition and negative affect (Joormann et al., 2006; Rude et al., 2007).

Some limitations should be considered when interpreting our findings. Firstly, the use of cross-sectional design precludes the establishment of causal directions. In the future, longitudinal studies should carry out to improve the understanding on the causal relationships between variables. Secondly, although other studies have already suggested that item 5 ("write down what you are thinking and analyze it") should be removed or replaced because of its low factor loading (Cunha et al., 2015; Dinis et al., 2011; Whitmer & Gotlib, 2011), this issue might be due to cultural or language differences as well as other differences in the population (e.g., community *versus* clinical samples). Therefore, future studies should seek to confirm the factor structure and the relevance of removing or replacing or retaining this item in other samples. Thirdly, the nature of the sample used constrains the generalizability of our results to a clinical adolescent's sample. Additionally, the non-clinical sample, limits the study of the RRS sensitivity to discriminate between respondents from general population and those with psychopathology where rumination is thought to constitute a central and transdiagnostic feature. Moreover, the convenience nature of the sample constrains the generalization of the data. Lastly, our data are constrained by the limitations linked to the exclusive use of self-report measures and therefore other assessment methodologies (e.g., face-to-face interviews, ecological momentary assessment) are required in future research.

Despite of the aforementioned methodological constraints, our findings support that rumination is a multidimensional construct, composed by two distinct dimensions, namely brooding and reflection. As in adult populations, among adolescents brooding is consistently linked to depressive symptoms, whereas reflection shows a low association with depression. In addition, this study demonstrates that brooding had a highly contribution to explain depressive, anxiety and stress symptoms, than reflection. Overall, the present study supports that the RRS allows for a brief, time-efficient and reliable assessment of rumination among adolescents.

The key contribution of this study relies on the understanding of subtypes of rumination measured by the Ruminative Responses Scale in a Portuguese sample of adolescents, whereas much of the prior research on rumination has been conducted among adults in USA. Additionally,

the current study offers relevant data on gender invariance in RRS's factor structure that goes beyond examination of mean level differences reported in previous studies.

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ESTUDO EMPÍRICO III

VALIDATION OF THE RISK-TAKING AND SELF-HARM INVENTORY FOR ADOLESCENTS IN A PORTUGUESE COMMUNITY SAMPLE

Ana Xavier, Marina Cunha, & José Pinto Gouveia

in press

Measurement and Evaluation in Counseling and Development

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ABSTRACT

This paper aims to adapt and validate the Risk-taking and Self-harm Inventory for Adolescents (RTSHIA) in Portuguese language. Results confirm the two-factor structure originally proposed (Risk-taking; Self-harm). Both dimensions presented an adequate internal reliability and temporal stability. Convergent validity and socio-demographic differences are analyzed. Preventive and clinical implications are discussed.

Keywords: Confirmatory Factor Analysis; Portuguese version; Risk-taking and Self-harm Inventory for Adolescents; RTSHIA.

INTRODUCTION

Adolescence is often a developmental period of heightened vulnerability for emotional (e.g., depression and anxiety, suicidal behaviors) and behavioral problems (e.g., violent delinquency, sexual risk behaviors) (Steinberg, 2007, 2008; Wolfe & Mash, 2006). This is a great concern among health professionals and governments, since the leading causes of death among young people stem from accidents and violence resulting from high-risk behaviors (Irwin, Burg, & Cart, 2002; Wolfe & Mash, 2006). For instance, risk-taking behaviors account for 70% of adolescent mortality and this trend tends to begin in early adolescence and reach a peak in late adolescence (15-19 years old) (Irwin et al., 2002).

Risk-taking refers to the tendency to engage in behaviors that have the potential to be harmful or dangerous. The major risk behaviors during adolescence include alcohol and drug abuse, risky driving, unsafe sexual behavior, school failure and dropout, and delinquency/crime/violence (Steinberg, 2007, 2008). Data suggest that the engagement in a risk behavior (e.g., binge drinking) increase the likelihood of engaging in other risky behaviors (e.g., substance misuse, unsafe sexual behavior, self-injury) and other negative consequences that result from these behaviors, which might have negative implications on development later in life (Hair, Park, Ling, & Moore, 2009; Hawton, Saunders, & O'Connor, 2012). Thus, the engagement in high-risk behaviors contributes to morbidity and mortality among adolescents, and much of these behavioral causes is preventable (Irwin et al., 2002).

However, some of these behaviors seen as problematic are normative, biologically driven (Steinberg, 2007), instrumental and goal-directed to achieve important roles in adolescence (e.g., gaining peer acceptance, establishing autonomy from parents), which explains why risk behaviors can be so difficult to change and eliminate (Wolfe & Mash, 2006). Moreover, research consistently show that experimental risk behaviors are interconnected and the engagement in multiple risky behaviors enhances the likelihood of poor outcomes and may compromise short and long-term health (e.g., Hair et al., 2009; Hawton et al., 2012).

Other important issue in adolescence, which has received increasing attention, is internalizing problems such as depression, anxiety, deliberate self-harm and suicidal behaviors (Hawton et al., 2012; Wolfe & Mash, 2006). Indeed, the transition into adolescence is considered a vulnerable period for the onset and development of these internalized symptoms. In particular, for deliberate self-harm behaviors the rates are higher among younger cohorts (Klonsky, Muehlenkamp, Lewis, & Walsh, 2011; Madge et al., 2008, 2011). Self-injury is more common in adolescents and young adults as compared to adults and there is evidence that typically begins between the ages of 12 and 16 years old (Gratz & Chapman, 2009; Klonsky & Muehlenkamp, 2007; Klonsky et al., 2011).

In community samples of adolescents, studies have found approximately 10-15% of adolescents have self-injured at least one time (Laye-Gindhu & Schonert-Reichl, 2005; Muehlenkamp & Gutierrez, 2004; Ross & Health, 2002). Other data also indicate that adolescents are at higher risk than adults, with approximately 12-21% reporting lifetime history of deliberate self-harm without suicidal intent (e.g., Glassman, Weierich, Hooley, Deliberto, & Nock, 2007). Others have cited even higher rates, varying between 20 to 40% in community samples of young people (Cerrutti, Manca, Presaghi, & Gratz, 2011; Giletta, Scholte, Engels, Ciairano, & Prinstein, 2012; Mikolajczak, Petrides, & Hurry, 2009).

The most common methods of self-harm (SH) are skin cutting and self-hitting (Cerutti et al., 2011; Madge et al., 2008, 2011; Muehlenkamp & Gutierrez, 2004, 2007; Ross & Heath, 2002). Regarding sex differences, research indicate that SH is more common in female adolescents than in male adolescents (Giletta et al., 2012; Hawton et al., 2012; Klonsky et al., 2011; Laye-Gindhu & Shonert-Reichl, 2005; Madge et al., 2011; Ross & Heath, 2002). However, other studies have found similar rates for both genders (Cerutti et al., 2011; Gratz, 2001; Muehlenkamp & Gutierrez, 2004), with significant differences in methods of self-injury (Klonsky & Muehlenkamp, 2007). Females appear more likely to cut their skin, whereas males appear more likely to burn or hit themselves (Klonsky & Muehlenkamp, 2007; Laye-Gindhu & Shonert-Reichl, 2005; Rodham, Hawton, & Evans, 2004).

The co-occurrence and high prevalence of risk-taking and deliberate self-harm among adolescents from community and clinical settings emphasize the advantages in the assessment of both behaviors simultaneously. Indeed, empirical evidence demonstrate that self-harm is linked with a range of negative consequences, such as psychosocial problems (e.g., social isolation, poor academic achievements, interpersonal conflicts), psychopathology (e.g., emotional distress/dysregulation, anger, depression, anxiety, impulsivity, dissociation, loneliness, self-punishment), health risk behaviors and risk for attempt suicide (Laye-Gindhu & Shonert-Reichl, 2005; Madge et al., 2011; Muehlenkamp & Gutierrez, 2007; Ross & Heath, 2002). In addition, Cerutti et al. (2011) demonstrate significant associations between deliberate self-harm and a variety of externalizing problems, including conduct problems, antisocial behavior, delinquent behavior, drug and alcohol use among community sample of young people. Taken together, these findings point out that adolescents who engage in multiple self-harming and risk-taking behaviors are likely to experience increased psychological impairment and may be at risk, albeit unintentionally, of death (Muehlenkamp & Gutierrez, 2007).

Given the high prevalence of RT and SH behaviors among adolescents and its consequent negative outcomes, reliable and valid assessment instruments can be highly useful tools in assessment of these behaviors (Klonsky et al., 2011). Among the available instruments for

assessing deliberate self-harm and suicidal attempts and their functions, motivations or reasons, several were developed specifically for used in research studies with adult population (Gratz, 2001; Guttierez, Osman, Barrios, & Kopper, 2001; Osman et al., 2001) that have been widely used in samples of adolescents (Cerutti et al., 2011; Muehlenkamp & Gutierrez, 2007). However, these measures have not been validated with adolescents (Vrouva et al., 2010). Moreover, the majority of research with adolescents' samples about deliberate self-harm and/or suicidal attempts asks specific screening questions (few items) in accordance with the aims of each study (Madge et al., 2008, 2011; Mikolajczak et al., 2009).

For adolescent population there are some self-report questionnaires to measure RT behaviors, such as the Adolescent Risk-Taking Scale (Alexander et al., 1990), the Involvement Scale of the Risk-Involvement Ratings (Lavery et al., 1993), the Adolescent Risk-Taking Questionnaire (Gullone, Moore, Moss, & Boyd, 2000) and the Adolescent Risk Behavior Screen (Jankowski et al., 2007). However, fewer instruments combine these two dimensions (RT and SH). The assessment of both behaviors simultaneously may become the instrument easier, more convenient and economical for young people.

Vrouva, Fonagy, Fearson, and Roussow (2010, p.852) developed the Risk-Taking and Self-harm Inventory for Adolescents (RTSHIA) that was originally designed to assess risk-taking (RT) and self-harm (SH) behaviors in adolescents from community and clinical settings. The RT-related items ranged from mild behaviors (e.g., smoking tobacco; taking chances while doing one's hobbies) to serious (e.g., gang violence; putting oneself at risk of sexual abuse). The SH-related items ranged again from milder behaviors (e.g., picking at wounds; pulling one's hair out) to more serious (e.g., taking an overdose; trying to commit suicide). This SH subscale include items related with self-mutilation behaviors, disordered eating, self-demeaning behavior and SH ideation, with or without suicidal intent. The majority of the items contain the word intentionally or the phrase to hurt or punish yourself in order to indicate specific deliberation or intentionality of the behavior (Vrouva et al., 2010).

The original study of RTSHIA' development and psychometric properties (Vrouva et al., 2010) was conducted in two samples of 651 adolescents from community with ages between 12 and 19 years old and 71 young people referred to mental health services for SH behavior with ages between 12 and 18 years old. The authors (Vrouva et al., 2010) performed an exploratory (EFA) and confirmatory factor analyses (CFA) of the RTSHIA. The initial development of the scale comprised 33 items and another one categorical item (absence *vs*. presence of deliberate self-harm). Before performing EFA, two items (21 and 26) were removed since these items presented low item reliability indices and excessive and positive skewness and kurtosis. The remaining 31 items (note that the categorical item is not included in the analysis) were subjected

to a series of unweighted least squares principal axis factoring. Two items (1, 2) were removed due to low communalities. Other three items (8, 9, 24) were removed because they were cross-loading items. Thus, the EFA final solution yielded 26 items and indicated a two-factor structure: Self-Harm (SH) explaining 49.8% of variance and Risk-taking (RT) explaining 10.8% of the variance and both accounted for 60.6% of the total variance. The RT factor consists of eight items, including illegal activities, school dropout, staying out late at night without parental knowledge, participating in gang violence, sexual RT (multiple sexual partners within a short period of time) and substance abuse (smoking tobacco, alcohol binge drinking and using illicit drugs). The SH factor, composed by eighteen items, include diverse forms of self-mutilation (e.g., cutting, burning, biting), overdosing and attempting suicide. This factor also comprised items concerning self-demeaning behavior, disordered eating and self-harm and suicidal thoughts (Vrouva et al., 2010). This SH factor also includes a categorical item (item 22) assessing the presence or absence of deliberate self-harm and the part(s) of the body that were deliberately injured, if applicable. The CFA results confirm two-factor oblique model, assuming that RT and SH are different but linked constructs (Vrouva et al., 2010). This result is also demonstrated by the correlation between both dimensions (r = .44). Additionally, the factorial invariance across of gender and age groups was demonstrated (Vrouva et al., 2010).

In regard to reliability, both factors revealed high internal consistency with Cronbach's alpha of .85 for RT and .93 for SH. In addition, both components had a good three-month test-retest reliability (r = .90 and r = .87 for RT and SH, respectively), indicating a temporal stability over the time (Vrouva et al., 2010). Concerning convergent validity, the RTSHIA was found to be significantly associated with depressive affect, borderline features, several psychopathological symptoms and dissociative experiences. In particular, RT had positive and high correlation with substance abuse, unruly behavior, delinquent predisposition, impulsive propensity, and moderate correlation with depressive affect. There was a negative correlation between RT and anxious feelings. In turn, SH associated highly and positively with suicidal tendency, introversive, self-devaluation, childhood abuse and depressive affect, borderline features and dissociative experiences (Vrouva et al., 2010).

Recent research about injuries and risk-taking behaviors in adolescents' Portuguese population revealed that the high rates of injury-related events are linked to violence (e.g., fighting and carrying weapons) and substance use (alcohol and drugs) (Vital, Oliveira, Machado, & Matos, 2011). Two other studies, about self-harm in Portuguese adolescents, showed prevalence rates ranging between 15.6% in last 12 months (Reis, Matos, Ramiro, & Figueira, 2012) and 27.7% in a lifetime history (Gonçalves, Martins, Rosendo, Machado, & Silva, 2012). These studies used some injury-related items to assess separately these risk or destructive behaviors. Other study, conducted in a large sample of Portuguese adolescents from community, presented a self-report

questionnaire developed to assess self-harm and its functions, impulsivity behavior and suicide ideation, named The Impulse, Self-harm and Suicide Ideation Questionnaire for Adolescents (ISSIQ-A; Barreto et al., 2015).

Despite the high prevalence of risk-taking and self-harm behaviors in Portuguese adolescents (Cunha, Xavier, & Paiva, 2013; Ferreira, Matos, & Diniz, 2011; Gonçalves et al., 2012; Guerreiro et al., 2009; Reis et al., 2012; Vital et al., 2011; Xavier, Cunha, Pinto-Gouveia, & Paiva, 2013), the available assessment instruments to measure simultaneously RT and SH behaviors are still scarce.

Therefore, the main goal of this paper is to adapt and validate the Portuguese version of the Risk-taking and Self-harm Inventory for Adolescents (RTSHIA). Specifically, this study examines the factor structure of the RTSHIA using a Confirmatory Factor Analysis approach and explores the construct-related validity. In the convergent validity study, theoretically-related constructs were chosen, namely measures of general affective states, minor life events and interpersonal relations with peers. According to the state-of-the-art, it is hypothesized that risk-taking and self-harm is positively associated with negative affect, daily disruptions in life and negative peer relationships. Inversely, negative correlations between risk-taking and self-harm and positive affect are expected.

METHOD

Participants

The sample consists of 868 adolescents, which of 382 are boys (44%) and 486 are girls (56%), from 7th to 12th grade (years of education' $M = 9.89$, $SD = 1.47$). The mean age was 15.32 (SD = 1.66) years old, ranging from 12 to 19. There are sex differences concerning age, $t_{(866)} = -2.540$, $p = .011$, and years of education, $t_{(866)} = -3.275$, $p = .001$, indicating that girls are older and have more years of education than boys (M_{age} = 15.44, SD_{age} = 1.66 *vs*. M_{age} = 15.16, SD_{age} = 1.65; $M_{years.education}$ = 10.00, $SD_{years.education}$ =1.45 *vs*. $M_{years.education}$ = 9.68, $SD_{years.education}$ = 1.47).

For the test-retest purposes, a sample of 57 adolescents was used, including 29 boys (50.9%) and 28 girls (49.1%), with a mean age of 14.9 (SD = 0.91), and a mean of years of education of 8.53 (SD = 0.50).

Measures

The **Risk-taking and Self-harm Inventory for Adolescents** (**RTSHIA**; Vrouva et al., 2010) is a self-report questionnaire to assess risk-taking (RT) and self-harm (SH) behaviors in adolescents from community and clinical settings. This measure is initially composed by 34 items. The 12 RT-related items ranged from mild behaviors, such as smoking tobacco and taking chances while doing one's hobbies, to serious RT, such as participating in gang violence and putting oneself at risk of sexual abuse. The 22-SH related items include intentionally behaviors to hurt oneself, ordered in terms of severity. This SH items are about self-mutilation (e.g., cutting, burning, biting, scratching one's skin, etc.), disordered eating (e.g., starving oneself, eating too much and using laxatives), self-demeaning behavior (e.g., staying in a relationship with somebody who repeatedly hurt one's feelings and trying to make oneself suffer by thinking horrible things about oneself) and SH ideation with or without suicidal intent (e.g., thinking seriously about harming a part of one's body, trying to commit suicide). There is an item about SH leading to hospitalization or to an injury severe enough to require medical care. There is also one dichotomous question about the part(s) of the body that were deliberately injured, if applicable, followed by options (e.g., torso, belly, buttocks, hands, arms, fingers, nails). Except for this dichotomous item, all items are rated on a 4-point scale (0 = *never*; 1 = *once*; 2 = *more than once*; 3 = *many times*) referring to lifelong history. Higher scores on RT and SH subscales are indicative of higher involvement in RT and SH behaviors, respectively.

The **Positive and Negative Affect Schedule** (**PANAS**; Watson, Clark, & Tellegen, 1988; Portuguese version for Children and Adolescents by Carvalho, Baptista, & Gouveia, 2004) consists of 20-item scale that comprise two mood scales, one measuring positive affect (PA; 10-items) and other measuring negative affect (NA; 10-items). Respondents are asked to rate the extent to which they have experienced each particular emotion during the past week, using a 3-point scale (1 = *not at all*; 2 = *sometimes*; 3 = *many times*). The scores may range between 10 and 30 for each subscale and higher scores reflect greater positive affect and negative affect, respectively. In the original study, Watson and colleagues (1988) found high alpha reliabilities, ranging from .86 to .90 for PA and from .84 to .87 for NA. The Portuguese version (Carvalho et al., 2004) presented good internal consistency for both subscales, with Cronbach's alpha of .76 for PA and .83 for NA. In the present study, the Cronbach's alpha coefficients were .80 for PA and .86 for NA.

The **Daily Hassles Microsystem Scale** (**DHMS**; Seidman et al., 1995; Portuguese version by Paiva, 2009) assesses the perceived daily hassles within four microsystems, such as the family, peer, school, and neighborhood contexts. This scale comprises 25 items and five-factor structure: (i) school hassles (5 items), that assess perceived difficulties in academic area (e.g.,

"trying to make good grades"); (ii) family hassles (4 items), which represent parental or family conflict (e.g., "trouble with parents over how you spend your time after school and on weekends"); (iii) neighborhood hassles (5 items), which assess hassles in the neighborhood (e.g., "being scared by someone in your neighborhood"); (iv) peer hassles (5 items), which represent trouble with friends (e.g., "trouble with friends over beliefs, opinions and choices"); and (v) resources hassles (6 items), which represent hassles over lack of resources, primarily in the home (e.g., "not having your own room"). For each item, respondents answer *yes* or *no* to whether the event "hasn't happened this month", and if the hassles had occurred, how much of a hassles it was, on a 4-point scale (1= *not at all a hassles*; 4= *a very big hassles*). According to the original study, rating of "hasn't happened this month" and "not at all a hassle" were scored as 1 in calculating the hassles intensity scores, in order to avoid missing subjects. This scale allows the sum of scores for each hassles subscale and the total score of the hassles intensity (25 items), and high scores indicate greater levels of daily hassles within microsystems. The original study (Seidman et al., 1995) found internal consistency reliability ranging between adequate and low. The 25-item total daily hassles intensity scale had a good internal consistency (α = .89). In the present study we only used peer hassles subscale (α = .77) and total score (α = .80) because the others daily hassles subscales revealed inadequate internal consistency.

The **Peer Relations Questionnaire** (**PRQ**) for Children (Rigby & Slee, 1993; Portuguese version by Silva, 2010) assesses styles of interpersonal relations. This scale consists of 20 items, in which 6 items assess the tendency to bully others (e.g., "I like to make other kids scared of me"), 5 items measuring the tendency to be victimized by others (e.g., "I get picked on by other kids"), 4 items measuring the tendency to act in a prosocial or cooperative way (e.g., "I share things with others") and the remaining items as filler. Responses for each item were answered according to a 4-point scale (1= *never*; 4= *very often*). High scores indicate greater frequencies on each behavioral tendency. Rigby and Slee (1993) found good internal consistency reliability for the three factors ranging between .75 and .78 for Bully subscale; .86 and .78 for Victim subscale; .71 and .74 for Prosocial subscale. In the present study the Cronbach's alpha were adequate, with α = .70 for Bully subscale, α = .74 for Victim subscale, and α = .67 for Prosocial subscale. In this study only Bully and Victim subscales were considered.

Procedures

According to recommendations of the International Test Commission (ITC, 2005), the scale went through a rigorous translation and back-translation process in order to guarantee the comparability of content of the RTSHIA Portuguese version and the original one. Firstly, a psychologist with strong English language skills, spoken and written, translated the items into

Portuguese. Lexical and conceptual aspects were analyzed in order to maintain each item content. Then, an English translator verified the content of the final version of the RTSHIA through a back-translation process, repeated until the meaning of each item corresponded to the original item of the RTSHIA.

Previous to the administration of the questionnaires, ethical approvals were obtained by the Ministry of Education and the National Commission for Data Protection from Portugal. Then, the Head Teacher of the school and parents were informed about the goals of the research and gave their consent. Adolescents were informed about the purpose of the study and aspects of confidentiality. They voluntarily participated by filled out the instruments in the classroom. The teacher and researcher were present to provide clarification if necessary and to ensure confidential and independent responding.

RESULTS

Preliminary data analysis

Data were tested for univariate and multivariate normality (skewness (Sk) > |3| and kurtosis (Ku) > |10|; Kline, 2005), and several items showed excessive and positive values of asymmetry and univariate and multivariate kurtosis, indicating that the data were multivariate non-normal. To address this issue, the weighted least squares means and variance adjusted (WLSMV) estimation was chosen (Flora & Curran, 2004). This asymmetric distribution of the data may be due to the behavioral nature of the construct assessed in this questionnaire. Indeed, some items were developed to measure high-risk behaviors (i.e., risk-taking and self-harm) and in a non-clinical sample is expected that there are a huge amount of respondents who never had these behaviors in their long lifetime. Additionally, in the analyses, it seems important to comprise respondents who never had done these risk behaviors in order to compare these individuals with those who engage in more than one risk-taking and/or self-harm behaviors. To inspect for possible outliers Mahalanobis Distance squared (D^2) were used and results suggest the presence of some high values, but we decide by the maintenance of them in order to preserve the factor's variability (Kline, 2005).

Data Analysis

Statistical analyses were carried out using PASW Software (Predictive Analytics Software, version 18, SPSS, Chicago, IL, USA) for PCs and Mplus, version 6.11 (Muthén & Muthén, 1998-2012).

Descriptive statistics were computed to explore frequencies for RT and SH, and demographic variables. Sex differences were tested using independent samples t tests. Additionally, age groups and academic grade differences were tested using one-way independent ANOVA. The post hoc Games-Howell procedure was chosen because it is the most powerful comparatively with others post hoc tests and is also accurate when population variances are different or when data are not normally distributed (Field, 2013). The internal reliability was analyzed through Cronbach's alpha coefficient and corrected item-total correlations, which values were considered adequate higher than .3 (Field, 2013). Pearson correlation coefficients were performed to explore the relationships between RTSHIA and positive and negative affect (PANAS), daily hassles microsystems (DHMS) and peer relationships (PRQ) (Tabachnick & Fidell, 2007).

A Confirmatory Factorial Analysis (CFA) was performed using Mplus (Muthén & Muthén, 1998-2012) to confirm the two-factor structure of the RTSHIA (Vrouva et al., 2010) in a Portuguese adolescents' sample. This technique of CFA from Structural Equation Modelling (SEM) family is used to study the relationships between a set of observed variables and a set of continuous latent variables (Muthén & Muthén, 1998-2012), according with a given theoretical model (Maroco, 2010). We chose this methodology because prior research indicates two factor oblique model for the RTSHIA, assuming that risk-taking (RT) and self-harming (SH) behaviors are different but linked constructs (Vrouva et al., 2010). A robust weighted least square (WLSMV) parameter estimation was chosen over other estimation methods (Brown, 2006; Flora & Curran, 2004). This WLSMV estimator has been recommended for multivariate nonnormal data and for categorical and ordinal variables (Brown, 2006; Muthén, 1984; Muthén, du Toit, & Spisic, 1997), based on simulation studies (Hsu, 2009). As stated before, the non-normal distribution of our data may be explained by the behavioral nature of the constructs assessed in this questionnaire.

In the evaluation of the model, we used the Chi-square test (χ^2), which assess the discrepancy between the proposed theoretical model and the data; and smaller values indicate better model-fit (Kline, 2005). However, since this index is very sensitive to sample size and to the violation of the multivariate normality assumption (Schermelleh-Engel, Moosbrugger & Muller, 2003) we used simultaneously other global fit indices. The following statistics and recommended cut-points were used to evaluate overall model fit: Comparative Fit Index (CFI $\geq$ .95, very good; Hu & Bentler, 1999),Tucker-Lewis Index (TLI $\geq$ .95, very good; Hu & Bentler, 1999), Root Mean Square Error of Approximation (RMSEA $\leq$ .05, very good fit; $\leq$.08, acceptable fit; $\geq$ .10, poor fit; Hu & Bentler, 1999) and Weighted Root-mean-square Residual (WRMR $\leq$ 1; Yu, 2002).

We conducted model respecification, i.e., modifications to the original hypothesized model to have a better fitting or more parsimonious model. Modification involved checking factor loadings to ensure their significance and examining Mplus derived modification statistics. The improvement of model fit was based on Modification Index (MI; values equal to or greater than 10; $p < .001$; Sörbom, 1989).

In regard to local adjustment, we analyzed the individual parameters in the model: items' standardized loadings (λ) and individual reliability (R^2) to ensure the appropriateness of the estimates and their statistical significance (Kline, 2005). Usually, it is expected that all items of the factor present values of $\lambda \geq .50$, indicating the factorial validity of the model, and $R^2 \geq .25$ suggesting item's individual reliability (Kline, 2005).

Study I: Confirmatory Factor Analysis

Prior to performing the CFA and similar to the original study (Vrouva et al., 2010) two items (21 and 26) were discarded. In the Portuguese adolescents' sample, more than 98% of respondents answered never to those items and this result in excessive positive Skewness (10.21 and 11.54, respectively) and Kurtosis (113.50 and 141.22, respectively). Although also asymmetric, the remaining items were answered positively (once, more than once, or many times) by at least 5% of the sample.

A CFA was conducted to test the latent two-factor oblique structure of the Portuguese version of RTSHIA. This scale comprised two latent variables (Risk-taking and Self-harm) and 31 observed variables (31-items). The results of CFA show a significant value of the chi-square test, WLSMV $\chi^2_{(433)} = 1005.211$, $p < .001$, and a good global model-fit: CFI = .957, TLI = .954, RMSEA = .039, p (rmsea $\leq .05$) = 1.000, 90% CI = [0.036, 0.042], WRMR = 1.473. However, regarding local adjustment, the standardized loadings ($\lambda \geq .50$) are of low to strong magnitude. The following items have the smallest standardized estimates: item 4 ($\lambda = .395$) and item 1 ($\lambda = .469$), which correspond to the Risk-taking Factor (F1); and item 23 ($\lambda = .378$), which correspond to the Self-harm Factor (F2). The remaining estimates for the standardized factor loadings range from .584 (item 3 from F1) to .944 (item 20 from F2). Additionally, those items present the lowest *R*-square coefficients (i.e., the amount of variance accounted for by the respective factor): item 4 ($R^2 = .156$), item 1 ($R^2 = .220$) and item 23 ($R^2 = .143$). Given that these items individually are particularly weak for explaining each latent factor and may indicate very high levels of error (Hooper, Coughlan, & Mullen, 2008), we have chosen to remove them from the model. The remaining variables have R^2 values that range from .341 (item 3 from F1) to .891 (item 20 from F2).

We further examine the modification indices that indicate the need for possible respecification of the model: the highest value suggests add a path from item 24 to the F1 latent variable and to the F2 latent variable, indicating that the item 24 loading in both factors (also termed as cross-loading) and consequently may not contributing for a clear definition of the RTSHIA's factors; for this reason, the item 24 was removed.

The respecified model (without items 4, 1, 23 and 24) showed a very good factorial validity and better fit to data. Although the Chi-square test showed a value of WLSMV χ^2 (323) = 719.424, $p < .001$, the overall fit indexes indicated a very good fit to the data: CFI = .967, TLI = .966, RMSEA = .038, p (rmsea $\leq$ .05) = 1.000, 90% CI [0.034, 0.041], WRMR = 1.365. The correlation between RT and SH subscales was r = .43.

All items presented standardized loadings greater than .50, ranging between λ = .562 (item 6) and λ = .946 (item 20) and all the path values were statistically significant ($p < .001$), indicating a good factorial validity. In addition, all items showed R^2 clearly above the cut point of .25, ranging between R^2 = .316 (item 6) and R^2 = .895 (item 20). The Standardized Factor Loadings and Squared Multiple Correlations (R^2) for all items of the respecified model of RTSHIA are presented at Table 1. Overall, the modified model demonstrated a very good global and local adjustment for the Portuguese version of the RTSHIA. Thus, we considered this a plausible model for explaining the factorial structure of the Portuguese version of the RTSHIA.

Study II: Reliability of the Portuguese version of the RTSHIA

Concerning item reliability, the 10-items that composed the RT dimension showed item-total correlations ranging between .311 (item 9) and .653 (item 10). The 17-items from SH dimension showed item-total correlations raging between moderate to high. Although item 27 showed the lowest item-total correlation (.279), it was kept because if removed the overall reliability did not improve (cf. Table 2). The corrected item-total correlations demonstrated adequate values that confirm the adequacy of these items to the overall measure and its internal consistency. This Portuguese version of RTSHIA presented a good internal consistency for both dimensions, with Cronbach's alpha coefficients of .79 for RT (10 items) and .89 for SH (17 items) (cf. Table 2).

Test-retest reliability

In the test-retest reliability (Pearson r), 57 adolescents completed a retest of the RTSHIA after a 3-week interval. The RTSHIA showed good test-retest reliability with correlation coefficients of r = .90 ($p < .001$) for both subscales.

Table 1

Standardized Factor Loadings and Squared Multiple Correlations (R^2) for the items considered in the final model of the Portuguese version of RTSHIA

RTSHIA Item	Standardized Factor Loadings	R^2
F1 – Risk-taking		
2	.608	.370
3	.582	.339
5	.766	.587
6	.562	.316
7	.625	.391
8	.706	.499
9	.733	.537
10	.824	.678
11	.906	.820
12	.856	.733
F2 – Self-harm		
13	.884	.781
14	.749	.561
15	.746	.557
16	.716	.512
17	.785	.616
18	.853	.727
19	.884	.781
20	.946	.895
25	.643	.413
27	.644	.415
28	.593	.352
29	.815	.664
30	.615	.379
31	.835	.697
32	.768	.589
33	.784	.615
34	.699	.488

Table 2

Means, standard deviations, item-total correlations, Cronbach's alphas for two factors and Cronbach's alpha if item deleted (N= 868)

Item	*M*	*SD*	*r* item-total	Cronbach's Alpha
Risk-taking (10 items)	3.87	4.32		.79
2	0.53	0.90	.403	.78
3	1.08	1.00	.431	.78
5	0.21	0.59	.539	.76
6	0.12	0.44	.346	.78
7	0.10	0.41	.341	.78
8	0.16	0.55	.443	.77
9	0.06	0.30	.311	.79
10	0.45	0.83	.653	.74
11	0.29	0.75	.648	.75
12	0.88	1.12	.622	.75
Self-harm (17 items)	3.45	5.79		.89
13	0.24	0.63	.681	.88
14	0.09	0.39	.467	.89
15	0.21	0.56	.581	.89
16	0.16	0.51	.511	.89
17	0.26	0.67	.595	.89
18	0.23	0.60	.688	.88
19	0.10	0.40	.596	.89
20	0.26	0.65	.809	.88
25	0.16	0.52	.462	.89
27	0.04	0.27	.279	.89
28	0.40	0.69	.434	.89
29	0.46	0.83	.691	.88
30	0.06	0.31	.304	.89
31	0.33	0.74	.694	.88
32	0.35	0.74	.592	.89
33	0.06	0.31	.468	.89
34	0.04	0.23	.384	.89

Study III: Construct Validity

Descriptive Data Concerning Sex, Age and Grade in School

Total scores of the RTSHIA subscales were computed by summing up the responses to the 10 items of the RT dimension and 17 items of the SH dimension, yielding a possible score range of 0-30 for RT and 0-51 for SH. The RT total score has values of skewness of 1.59 and kurtosis of 2.65. The SH total score presented values of skewness of 2.48 and kurtosis of 6.50. These values do not violate the assumption of normality, as recommended by Kline (2005) (skewness (Sk) > |3| and kurtosis (Ku) > |10|).

Means, standard deviations, t-test Student for sex differences and ANOVA's *F* for age and grade differences are shown in Table 3. Concerning sex, there were significant differences between boys and girls for RT, $t_{(775.507)} = 3.85$, $p < .001$, and for SH, $t_{(865.626)} = -3.82$, $p < .001$. Results showed that boys have more risk-taking behaviors than girls. In turn, girls report more self-harm behaviors comparatively with boys.

Table 3

Means (M) and standard deviations(SD) for the RTSHIA by sex, age and grade (N=868)

			RT			SH		
		N	***M***	***SD***	***t/F***	***M***	***SD***	***t/F***
Sex	Boys	382	4.51	4.53	3.85***	2.63	5.02	-3.82***
	Girls	486	3.36	4.09		4.09	6.26	
Age	12-14	312	2.47	3.25	34.45***;	3.63	5.68	3.02; 2.62
	15-16	322	4.11	4.09		3.79	6.45	
	17-18	234	5.39	5.22	31.49***	2.74	4.86	
Grade	7-8	191	2.14	3.13	38.51***;	3.57	5.33	0.39; 0.41
	9-10	370	3.60	4.01		3.59	6.02	
	11-12	307	5.26	4.85	37.37***	3.21	5.80	
Total		868	3.87	4.32		3.45	5.79	

Note. ***p<.001. RTSHIA = Risk-taking and Self-harm Inventory for Adolescents; RT = Risk-taking subscale; SH = Self-harm subscale.

A one-way ANOVA was used to examine the differences between age groups for RT and SH behaviors. Since the assumption of homogeneity of variance was compromised for this data (Levene's F test: $p < .001$ and $p = .003$ for RT and SH subscales, respectively), the Welch's F and Brown-Forsythe's *F* were used, indicating that at least two or the three age groups differ

significantly on their means scores of RT subscale, Welch's $F_{(2, 509.33)} = 34.45$, $p < .001$; Brown-Forsythe's $F_{(2, 630.55)} = 31.49$, $p < .001$. No significant differences were found for SH subscale, Welch's $F_{(2, 569.25)} = 3.02$, $p = .05$ and Brown-Forsythe's $F_{(2, 858.49)} = 2.62$, $p = .073$. Results of the *post hoc* comparisons, using the Games-Howell *post hoc* procedure, showed that younger adolescents (12-14 years old) had significantly lower levels of risk-taking behaviors than the older groups (15-16 and 17-19 years old). Results also indicated that the adolescents with 15-16 years old report less risky behaviors than the older group (17-19 years old).

Concerning years of education, there were differences between grade groups in RT behaviors, Welch's $F_{(2, 526.99)} = 38.506$, $p < .001$ and Brown-Forsythe's $F_{(2, 794.62)} = 37.37$, $p < .001$). No differences were found for SH behaviors. Results of the Games-Howell *post hoc* procedure comparison showed that adolescents from 7-8 grades reported less engagement in risk-taking than adolescents from 9-10 grades and from 11-12 grades. Additionally, adolescents who frequent 9-10 grades manifest less risky behaviors than adolescents who frequent 11-12 grades.

Convergent Validity

To evaluate the convergent-related validity of the RTSHIA, Pearson product moment correlation coefficients were calculated between the RTSHIA subscales and positive and negative affect (measured by PANAS), daily hassles microsystems (measured by DHMS) and peer relationships (measured by PRQ). Results indicated that the RT subscale have only a significant and moderate correlation with the tendency to bully others ($r = .35$, $p < .001$; $N = 794$). In terms of affect subscales, SH subscale presented a moderate and positive correlation with negative affect ($r = .36$, $p < .001$; $N = 867$) and a low and negative correlation with positive affect ($r = -.19$, $p < .001$; $N = 867$). Regarding its relationship with daily hassles microsystems, SH was positively and moderately correlated with daily hassles intensity ($r = .42$, $p < .001$; $N = 458$) and SH had a positive and moderate association with daily peers hassles ($r = .34$, $p < .001$; $N = 458$). In addition, SH had a significant and moderate correlation with the tendency to be victimized by others ($r = .28$, $p < .001$; $N = 794$).

DISCUSSION

Literature consistently shows that adolescence is often a developmental period of heightened vulnerability for engagement in risk-taking behaviors and for the first appearance of self-harm behaviors (Klonsky et al., 2011; Steinberg, 2007, 2008, 2010a, 2010b; Vrouva et al., 2010). Thus, reliable and validated instruments for this age group can be highly useful tools for identifying, assessing and preventing such behaviors (Klonsky et al., 2011). Therefore, the main goal of this study is to adapt and validate the Portuguese version of the Risk-taking and Self-harm

Inventory for Adolescents. We analyzed the psychometric properties of the RTSHIA and confirmed its two-factor structure using a sample of Portuguese adolescents with ages between 12 and 19 years old, from 7th to 12th grade in middle and secondary schools.

Results from CFA support the two-factor model of the RTSHIA, similar to the original study (Vrouva et al., 2010). Prior to performing CFA and similar to the original study (Vrouva et al., 2010) items 21 and 26 were discarded due to its excessive and positive asymmetric distribution. In CFA, using a WLSMV estimator, a respecified model was found by removed items 1 ("taking chances while doing ones hobbies"), 4 ("being suspended or dropped out of school") and 23 ("Pulling one's hair out") because its smallest local adjustment; and item 24 ("deliberately inhaling something harmful, excluding cigarette smoke or drugs") because it loaded positively in both factors, which may not contributing for a clear definition of the RTSHIA's factor. These results are similar to Vrouva and colleagues' study (2010), except for items 4 and 23, which are removed in our Portuguese sample. These results may be due to the fact that in Portugal the education is compulsory up to age 18 and the suspension is usually an exceptional decision. In addition, it seems that Portuguese adolescents do not perceive the behavior of pulling their hair out as a punitive and deliberately harmful behavior. Thus, results from CFA support that the Portuguese version of the RTSHIA includes two-factors: the RT factor, which consists of ten items and the SH factor, which comprises seventeen items. Overall, the respecified model evidenced a very good fit to the data, with good global and local adjustments for the Portuguese version on the RTSHIA.

Regarding reliability of the Portuguese version of the RTSHIA both subscales revealed good internal consistency and a high test-retest reliability for a 3-week period. These findings are similar to those found for the RTSHIA's original study (Vrouva et al., 2010).

In study III we analyzed the construct validity of RTSHIA and descriptive data for sex, age and grade. Significant differences in mean scores of RT and SH dimensions were found for sex, with boys engaging in more risk-taking behaviors, whereas girls endorsing more self-harm. These findings are in line with empirical data showing that the heightened vulnerability to risk-taking may be greater for males adolescents than for females adolescents (Shulman, Harden, Chein, & Steinberg, 2014) and that self-harm is more common in female adolescents than in male adolescents (Giletta et al., 2012; Hawton et al., 2012; Klonsky et al., 2011; Laye-Gindhu & Shonert-Reichl, 2005; Madge et al., 2011; Ross & Heath, 2002).

Moreover, the present study also showed significant differences in mean score of RT for age and years of education. Results indicate that younger adolescents (12-14 years old) had significantly lower levels of risk-taking behaviors than older adolescents (15-16 and 17-19 years old). Results also indicated that the adolescents with 15-16 years old report less risky behaviors

than the older group (17-19 years old). The same pattern was found for school grade. Empirical evidence demonstrates that risk-taking is higher during adolescence than during preadolescence or adulthood (Steinberg, 2008, 2010a). According to social neuroscience perspective, "risk-taking increases between childhood and adolescence as a result of changes around the time of puberty" (Steinberg, 2008, p.83), due to the alterations in "the socio-emotional brain system", which may lead to increased reward-seeking (Steinberg, 2008, 2010a). This occurs mainly in middle adolescence (roughly 14-17) because this period is characterized by high sensation-seeking and low impulse control, elevate peer pressure and immature self-regulation abilities (this last one happens gradually and is not complete until the mid-20s) (Steinberg, 2007, 2008, 2010a, 2010b).

The convergent validity analyses indicate significant associations between RTSHIA subscales and positive and negative affect, daily hassles microsystems and peer relationships, in the expected direction. There is a significant and positive correlation between risky behaviors and the tendency to bully others. No significant correlations were found between RT and the other measures. For SH subscale, results from correlation analysis suggest that adolescents who report more self-harm behaviors tend to experience more levels of negative affect and lower levels of positive affect. Adolescents who endorse more self-harm tend to have intensity levels of daily hassles and more daily peer hassles. In addition, young people who report more self-harm behaviors tend to be victimized by others. These data are consistent with empirical literature reporting a significant link between risky behavior and deliberate self-harm and social, emotional and psychological impairments (Cerutti et al., 2011; Klonsky et al., 2011; Laye-Gindhu & Shonert-Reichl, 2005; Madge et al., 2011; Muehlenkamp & Gutierrez, 2007; Ross & Heath, 2002; Steinberg, 2007, 2008; Vrouva et al., 2010).

Some limitations should be noted when interpreting our findings. Whilst the whole sample was of adequate size, there are significant sex differences in age and years of education, suggesting that the girls' sample size may have larger weight in the analysis. Since our sample drew from non-clinical population the generalizability of the results to clinical samples of adolescents may be limited. Thus, future research on RTSHIA should include both non-clinical and clinical samples and other statistical methodologies. Indeed, the use of a clinical sample and statistical procedures, such as Receiver Operating Characteristic (ROC) curve (Krzanowski & Hand, 2009), would enable us to determine cut-off points according to which the diagnostic utility of RTSHIA would be contemplated. As a result, the RTSHIA could be used as a screening instrument to identify adolescents at risk of developing self-harm and risk-taking clinical conditions.

Although the presence of risk-taking and deliberate self-harm behaviors is a transversal and critical health problem across cultural contexts, the different cultural-specific views of what

constitutes risky behaviors and deliberate self-harm may vary. Both social norms that regulate behaviors and the manifestation of risk-taking and deliberate self-harm (e.g., methods, motivations or functions, diagnostic correlates) may vary across different cultural contexts. Thus, cross-cultural and cross-national studies clearly are needed to corroborate this hypothesis. For this purpose, the use and validation of the same assessment tools in different countries and languages can facilitate cultural comparison studies.

Despite the aforementioned limitations, the present results suggest that the RTSHIA, in its Portuguese version, is a valid and reliable instrument to assess simultaneously risk-taking and self-harm behaviors among adolescents. This validation study of the RTSHIA for a one of the most widely spoken language in the world will allows for multi-cultural assessment and further comparisons of the targeted behaviors. Since this study shows the adequacy of the factorial structure of RTSHIA in Portuguese adolescents, the same framework of assessing the risk-taking and self-harm may also be analyzed in other countries and languages other than English speakers. Thus, the use and validation of standard assessment tools will allow the examination of these behaviors as a global phenomenon and their culturally-specific variations.

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ESTUDO EMPÍRICO IV

DELIBERATE SELF-HARM IN ADOLESCENCE: THE IMPACT OF CHILDHOOD EXPERIENCES, NEGATIVE AFFECT AND FEARS OF COMPASSION

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Ana Xavier, Marina Cunha, & José Pinto Gouveia

ABSTRACT

Adolescence is a developmental period of significantly risk for self-harm (SH). This paper aims to analyse the associations between experiences of threat and submissiveness in childhood, positive and negative affect, fears of compassion and SH behaviours. Furthermore, it aims to explore the relative contribution of early experiences of threat and submissiveness, negative affect and fears of compassion to the prediction of SH severity. Participants were 831 adolescents, aged between 13-18 years old, from schools in central region of Portugal. Results show that personal feelings of threat and submissiveness, negative affect, fear of compassion for self and gender significantly predict SH. These results suggest that adolescents with deliberate SH have not only difficulties in dealing with negative emotions, but also fear of compassion towards the self. These findings emphasize the potential value of incorporating self-compassion approaches and addressing the fears of compassion in the treatment of SH in adolescents.

Keywords: Adolescence; Childhood experiences; Fears of Compassion; Negative Affect; Self-harm.

INTRODUCTION

Adolescence is a developmental period of significantly risk for non-suicidal self-injury (NSSI) (Hawton, Saunders, & O'Connor, 2012; Klonsky, Muehlenkamp, Lewis, & Walsh, 2011). NSSI refers to an intentional self-inflicted damage of body tissue without suicidal intent and excluding socially accepted behaviours (American Psychiatric Association, 2013; Klonsky et al., 2011). In literature there are other alternative terms, such as deliberate self-harm, self-injury, self-mutilation. In this paper, we use henceforth the term self-harm (SH) in its broader meaning to indicate "culturally unacceptable behaviour that involves direct and deliberate infliction of physical harm to one's body, regardless of the presence of suicidal intent and in the absence of a pervasive developmental disorder" (Vrouva, Fonagy, Fearon, & Roussow, 2010, p.852).

Self-harm is more common in adolescents and young adults than in adults, as evidenced by prevalence rates of approximately 14%-39% in adolescent community samples (Cerrutti, Manca, Presaghi, & Gratz, 2011; Giletta, Scholte, Engels, Ciairano, & Prinstein, 2012; Glassman, Weierich, Hooley, Deliberto, & Nock, 2007; Laye-Gindhu & Schonert-Reichl, 2005). There is evidence that deliberate self-harm typically begins between the ages of 12 and 16 years old (Klonsky et al., 2011) and the more common methods of self-harm across several studies are skin cutting and self-hitting (Cerutti et al., 2011; Madge et al., 2011). Concerning gender differences, research indicate that SH is more common in female adolescents than in male adolescents (Giletta et al., 2012; Hawton et al., 2012; Klonsky et al., 2011; Laye-Gindhu & Shonert-Reichl, 2005; Madge et al., 2011). However, other studies have found similar rates for both genders with significant differences in methods of self-injury (Cerutti et al., 2011; Hawton et al., 2012). Females appear more likely to cut their skin, whereas males appear more likely to burn or hit themselves and females tend to engage in more frequent SH (Klonsky et al., 2011; Laye-Gindhu & Shonert-Reichl, 2005).

Self-harm in adolescents is the result of complex relationships between genetic, biological, psychological, social and cultural factors (Hawton et al., 2012). For instance, research has documented strong associations between SH and several negative mental health outcomes, including depression, anxiety, interpersonal or family conflict, isolation or loneliness, impulsivity, psychiatric illness (e.g., borderline personality disorder), suicidal behaviour, self-derogation or self-criticism, externalizing disorders, substance abuse (Glassman et al., 2007; Klonsky et al., 2011; Madge et al., 2011). Furthermore, some risk factors for SH have been identified in environmental context, such as childhood abuse (e.g., sexual, physical and emotional abuse or neglect) and bullying experiences (e.g., peer victimization) (Hawton et al., 2012; Kaes et al., 2013; Kokoulina & Fernández, 2014; McMahon, Reulbach, Keeley, Perry, & Arensman,

2012) and in individual characteristics, such as emotion dysregulation and negative emotionality (i.e., affect intensity/reactivity) (Hawton et al., 2012; Klonsky et al., 2011).

Regarding early experiences with caregivers, studies consistently show that negative experiences (e.g., parental unresponsiveness, neglect, criticism, shaming, abuse) are associated with various stress responses and psychopathology (Ferreira, Granero, Noorian, Romero, & Domènech-Llaberia, 2012; Schore, 2001). According to social rank theory (Gilbert, 2000), in face of these stressed, fearful and threatened environments, a child may adopt various submissive and low rank defensive behaviours (e.g., by submitting, avoiding, backing down if challenged, appeasing others, passive inhibition). Over the time and repeated aversive experiences, a child tends to be overly attentive to threats (rather than be able to rely on parents for safety, emotional regulation and secure attachment) and consequently may be more vulnerable to depression, social anxiety, paranoia and shame (Gilbert, 2000; Gilbert, Cheung, Grandfield, Campey, & Irons, 2003; Gilbert & Irons, 2009; Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006; Pinto-Gouveia, Matos, Castilho, & Xavier, 2012). In contrast, warm, nurturing and safe environments are associated with greater psychological adjustment indicators and lower risk of vulnerability to psychopathology (Cunha, Martinho, Xavier, & Espírito-Santo, 2013; Ritcher, Gilbert, & MacEwan, 2009). The experience of safeness and soothing are not just linked to the absence of threat but also to the presence of specific affiliative signals and experiences (e.g., being loved, accepted, valued and chosen by others) (Ritcher et al., 2009) that provide the deactivation of threat systems, offer essential resources for coping with adversity and promote feelings of safeness, regulating physiological and affective systems that may lead to health and well-being (Baldwin & Dandeneau, 2005; Gilbert, 2010; Zolkoski, & Bullock, 2012). Hence, memories of parents as rejecting or threatening are associated with the activation of threat systems, whereas memories of parents as warm, emotional responsive and nurturing are associated with abilities to self-reassure and self-compassion (Gilbert, 2010; Gilbert, Baldwin, Baccus, & Palmer, 2006; Gilbert & Irons, 2009; Gilbert & Procter, 2006).

There is increasing evidence that developing compassion, especially to deal with stressful difficulties and setbacks or failures, promotes psychological adjustment, social connectedness and well-being in adults and adolescents population (Barnard, & Curry, 2011; Gilbert & Procter, 2009; Neff & McGehee, 2010). However, for some people, positive emotions and compassionate feelings may give rise to avoidance or even fear reactions (Gilbert, 2010; Gilbert McEwan, Matos, & Rivis, 2010). In particular, individuals with high shame and self-criticism, from harsh backgrounds, tend to express fears, blocks and resistance to being kind to themselves, feeling self-warmth or being self-compassionate (Gilbert, 2010; Gilbert et al., 2010; Gilbert & Procter, 2006). According to Gilbert and colleagues (2010), the fears of compassion have three directions or dimensions: (i) Fear of compassion for others, which involves the compassion that we feel and

express for others, related to our sensitivity to other people's thoughts and feelings; (ii) Fear of compassion from others, which includes the compassion that we receive and experience from others and respond to them; and (iii) Fear of compassion of self, which involves the compassionate feelings that we have for ourselves, particularly in times of suffering.

Recent studies suggest that these fears of compassion are linked to self-criticism, depression, anxiety and stress symptoms, alexithymia and difficulties with mindfulness abilities, feeling safe and being self-reassuring (Gilbert et al., 2010; Gilbert, McEwan, Gibbons, Chotai, Duarte, & Matos, 2011). Moreover, these fears may difficult the development of compassionate experiences or behaviours and social safeness system that underpins compassion (Gilbert, 2010). Given the benefits of interventions focused on compassion (e.g., Compassion-Focused Therapy – CFT; Gilbert, 2010) in a variety of mental health difficulties (e.g., shame, self-criticism, rumination, avoidance, negative affect, anxiety, depression; Barnard & Curry, 2011), the resistance to compassion should be addressed within the therapeutic context in order to promote internal affect regulation, affiliative connections and emotions (Gilbert, 2010). Moreover, the development of these compassionate abilities seems to be promising for adolescents (Gilbert & Irons, 2009; Neff & McGehee, 2010) and for particular psychological difficulties (e.g., non-suicidal self-injury; Vliet, & Kalnins, 2011) in that age group.

Even though there is strong empirical support for the role of adverse childhood experiences in the vulnerability for development of psychopathology, in general (Ferreira et al., 2012; Gilbert et al., 2003; Irons et al., 2006; Kokoulina & Fernández, 2014; Schore, 2001), and of deliberate self-harm, in particular (Kaes et al., 2013; Madge et al., 2011), the way how individuals recall these early experiences (rather than parent behaviours) have been less explored. Moreover, as far as we know the impact of early experiences and fears of compassionate feelings or behaviours on the severity of self-harm behaviours among young people has never been investigated.

Therefore, this study aims to analyse the relationships between early experiences of threat and submissiveness in childhood, positive and negative affect, fears of compassion and SH behaviours. Furthermore, it aims to explore the relative contribution of the early experiences of threat and submissiveness, negative affect and fear of compassion for self to the prediction of the severity SH behaviours in adolescents. Taken together the aforementioned theoretical and empirical accounts, we hypothesize that adolescents who recall threatening and fearful experiences would score higher in negative affect, fear of compassionate feelings and SH. We further expect that the resistance or fear to direct kindness and compassion towards the self will predict increased levels of SH. We also expect that negative affect will be linked to SH.

METHOD

Participants

The sample consists of 831 adolescents, 360 boys (43.3%) and 471 girls (56.7%), with a mean age of 15.31 (*SD* = 1.55), ranging between 13 and 18 years old. These adolescents attended the 7th to 12th grade (years of education *M* = 9.88, *SD* = 1.41) at schools from Coimbra, Portugal. Gender differences were found concerning age, $t_{(829)}$ = -2.591, p = .010 and years of education, $t_{(829)}$ = -3.258 , p = .001, indicating that girls are older and have more years of education than boys (female mean age = 15.44, *SD*= 1.57 *vs*. male mean age = 15.16, *SD* =1.51; female mean years of education = 10.02, *SD* = 1.41 *vs*. male mean years of education = 9.70, *SD* = 1.39). However, no correlations were found between age or years of education and the variables in study.

Measures

The **Early Life Experiences Scale** (**ELES**; Gilbert, Cheung, Grandfield, Campey, & Irons, 2003; Portuguese version for adolescents by Pinto-Gouveia, Xavier, & Cunha, 2015) consists of 15 items focusing on recall of perceived threat and subordination in childhood. This scale comprises three subscales: (i) Threat, which taps feelings of threat (6 items; e.g., "The atmosphere at home could suddenly become threatening for no obvious reason"); (ii) Submissiveness, which address feeling subordinate and acting in a submissive way (6 items; e.g., "I often had to give in to others at home"); and (iii) (Un)valued, which comprise positive items that assess the perception of being valued, feeling equal and relaxed in the family (3 items – reversed; e.g., "I felt very comfortable and relaxed around my parents."). Respondents were asked to answer how frequently and how true each statement was for them in their childhood and each item is rated on a 5-point scale (1–5). The scale can be used as a single construct or as three separate subscales. In the original study, Gilbert and colleagues (2003) found a good Cronbach's alpha for total score (α = .92) and an adequate Cronbach alpha for the three subscales: .89 for threat, .85 for submissiveness and .71 for (un)valued. The Portuguese version for adolescents (Pinto-Gouveia et al., 2015) revealed also adequate internal consistency for the total score (α = 86) and for each subscale, with Cronbach's alphas of .77 for threat subscale, .74 for submissiveness subscale and .68 for (un)valued subscale. In the present study we only used the ELES total score, which presented a good internal consistency (α = .87).

The **Fears of Compassion Scales** (**FCS**; Gilbert, McEwan, Matos, & Rivis, 2010; Portuguese version for adolescents by Duarte, Pinto-Gouveia, & Cunha, 2014) consists of three scales, measuring fear of compassion for others, from others and for self. The *Fear of compassion for Others* comprised 10 items that assess the compassion we feel for others, linked to our

sensitivity to other people's thought and feelings (e.g., "Being too compassionate makes people soft and easy to take advantage of."). The *Fear of compassion from Others* consists of 13 items that measure the compassion that we experience from others and flowing into the self (e.g., "I try to keep my distance from others even if I know they are kind."). The *Fear of compassion for Self* comprises 15 items that taps the compassion we have for ourselves when we make mistakes or things go wrong in our lives (e.g., "I worry that of I start to develop compassion for myself I will become dependent on it."). The items were rated on a 5-point scale (0-4). In the original study (Gilbert et al., 2010), the Cronbach's alphas for these scales were .78 for FC for others, .87 for FC from others, and .85 for FC for self. In the present study the Cronbach's alphas were .81 for FC for others, .86 for FC from others, and .92 for FC for self.

The **Positive and Negative Affect Schedule** (**PANAS**; Watson, Clark, & Tellegen, 1988; Portuguese version for Children and Adolescents by Carvalho, Baptista, & Gouveia, 2004) consists of 20-item scale that comprise two mood scales, one measuring positive affect (PA; 10-items) and other measuring negative affect (NA; 10-items). Respondents are asked to rate the extent to which they have experienced each particular emotion during the past week, using a 3-point scale (1 = *not at all*; 2 = *sometimes*; 3 = *many times*). The scores may range between 10 and 30 for each subscale and higher scores reflect greater positive affect and negative affect, respectively. In the original study, Watson and colleagues (1988) found high alpha reliabilities, ranging from .86 to .90 for PA and from .84 to .87 for NA. The Portuguese version (Carvalho et al., 2004) presented good internal consistency for both subscales, with Cronbach's alpha of .76 for PA and .83 for NA. In the present study, we obtained good internal consistency, with Cronbach's alpha of .86 for negative affect and .80 for positive affect.

The **Risk-taking and Self-harm Inventory for Adolescents** (**RTSHIA**; Vrouva et al., 2010; Portuguese version by Xavier, Cunha, Pinto-Gouveia, & Paiva, 2013) is a self-report measure that assesses risk-taking (RT) and self-harm (SH) behaviours in adolescents from community and clinical settings. The 8 RT-related items ranged from mild behaviours (e.g., smoking tobacco, taking chances while doing one's hobbies) to serious RT (e.g., participating in gang violence). The 18 SH-related items are about intentionally behaviours, such as self-mutilation, disordered eating, self-demeaning behaviour, and SH ideation, with or without suicidal intent. The items were on a 4-point scale (0-3), referring to frequency of these behaviours in lifelong history. There is also one dichotomous question about the part(s) of the body that were deliberately injured, if applicable, followed by options (e.g., torso, belly, buttocks; hands, arms, fingers, nails). In the original study (Vrouva et al., 2010) both subscales revealed good internal consistency with Cronbach's alpha of .85 for RT (8 items) and .93 for SH (18 items). In the present study we obtained Cronbach's alphas of .76 for RT subscale and .89 for SH subscale. Taking into account the aims of the current study, we only used the SH dimension.

Procedures

Previous to the administration of the questionnaires, ethical approvals were obtained by the Ministry of Education and the National Commission for Data Protection from Portugal. Then, the Head Teacher of the school and parents were informed about the goals of the research and gave their consent. Adolescents were informed about the purpose of the study, aspects of confidentiality and consent. They voluntarily participated and filled out the instrument in the classroom. The questionnaires were administered by the author, A. X., in the presence of the teacher, in order to provide clarification if necessary and to ensure confidential and independent responding.

Data Analysis

Statistical analyses were carried out using PASW Software (Predictive Analytics Software, version 18, SPSS, Chicago, IL, USA) for PCs.

Descriptive statistics were computed to explore demographic variables and gender differences were tested using independent samples t-test (Field, 2013).

Pearson product-moment correlations were performed to explore the relationships between early experiences of threat and submissiveness (measured by ELES), fears of compassion (measured by FCS), negative and positive affect (measured by PANAS) and self-harm behaviours (measured by RTSHIA) (Field, 2013; Tabachnick, & Fidell, 2007).

A multiple regression analysis, using the hierarchical regression method, was conducted to explore the contribution of early experiences, negative affect and FC for self as independent variables to predict the SH behaviours (dependent variable). Effects with $p < .050$ were considered statistically significant (Field, 2013; Tabachnick, & Fidell, 2007).

Preliminary Data Analysis

A series of tests was conducted to examine the suitability of the current data for regression analyses. We performed an analysis of residuals scatter plots as it provides a test of assumptions of normality, linearity, and homoscedasticity between dependent variables scores and errors of prediction. The data showed that the residuals were normally distributed and had linearity and homoscedasticity. All variables showed adequate values of skewness and kurtosis (Sk > |3| and Ku > |10|; Kline, 2005). Also, the independence of the errors was analyzed and validated through graphic analysis and the value of Durbin–Watson (value of 1.878). No evidence of the presence of multicollinearity or singularity among the variables was found. These aspects were validated

by the variance inflation factor (VIF) values indicated the absence of β estimation problems (VIF < 5). In general, the results indicate that these data are adequate for regression analyses.

RESULTS

History of Self-harm

In this sample, 21.7% (n = 180) of adolescents reported at least once deliberate self-harm behaviour in their lifetime history. For these adolescents who engaged in self-harm, the parts of the body more reported were hands, arms, fingers, nails (13.5%, n =112) and legs, feet, toes (1.9%, n = 16).

Descriptive Statistics

The descriptive statistics for this study are reported in Table 1.

Table1

Means (M), Standard Deviations (SD) and Gender differences on variables in study (N = 831)

Variables	Total (N = 831)		Boys (n = 360)		Girls (n = 471)		t	p
	M	***SD***	***M***	***SD***	***M***	***SD***		
Early Life Experiences								
ELES Total	31.46	9.76	32.00	9.37	31.04	10.04	1.406	.160
Fears of Compassion								
FC for others	21.42	8.00	20.97	7.87	21.77	8.13	-1.423	.155
FC from others	17.09	9.78	16.26	9.73	17.73	9.79	-2.144	**.032**
FC for self	15.65	12.42	15.41	12.43	15.84	12.43	-.503	.615
PANAS								
Negative Affect	17.61	4.17	16.38	4.10	18.55	3.99	-7.674	**<.001**
Positive Affect	23.03	3.51	23.19	3.52	22.92	3.50	1.086	.278
RTSHIA								
SH	3.83	6.05	3.03	5.29	4.44	6.52	-3.453	**.001**

Note. ELES = Early Life Experiences Scale; FC = Fears of Compassion; PANAS = Positive and Negative Affect Schedule; RTSHIA = Risk-taking and Self-harm Inventory for Adolescents; SH = Self-harm subscale.

Results show that there are gender differences for fear of compassion from others (Fears of Compassion Scales), negative affect (PANAS) and Self-harm subscale (RTSHIA). In particular, these findings suggest that girls had significantly higher mean scores on fear of compassion from others than boys ($M = 17.73$, $SD = 9.79$ *vs*. $M = 16.26$, $SD = 9.73$). Additionally, girls report more levels of negative affect than boys ($M = 18.55$, $SD = 3.99$ *vs*. $M = 16.38$, $SD = 4.10$). Girls endorse more self-harm behaviours than boys ($M = 4.44$, $SD = 6.52$ *vs*. $M = 3.03$, $SD = 5.29$) (cf. Table 1).

Correlation Analysis

Table 2 presents the Pearson's correlation coefficients (two-tailed) for all variables in study. The results of correlation analysis show that there are positive and significant correlations between early experiences of threat and submissiveness (ELES) and the fears of compassion. As expected, early experiences of threat and submissiveness (ELES) have a positive association with negative affect and a negative correlation with positive affect (PANAS). There is a positive and significant association between these early experiences of threat and submissiveness (ELES) and SH behaviours.

In addition, there are positive and significant correlations between fears of compassion and negative affect. Only fears of compassion from others and for self have a significant and a negative association with positive affect (PANAS). Finally, fears of compassion from others and for self are positively associated with overall levels of self-harm behaviours.

Table 2

Correlations (2-tailed Pearson r) between ELES, Fears of Compassion, PANAS, RTSHIA subscales (N=831)

	ELES total	FC for others	FC from others	FC for self	NA	PA
FC for others	.31***					
FC from others	.39***	.51***				
FC for self	.37***	.43***	.70***			
NA	.29***	.28***	.36***	.40***		
PA	-.22***	ns	-.24***	-.21***	-.21***	
SH	.33***	ns	.30***	.35***	.36***	-.18***

Note. ***$p < .001$. ns = non-significant; FC = Fears of Compassion; NA = Negative Affect subscale; PA = Positive Affect subscale; SH = Self-harm subscale.

Multiple Regression Analysis

A multiple regression analysis, using hierarchical method, was conducted to examine the predictor effect of experiences of threat and submissiveness in childhood (ELES total score), negative affect (PANAS) and fear of compassion for self (FC for self) on the severity of self-harm behaviours (SH subscale of the RTSHIA). In order to control the effect of gender on the variables in study, we entered gender in the first step of this analysis.

As can be seen in Table 3, the regression analysis' results revealed that the predictor variables produce a significant model, $F_{(3,826)} = 69.006$, $p \leq .001$, accounting for 21% of the variance in self-harm behaviours. Negative affect emerged as the best global predictor ($\beta = .205$, $p \leq .001$), followed by early experiences of threat and submissiveness ($\beta = .201$, $p \leq .001$), fear of compassion for self ($\beta = .187$, $p \leq .001$) and gender ($\beta = .070$, $p = .032$).

Table 3

Model summary for regression analysis using early experiences of threat and submissiveness (ELES), Fear of compassion for self (FC for self) and negative affect (PANAS) (independent variables) to predict self-harm behaviours (RTSHIA) (dependent variable) (N = 831)

Model	**Predictors**	***R***	***R²***	***R²* adj.**	***F***	**β**	***p***
1		.116	.013	.012	11.282		.001
	Gender					.116	.001
2		.459	.211	.207	69.006		<.001
	Gender					.070	.032
	ELES Total					.201	<.001
	FC for self					.187	<.001
	Negative Affect (PANAS)					.205	<.001

Note. ELES = Early Life Experiences Scale; FC = Fears of Compassion; PANAS = Positive and Negative Affect Schedule.

DISCUSSION

Self-harm is considered as a major public health concern in adolescents, with high rates among young people from community (Cerrutti et al., 2011; Gilletta et al., 2012; Hawton et al., 2012; Klonsky et al., 2011). A wide range of risk factors is associated with self-harm, including individual (e.g., genetic vulnerability), psychological, familiar, social and cultural factors (Hawton et al., 2012; Madge et al., 2011). Even though literature consistently shows the crucial role of adverse experiences and negative life events on the aetiology of self-harm behaviours, this study intend to explore particular set of personal feelings in the interaction with caregivers, rather

than parental behaviour. Moreover, the present study aims to analyse the relationship between recall of feeling frightened and subordinate in early interactions with parents, fears of compassion (for others, from others and for self), negative and positive affect and the severity of self-harm behaviours among community adolescents.

The prevalence rate of self-harm behaviours in this Portuguese adolescents' sample is high and it is in accordance with research among adolescents from community (Cerrutti et al., 2011; Giletta et al., 2012). In regard to gender differences, girls tend to have fear of compassion that they receive and experience from others, to endorse more levels of negative affect and to report more self-harm behaviours than boys. These results are in line with previous studies, showing that females adolescents are more vulnerable for the development of depressive symptoms (Nolen-Hoeksema, 2001) and self-harm (Giletta et al., 2012; Hawton et al., 2012; Klonsky et al., 2011; Laye-Gindhu & Shonert-Reichl, 2005; Madge et al., 2011).

Consistent with our hypothesis, correlation analysis results suggest that adolescents who recall feelings of threat, submissiveness and unvalued in their childhood tend to have more fears of compassion (for others, from others and for self), to report higher levels of negative affect and lower levels of positive affect and to endorse more self-harm behaviours. Adolescents with more fear of compassionate feelings towards themselves tend to endorse higher levels of negative affect and more self-harm. Previous data in adult samples demonstrates that experiences of threat and submissiveness in childhood are associated to depression (Gilbert et al., 2003). Additionally, Gilbert (2007) found that the fear of self-compassion is linked to low affection or abusive, neglected and critical backgrounds. Our findings extend research in adolescence on the relationship between early threatening experiences and psychopathology, including emotional negative states and self-destructive behaviours.

The results of multiple regression analysis indicate that experiences of threat and submissiveness in childhood, fear of compassion for self and negative affect have a significant and an independent contribution on the prediction of the severity of self-harm behaviours. In accordance with our prediction, this finding suggests that the risk factors for engagement in self-harm behaviours are adolescents from fearful, threatened environments and with submissive behaviours; adolescents who experienced negative affect; adolescents who fear of being self-kind and self-compassionate; and being a girl.

Our results add to research on risk factors for self-harm among adolescents, showing the important role of perceived threat and submissiveness in early childhood experiences. Indeed, when individuals are subjected to threat and neglect they become more threat sensitive, more focused on cues of social rank position and competition (e.g., by displaying submissive behaviours), and more likely to be self-critical, to experience shame and depression (Gilbert et

al., 2003; Gilbert & Irons, 2009; Irons & Gilbert, 2006). These individuals are not only self-critical but also may be limited in their ability to be self-soothing and reassuring (Gilbert, 2010; Gilbert & Procter, 2006; Irons & Gilbert, 2009). These data may also explain the association between early adverse experiences (e.g., abuse, neglect, low affection) and fear of compassion from others, for others and for self.

In the present study we also found that the risk for self-harm among adolescents is not only explained by the presence of negative affect but also of the fear of compassionate feelings towards themselves. The key finding here is that adolescents with deliberate self-harm may experience negative affect and struggle with fear of compassionate feelings by avoiding these feelings and displaying active resistance to engage in compassionate experiences or behaviours. It seems that adolescents with inability to direct kindness and compassion towards the self are more vulnerable to engage in self-destructive behaviours. This finding offers novel insight about the impact of fears of compassion on self-harm behaviours.

Additionally, girls seem to be more susceptible to engage in self-harm behaviours. This result is in line with previous data (Giletta et al., 2012; Hawton et al., 2012; Klonsky et al., 2011; Laye-Gindhu & Shonert-Reichl, 2005; Madge et al., 2011). Overall, these results highlight the importance of early threatening experiences and fears of self-compassionate feelings for the vulnerability to self-harm behaviours in young people.

Some limitations of this study should be considered when interpreting our findings. Firstly, although the overall sample size was large, girls are older and have more years of education than boys. However, no correlations were found between age and variables in study, suggesting that age does not compromise our findings. In addition, the sample consists of adolescents who attended schools from Coimbra, so it cannot be considered as a representative sample of the general population of Portuguese adolescents. Secondly, the conclusions are based on a community sample and may not generalize to other populations. Further research should replicate these findings in clinical populations. Third, this study is a cross-sectional design and the direction of causality cannot be assumed. Clearly, prospective and longitudinal studies are needed for examine the causal links among aetiological factors of self-harm. Finally, the data were collected through self-report measures and are retrospective in nature. Future studies would great benefit from including other measures to assess frequency, methods and functions of self-harm, such as structured interviews.

Despite the limitations aforementioned, the present study may have some clinical implications. Generally speaking, female adolescents who recall adverse experiences, feel greater negative affect and have more difficulty in being self-reassuring and self-soothing tend to be more vulnerable for engagement in deliberate self-harm behaviours. Indeed, these results suggest that

adolescents with deliberate self-harm have not only negative memories and negative affect associated, but also difficulties in emotion regulation processes. Such difficulties in emotion regulation are translated in adolescents' fears for and resistance to compassionate feelings and behaviours towards themselves.

These findings emphasize the potential value of incorporating self-compassion approaches and addressing the fears of compassion in the treatment of SH behaviours in adolescents. In other words, our findings reinforce the literature (Gilbert, 2010; Gilbert et al., 2010, 2012), proposing that the abilities in accessing to compassion and experiencing the benefits of affiliative emotions are linked to an adaptive emotion regulation and mental health. Thus, preventive actions for adolescents should promote positive, safe and supportive interpersonal relationships in academic, family and community environments in order to provide opportunities to develop adaptive emotional skills.

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ESTUDO EMPÍRICO V

THE INDIRECT EFFECT OF EARLY EXPERIENCES ON DELIBERATE SELF-HARM IN ADOLESCENCE: MEDIATION BY NEGATIVE EMOTIONAL STATES AND MODERATION BY DAILY PEER HASSLES

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THE INDIRECT EFFECT OF EARLY EXPERIENCES ON DELIBERATE SELF-HARM IN ADOLESCENCE: MEDIATION BY NEGATIVE EMOTIONAL STATES AND MODERATION BY DAILY PEER HASSLES

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ABSTRACT

The present study examines whether early experiences of threat, subordination and devaluation with family influence adolescents' negative emotional states and subsequently deliberate self-harm (DSH); and if this effect is conditioned by daily peer hassles. The sample consisted of 441 adolescents (57.6% female) with ages between 13 and 18 years old from middle and high schools. Participants completed self-report instruments measuring early memories of threat, subordination and devaluation, daily peer hassles, negative affect and deliberate self-harm behaviors. Results from conditional process analysis showed that adolescents who feel devalued and experience threat and submission within family tend to endorse high levels of negative affect, which in turn accounts for increased endorsements on deliberate self-harm. Moreover, the impact of negative affect on deliberate self-harm is amplified by the presence of moderate and high levels of daily peer hassles. This study suggests the relevance of assessing and intervening on type of emotional memories (i.e., threat, subordination and devaluation), daily disruptions with peers and negative emotional states with adolescents who self-injure. These findings may be useful in the development of preventive and intervention programs for reducing deliberate self-harm in adolescence.

Keywords: Adolescence; Daily Peer Hassles; Deliberate Self-Harm; Early Negative Experiences; Moderated Mediation; Negative Affect.

INTRODUCTION

The developmental stage of adolescence is a phase of rapid changes in cognitive, emotional, psychological and social domains. These changes involve multiple complex developmental tasks mainly related to the formation of self-identity and the establishment of new interpersonal relationships. Such developmental tasks and acquisitions may be a major source of strain for adolescents and, in turn, may render them more vulnerable to the development of internalizing problems, such as depression and self-destructive behaviors (Wolfe & Mash, 2006).

Indeed, adolescents is a particularly at-risk group of engaging in deliberate self-harm, as shown by the high rates among community-based samples (14%-39%; Cerrutti, Manca, Presaghi, & Gratz, 2011; Glassman, Weierich, Hooley, Deliberto, & Nock, 2007; Giletta, Scholte, Engels, Ciairano, & Prinstein, 2012; Laye-Gindhu & Schonert-Reichl, 2005; Mikolajczak, Petrides, & Hurry, 2009; Muehlenkamp & Gutierrez, 2004; Ross & Heath, 2002). Deliberate self-harm (DSH) is defined as intentional, self-inflicted body tissue damage, and a culturally unacceptable behavior, regardless of the presence of suicidal intent and in the absence of a pervasive developmental disorder (Vrouva, Fonagy, Fearon, & Roussow, 2010). There is empirical evidence that DSH typically appears between the ages of 12 and 16 years old (Gratz & Chapman, 2009; Klonsky & Muehlenkamp, 2007; Klonsky, Muehlenkamp, Lewis, & Walsh, 2011) and tends to occur more often in female adolescents than male adolescents (Giletta et al., 2012; Hawton, Saunders, & O'Connor, 2012; Klonsky et al., 2011; Laye-Gindhu & Shonert-Reichl, 2005; Madge et al., 2011; Ross & Heath, 2002).

Previous research has offered remarkable contributions to the understanding of the etiology and maintenance of these pervasive and self-destructive behaviors (Hawton et al., 2012; Klonsky, 2007). Among distal factors, the adverse childhood experiences are known to be associated with a wide range of psychological, emotional and behavioral problems (Schore, 2001). Particularly, early experiences characterized by emotional, physical and sexual abuse, neglect, criticism, invalidation, maladaptive parenting, family conflicts are linked to DSH during adolescence (Glassman et al., 2007; Jutengren, Kerr, & Stattin, 2011; Kaess et al., 2013; Madge et al., 2011) and later in life (Klonsky & Moyer, 2008; Nock, 2009).

Although the role of parental practices in the vulnerability for psychopathology is now well-established, this paper aims to explore a particular set of personal feelings and behaviors that one may experience in the early interactions with family. Some authors (Gilbert, Cheung, Grandfield, Campey, & Irons, 2003) argue that more than the recall parental behavior, it is the recall of one's feelings in an early relationship appears to be especially relevant, particularly when these interactions are characterized by dominance/subordination rank positions (Gilbert et al., 2003). According to Gilbert et al. (2003), children from early stressful and threatening

environments may fear their own parents and assume forceful and involuntary subordinate behaviors (e.g., by submitting, avoiding, inhibiting assertive behavior). These behaviors are conceptualized as automatic and defensive strategies, aiming to reduce the criticism, aggression or hostile intention of the dominant other. However, these experiences, when repeated over time, can foster the development of a representation of others as hostile, dominant and powerful, as well as a sense of self as undesirable, fragile and vulnerable. Such internal representations of self and others may drastically impact on emotional, attentional and cognitive processing and social behavior (Bowlby, 1969; Gilbert, 2007; Mikulincer & Shaver, 2005). Thus, this individual tends to be overly attentive and sensitive to threats and, consequently, may be more vulnerable to developing mental health problems, such as depression, social anxiety, paranoia, shame and DSH (Castilho, Pinto-Gouveia, Amaral, & Duarte, 2012; Gilbert, 2000; Gilbert et al., 2003; Gilbert, Baldwin, Irons, Baccus, & Palmer, 2006; Gilbert & Irons, 2009; Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006; Matos, Pinto-Gouveia, & Costa, 2011; Pinto-Gouveia, Matos, Castilho, & Xavier, 2012; Xavier, Cunha, & Pinto-Gouveia, 2015).

In addition to the early adverse experiences, individual and interpersonal proximal factors have also been identified as risk factors for the development and maintenance of DSH. The interpersonal relationships with peers play a central role in the adolescent's emotional and social development. Therefore, negative relationships with peers may lead to internal distress and various forms of psychopathology. Indeed, stressful life events involving bullying, victimization, low peer preference (peer rejection), and troubles with friends were found to be associated with poor adjustment and internalizing symptoms (e.g., depression, anxiety, DSH) (Jutengren et al., 2011; Madge et al., 2011; McLaughlin, Hatzenbuehler & Hilt, 2009; McMahon, Reulbach, Keeley, Perry, & Arensman, 2012; Seidman et al., 1995). For instance, Jutengren et al. (2011) conducted a two-wave longitudinal analysis using a community sample of adolescents aged between 13 and 15 years old and found that being victimized by peers increased the likelihood to engage in DSH. Another study using a cross-national community adolescents' sample (Gilleta et al., 2012) revealed that adolescents who reported higher levels of internal distress (i.e., depressive symptoms), family-related loneliness and peer victimization are more likely to endorse DSH. Recently, Marshall et al. (2013) found that depressive symptoms predict increases in DSH one year later in a non-clinical sample of adolescents, suggesting that adolescents may use DSH as a way to cope with negative emotional states.

Therefore, the primary functions of DSH are to regulate intense and negative emotions and to modify social environments (e.g., to communicate distress and to influence others) (Nock & Prinstein, 2004, 2005). According to Nock (2010), DSH is used as an attempt to decrease negative emotional states, resulting in a temporary tension relief and an increased desirable physiological state (automatic positive and negative reinforcement). This self-destructive

behavior also involves social reinforcement functions, allowing the individual to escape or avoid interpersonal challenges or undesirable social situations (social-negative reinforcement) (Nock, 2010). In this sense, adolescents may engage in DSH as an attempt to cope with negative emotional states (e.g., depression, anxiety, shame, disgust) (Chapman, Gratz, & Brown, 2006; Marshall et al., 2013) or to cope with problems in social context, such as negative peer relationships (Jutengren et al., 2011).

In sum, there is strong empirical support for the impact of adverse experiences in childhood to vulnerability for the engagement in DSH. On the other hand, several studies have identified individual characteristics (e.g., temperament, negative emotional states, impulsivity) and proximal factors (e.g., conflicts in parent-child interactions, poor interpersonal relationships, bullying) as important risk factors for DSH. However, little is known about the potential contextual mechanisms by which distal variables may affect the onset, frequency and severity of DSH in adolescence. Moreover, more than to focus on major life events, we intend to analyze daily distressing demands within the social environment, particularly with peers and friends. Indeed, daily hassles are more proximal and tend to occur with greater frequency than major life events, and have found to be associated with adjustment difficulties and poor well-being (Seidman et al., 1995).

The purpose of this study is to examine the mechanism by which early experiences of threat, subordination and devaluation may impact on the engagement in DSH by examining negative emotional states as a mediator. Furthermore, this study also analyses whether the effect of negative emotional states on DSH would be increased by the presence of daily peer hassles. Based on the current literature and prior research, we hypothesized that the positive association between early experiences of threat, subordination, devaluation and DSH may occur through the effect of these early negative experiences in the development of negative affective states, which in turn leads to increased levels of DSH. We also expected that the link between negative affective states and DSH might be contingent by the presence of daily peer hassles.

METHOD

Participants

The sample consisted of 441 adolescents, 187 are boys (42.4%) and 254 are girls (57.6%). These adolescents were between 13 and 18 years old (M = 16.06, SD = 1.39) and were attending between the 7th and 12th grades (years of education M = 10.58, SD = 1.35) in middle and high schools (which corresponds to between 7 and 12 years of school attendance). There were gender differences regarding age, $t_{(433)}$ = 2.486, p = .013, and years of education, $t_{(371.661)}$ = 3.015,

p = .003. In this sample, girls were older (M = 16.20, SD = 1.33 *vs*. M = 15.87, SD = 1.44) and had more years of education than boys (M = 10.75, SD = 1.26 *vs*. M = 10.35, SD = 1.43).

Procedures

Participants were recruited from middle and secondary schools in the central region of Portugal. Ethical approvals were obtained from the Portuguese Ministry of Education and the National Commission for Data Protection. The Head Teacher of the schools was informed about the goals of the research and formally authorized this study. After obtaining informed and written consent from their parents, adolescents assented to participate and were informed about the purpose of the study and aspects of confidentiality. They filled out voluntarily and anonymously to the questionnaires in the classroom. The teacher and researcher were present to provide clarification if necessary and to ensure confidential and independent responding. Pupils who were not authorized by their parents to participate in this study were excluded and were given an academic task by the teacher.

Measures

The **Early Life Experiences Scale** (**ELES**; Gilbert et al., 2003; Portuguese version for adolescents by Pinto-Gouveia, Xavier, & Cunha, 2015) is composed of 15 items that assess the perceived threat, subordination and devaluation feelings in early interactions with the family. This scale comprises three subscales (Threat, Submissiveness and Unvalued) and the total score can be also computed. Respondents answer each item in a 5-point scale (1 = *completely untrue*; 5 = *very true*). The original version presented good internal consistency for the ELES total score (α = .92) and for its subscales (ranging between .71 and .89) (Gilbert et al., 2003). The Portuguese version for adolescents also presented internal reliability for total score (α = .86) and subscales (.68-.77) (Pinto-Gouveia et al., 2015). In the current study only the total score was used and the total scale presented good internal consistency (α = .87).

The **Daily Hassles Microsystem Scale** (**DHMS**; Seidman et al., 1995; Portuguese version by Paiva, 2009) comprises 25 items that assess the perceived daily hassles within four microsystems, such as the family, peer, school, and neighborhood contexts. For each item, respondents answer *yes* or *no* to whether the event "has not happened this month", and if the hassle had occurred, how much of a hassle it was, on a 4-point scale (1 = *not a hassle at all*; 4 = *a very big hassle*). According to the authors, if the hassle had not occurred, the answer is scored 1 in order to avoid missing values. Thus, higher scores represent greater daily hassles within each kind of microsystems interactions. In the present study, we only used the daily peer

hassles dimension, composed of five items, which represent trouble with friends (e.g., "trouble with friends over beliefs, opinions and choices"). The original study (Seidman et al., 1995) presented a Cronbach's alpha of .71 for daily peer hassles. In the Portuguese version (Paiva, 2009), the Cronbach's alpha was .72. In the present study, the Cronbach's alpha was adequate (α = .76).

The **Positive and Negative Affect Schedule** (**PANAS**; Watson, Clark, & Tellegen, 1988; Portuguese version for Children and Adolescents by Carvalho, Baptista, & Gouveia, 2004) consists of 20-item scale that comprise two mood scales, one measuring positive affect (PA; 10-items) and other measuring negative affect (NA; 10-items). Respondents are asked to rate the extent to which they have experienced each particular emotion during the past week, using a 3-point scale (1 = *not at all*; 3 = *many times*). The scores may range between 10 and 30 for each subscale and higher scores reflect greater positive affect and negative affect, respectively. In the original study, Watson et al. (1988) found high alpha coefficients, ranging from .86 to .90 for PA and from .84 to .87 for NA. The Portuguese version (Carvalho et al., 2004) obtained Cronbach's alphas of .76 for positive affect and .83 for negative affect. Only the NA scale was used for the purposes of this study, which presented good internal consistency (α = .85).

The **Risk-taking and Self-harm Inventory for Adolescents** (**RTSHIA**; Vrouva, Fonagy, Fearon, & Roussow, 2010; Portuguese version by Xavier, Cunha, Pinto-Gouveia, & Paiva, 2013) is a self-report questionnaire for adolescents, designed to assess risk-taking and self-harm behaviors simultaneously, in both clinical and community settings. This scale consists of two dimensions: Risk-taking and Self-harm. In this study, we only used the Self-harm (SH) dimension, composed of 17 items, that measures the frequency of self-injury behaviors, ranging from milder behaviors (e.g., picking at wounds) to more serious self-harming, such as cutting, burning, biting. The majority of items contained the word intentionally, and four items ended with the phrase to hurt yourself or to hurt or punish yourself. The items are rated on a 4-point scale (0 = *never*; 3= *many times*), referring to lifelong history. Total scores were computed by summing up the responses to the 17 items of the SH dimension and higher scores indicate greater involvement in deliberate self-harm behaviors. This scale also has one categorical item to assess the absence or presence of deliberate self-harm at least once in lifelong history, followed by a question about the part(s) of the body that were deliberately injured, if applicable. The responses to this item will be used as indicator of the frequency of DSH within the sample. In the original study, the authors found a very good internal consistency for the self-harm dimension (α = .93). The Portuguese version presented a Cronbach's alpha of .89. In the present study, we also obtained a good internal consistency for self-harm dimension (α = .89).

Data Analysis

Statistical analyses were carried out using PASW Software (Predictive Analytics Software, version 18, SPSS, Chicago, IL, USA) and PROCESS macro for SPSS (version 2.13, released 26 September 2014; retrieved from http://afhayes.com/introduction-to-mediation-moderation-and-conditional-process-analysis.html). Descriptive statistics were computed to explore demographic variables and gender differences were tested using independent sample t tests (Field, 2013). The influence of years of education and grades were analyzed through independent one-way ANOVA (Field, 2013). The *post hoc* Tukey HSD procedure was used because it is considered the most powerful test for controlling the Type I error. However, when the assumption of homogeneity of variances was not assumed, the *post hoc* Games-Howell comparison test was chosen (Field, 2013). Pearson product-moment correlation coefficients were computed to assess the relationships between variables (Tabachnick & Fidell, 2007).

A conditional process model, using PROCESS macro for SPSS, was performed in accordance with Hayes (2013), which is the formal integration of mediation and moderation analysis. This kind of model allows the direct and/or indirect effect of an independent variable (X) on a dependent variable (Y) through one mediator (M) to be moderated (V). Such effects are called as conditional indirect effects, which mean that the indirect effect (mediation) is potentially conditional on the value of one or more moderators (Hayes, 2013, 2015; Preacher, Rucker, & Hayes, 2007). The index of moderated mediation was also analyzed and estimates the quantification of the relationship between the proposed moderator and the size of the indirect effect (Hayes, 2015). The bootstrapping procedure was used to test the significance of the direct and indirect effects, since this procedure is considered as an accurate method to obtain confidence intervals in comparison to other standard methods, and is assumption-free concerning the sample distribution (Byrne, 2010; Hayes & Preacher, 2010). This procedure with 10,000 Bootstrap samples was used to create 95% bias-corrected confidence intervals. The effects were considered as significantly different from zero ($p < .05$) if zero is excluded of the upper and lower bounds of the 95% bias-corrected confidence interval (Byrne, 2010; Hayes & Preacher, 2010; Kline, 2005). In the analysis the mean center for products was used. This procedure has no effect on the value of the index of moderated mediation (Hayes, 2015).

After performing analysis, it was ensured several assumptions of normality, linearity and homoscedasticity through residuals scatter plots. Additionally, data was inspected for univariate normality and linearity and all items showed acceptable values of asymmetry and kurtosis ($Sk < |3|$ and $Ku < |8|$-$|10|$; Kline, 2005). Multicollinearity was examined by inspecting the tolerance and variance inflation factor ($VIF < 5$) and no multicollinearity and singularity amongst variables was found (Kline, 2005).

RESULTS

History of DSH

In this sample, eighty-nine adolescents (20.2%) reported a history of engaging in DSH at least once in their lifetime. The most frequent self-injured parts of the body reported by adolescents were the hands, arms, fingers and nails (n = 67, 77%). Female and male adolescents did significantly differ in frequency of DSH, $\chi^2_{(1)} = 4.402$, $p = .041$, indicating that females (n = 60, 23.6%) were more likely to report engaging in DSH than males (n = 29, 15.5%).

Descriptive Statistics

Descriptive statistics of the study variables are shown in Table 1 for the full sample and separately by gender (males, females). As can be seen in Table 1, there are sex differences in daily peer hassles, negative affect and DSH. Female adolescents reported higher scores in these variables than male adolescents. The effect size ranged between small and medium effects (cf. Table 1).

Table 1

Means (M), standard deviations (SD), t-tests for sex differences for all variables in study and effect size (N = 441)

Variables	Total (N = 441)		Males (n = 187)		Females (n = 254)		*t(df)*	*Cohen's d*	*r*
	M	*SD*	*M*	*SD*	*M*	*SD*			
Early Life Experiences	31.18	9.69	31.94	9.57	30.62	9.76	1.418 (439)	n/a	n/a
Daily Peer Hassles	1.38	0.50	1.25	0.43	1.48	0.54	4.825*** (436.374)	-0.47	-.023
Negative Affect	17.75	4.10	16.34	4.14	18.78	3.76	6.469*** (439)	-0.62	-0.29
Deliberate Self-harm	3.43	5.79	2.78	5.42	3.91	6.03	2.063* (421.822)	-0.20	-0.10

Note. *$p \leq .05$, ***$p \leq .001$. n/a = not applicable.

The means, standard deviations and ANOVA's F are also shown in Table 2. Results for age groups showed significant differences for early experiences of threat, submissiveness and devaluation, negative affect and DSH. *Post hoc* comparisons, using the Tukey HSD test, indicated

that middle adolescence (15-16 years old) reported significantly higher levels of perceived threat, subordination and devaluation than late adolescence (17-18 years old; p = .017). Results also showed that middle adolescence (15-16 years old) presented higher levels of negative affect than early adolescence (13-14 years old; p = .008). Older adolescents (17-18 years old) reported higher levels of negative affect than early adolescence (13-14 years old; p = .002). Since the assumption of homogeneity of variance was compromised for DSH scores (Levene's F test: $p < .05$), the Welch's F and Brown-Forsythe's F were used, indicating that at least two or the three age groups differ significantly on their mean scores of DSH. Results from *post hoc* comparisons, using the Games-Howell *post hoc* procedure, indicated that early adolescents (13-14 years old) reported more engagement in DSH than older adolescents (17-18 years old; p = .006). Participants in middle adolescence (15-16 years old) had more frequent DSH than older adolescents (17-18 years old; p = .004).

Table 2

Means (M), standard deviations (SD) and One-way Analyses of Variance (ANOVA) for age and grade groups differences in all variables in study (N = 441)

Age	**13-14 (*n* = 71)**		**15-16 (*n* = 184)**		**17-18 (*n* = 186)**		***F(df)***	**Partial η^2**
	M	***SD***	***M***	***SD***	***M***	***SD***		
ELES	32.03	9.68	32.40	9.76	29.65	9.47	4.094 (2, 438)*	.018
Daily Peer Hassles	1.41	0.56	1.37	0.52	1.39	0.47	0.215 (2, 438)	n/a
Negative Affect	16.21	4.40	17.91	4.23	18.17	3.73	6.258 (2, 438)**	.028
DSH	4.73	6.19	4.13	6.78	2.24	4.18	8.382 (2,176.897)***; 6.871 (2,247.530)***	.032
Grade	**7-8 (*n* = 54)**		**9-10 (*n* = 123)**		**11-12 (*n* = 264)**		***F(df)***	**Partial η^2**
	M	***SD***	***M***	***SD***	***M***	***SD***		
ELES	33.98	9.46	31.73	9.93	30.35	9.54	3.465 (2,438)*	.016
Daily Peer Hassles	1.42	0.58	1.35	0.50	1.39	0.49	0.419 (2,438)	n/a
Negative Affect	16.52	4.53	17.38	4.25	18.17	3.89	4.353 (2,438)**	.019
DSH	5.48	6.40	3.72	5.99	2.87	5.48	4.233 (2,130.652)*; 4.345 (2,179.609)**	.022

Note. *$p \leq .05$, **$p \leq .01$, ***$p \leq .001$. n/a = not applicable. ELES = Early Life Experiences Scale; DSH = Deliberate Self-harm measured by the Risk-taking and Self-harm Inventory for Adolescents (RTSHIA).

Regarding grade in school, results indicated significant differences for early experiences of threat, submissiveness and devaluation, negative affect and DSH. *Post hoc* comparison results, using the Tukey HSD test, indicated that adolescents from 7 to 8 grades recall more experiences of threat, subordination and devaluation in family context than adolescents from 11 to 12 grades (p = .032). The results also demonstrated that adolescents from 11 to 12 grades reported higher levels of negative affect than adolescents from 7 to 8 grades (p = .019). In DSH scores, *post hoc* comparisons results, using Games-Howell test, showed that adolescents from 7 to 8 grades had higher levels of DSH than adolescents from 11 to 12 grades (p = .018). All the significant differences in age and grade groups presented small effects size (cf. Table 2).

Correlations

Table 3 presents the Pearson product moment correlation coefficients for all variables. As shown in Table 3, there were modest but significant correlations between early experiences of threat, subordination, devaluation and negative affect and DSH. There were moderate and significant associations between daily peer hassles and negative affect and DSH. In addition, the correlation between negative affect and DSH was moderate and significant.

Table 3

Correlations (Pearson product-moment) for all variables in study (N = 441)

	ELES	**Daily Peer hassles**	**Negative Affect**
Daily Peer Hassles (DHMS)	.21***		
Negative Affect (PANAS)	.29***	.45***	
Deliberate Self-harm (RTSHIA)	.36***	.37***	.31***

Note. ***p < .001. ELES = Early Life Experiences Scale; DHMS = Daily Hassles Microsystem Scale; PANAS = Positive and Negative Affect Schedule; RTSHIA = Risk-taking and Self-harm Inventory for Adolescents.

Conditional Process Analisys

The conditional indirect effects or moderated mediation was assessed with the model 14 proposed by Hayes (2013). Model 14 represents a simple mediation model with moderation of the indirect effect of X on Y through M. Specifically, this model tests whether the path, between the mediator (M) and dependent variable (Y), is moderated by a fourth variable (V) through its interaction with M. In this analysis early experiences of threat, subordination and devaluation served as the independent variable (X), negative affect served as the mediating variable (M), DSH served as the dependent variable (outcome, Y), and daily peer hassles served as the moderator

variable (V) (cf. Figure 1). Demographic variables (sex and age) were also included in the model as covariates variables in order to statistically remove these potential confounding influences on the paths in the process model (Hayes, 2013).

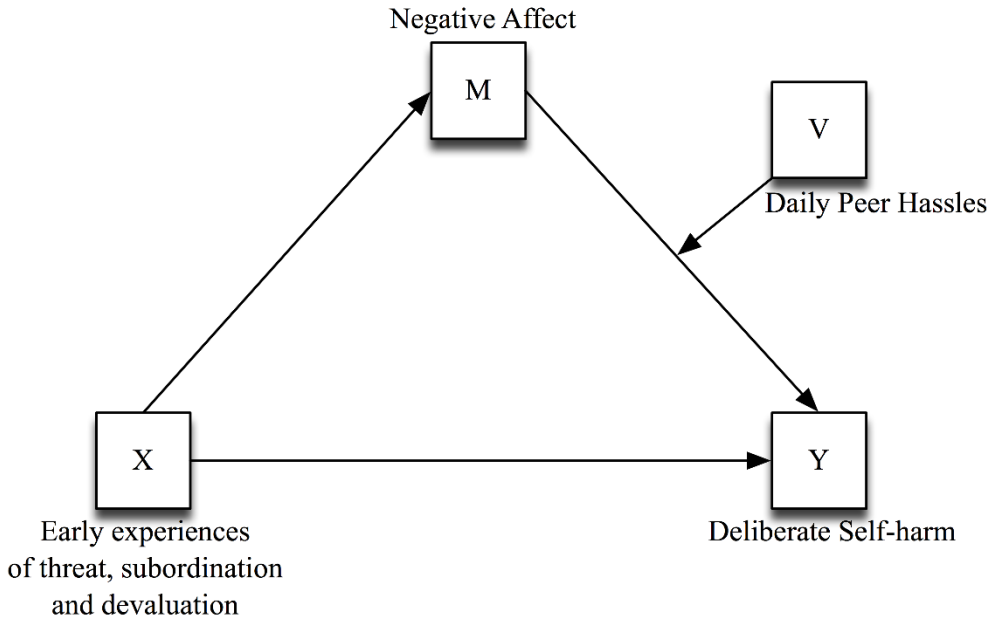

Figure 1. Daily Peer Hassles as a moderator of the mediated pathway from early negative experiences to deliberate self-harm (DSH).

Table 4 shows the estimated regression coefficients for this moderated mediation model. Results showed that the overall model accounted for 26% of the variance of DSH. As can be seen in Table 4, adolescents with relatively more experiences of threat subordination and devaluation presented higher levels of negative affect, $B = 0.135$, 95% CI [0.101, 0.171], $t = 7.64$, $p < .001$, even when sex and age were controlled for. Additionally, a test of moderation of the effect of negative affect on DSH depends on daily peer hassles, $B = 0.300$, 95% CI [0.001, 0.599], $t = 1.97$, $p = .047$, even when sex and age were controlled for.

The index of moderated mediation has a positive value, $\omega = 0.041$, indicating that the indirect effect of early experiences of threat, subordination and devaluation on DSH through negative affect is an increasing function of daily peer hassles. Furthermore, the bootstrap confidence interval for the index of moderated mediation does not include zero, 95% CI [0.002, 0.082], which supports the moderation of the indirect effect of early experiences of threat, subordination and devaluation on DSH by daily peer hassles.

This analysis also provides the estimation of the conditional indirect effect of the early experiences of threat, subordination and devaluation (X) on DSH (Y) through negative affect (M) for various values of moderator (in this case, daily peer hassles) and tests whether the indirect effect is different from zero at those moderator values, namely "low", "mean" and "high" in daily peer hassles levels (these labels correspond to a standard deviation below the mean, the mean, and a standard deviation above the mean). Results in these conditional indirect effects showed that there was a non-significant conditional indirect effect for low values of daily peer hassles, since the bootstrap confidence interval includes zero (value = -0.382, *B* = 0.011, 95% CI [-0.012, 0.033]). Results also demonstrated that for both the average (value = 0.000, *B* = 0.027, 95% CI [0.007, 0.049]) and high levels of daily peer hassles (value = 0.504, *B* = 0.047, 95% CI [0.017, 0.087]), there was a statistically significant indirect effect of early experiences of threat, subordination and devaluation on DSH through negative affect conditioned by daily peer hassles.

Table 4

Unstandardized OLS regression coefficients with confidence intervals estimating negative affect (mediator variable) and deliberate self-harm (outcome or dependent variable) (N = 441)

Model	**Predictors**	***R***	***R²***	***F(df)***	***B(SE)***	**95% CI**
Mediator Variable Model		.45	.20	42.051 (3, 437)***		
	ELES				0.136 (0.018)***	[0.10, 0.17]
	Sex				2.489 (0.364)***	[1.77, 3.21]
	Age				0.414 (0.137)***	[0.14, 0.689]
Dependent Variable Model		.51	.26	14.299 (6, 434)***		
	NA				0.196 (0.073)***	[0.05, 0.34]
	ELES				0.154 (0.034)***	[0.08, 0.22]
	DPH				2.027 (0.747)***	[0.55, 3.49]
	NA x DPH				0.300 (0.152)*	[0.00, 0.59]
	Sex				0.595 (0.511)	[-0.40, 1.60]
	Age				-0.653 (0.161)***	[-0.97, -0.33]

Note. *$p \leq .05$, ***$p \leq .001$. SE = Standard error; CI = confidence interval; ELES = Early Life Experiences Scale; NA = Negative Affect (measured by PANAS); DPH = Daily Peer Hassles (measured by DHMS); NA x DPH = interaction term between Negative Affect and Daily Peer Hassles.

DISCUSSION

This study tested whether interpersonal stressful events within the family of adolescents and their negative emotional states have an impact on the involvement in DSH and if this effect is conditioned or moderated by daily peer hassles. Consistent with findings found in prior studies on DSH among non-clinical adolescents (Cerrutti et al., 2011; Giletta et al., 2012; Laye-Gindhu & Schonert-Reichl, 2005; Ross & Heath, 2002), 20.2% of adolescents in the present study reported a history of DSH.

Concerning variables in the current study, results from sex differences showed that females report greater daily peer hassles, higher levels of negative affect and more frequent DSH than males. In addition, our findings with regard to age group differences demonstrated that participants in middle adolescence (15-16 years old) tend to experience higher levels of threatening, subordination and unvalued feelings within the family than participants in late adolescence (17-18 years old). Both middle and late adolescence reported higher levels of negative affect than early adolescence. Regarding episodes of DSH, early and middle adolescents (aged ranging between 13 and 16 years old) reported more involvement in DSH than older adolescents. The same trend was found for school years because of the strong correlation between age and years of education.

In general, these results are in accordance with the literature, demonstrating that the transition into adolescence is a vulnerable period for the development of psychopathology, namely depression and DSH (Gratz & Chapman, 2009; Klonsky & Muehlenkamp, 2007; Klonsky et al., 2011; Nolen-Hoeksema, 2001). This is especially true for girls, since several studies show that female adolescents are more susceptible than male adolescents to stressful life events (particularly, peer hassles), to depressive symptoms and to engage in DSH (Hawton et al., 2012; Madge et al., 2011; Nolen-Hoeksema, 2001; Seidman et al., 1995; Wolfe & Mash, 2006).

In line with previous research (Gilbert et al., 2003; Glassman et al., 2007; Kaess et al., 2013) and our hypothesis, adolescents who feel more threatened, subordinated and unvalued within family tend to experience more negative affect and more self-destructive behaviors. As expected, adolescents who perceived daily hassles within peer group are more likely to experience higher levels of negative affect and more frequent DSH. In addition, DSH was found to be associated with negative affect.

The current study intends to test a hypothesized model in which early threatening experiences may impact on DSH through their effect on negative emotional states. Moreover, we hypothesized that the link between negative affect and DSH would be conditioned by the presence of daily peer hassles. Thus, we conducted a conditional process analysis to test whether early experiences of threat, subordination and devaluation impacted upon DSH through their effect

upon negative affect; and whether the daily peer hassles increases the effect of negative affect on DSH.

Results showed that the full model accounted for 26% of the frequency of DSH in adolescence. Accordingly with our hypothesis, adolescents who feel more threatened, subordinated and unvalued within the family tend to experience more levels of negative affect, which in turn impacts upon increased engagement in DSH. Moreover, the impact of negative affect on DSH depends on daily peer hassles. Interestingly, the impact of this interaction is more significant for adolescents who present both moderate and higher levels of daily peer hassles (but not for low levels of daily peer hassles). This finding suggests that daily peer hassles amplifies the impact of negative affect on DSH.

Overall, our findings are consistent with what researchers have argued about the impact of early interactions with significant others on the formation of internal representations of self and others, which in turn guide emotional, attentional and cognitive processing, and influence social behavior (Bowlby, 1969; Gilbert, 2007; Mikulincer & Shaver, 2005). In this sense, individuals living in stressful and fearful environments, whose parents tend to adopt harsh, critical attitudes and dominant positions towards their children, are more likely to develop negative representations of others (e.g., as hostile, critical) and of the self (e.g., as unvalued, inferior, vulnerable) and to act or behave in a subordinate way as a consequence (e.g., by avoiding, escaping from undesirable social encounters, inhibiting assertive behavior) (Gilbert et al., 2003).

This fearful subordinate/submissive style may increase the likelihood to develop depression and other psychological difficulties (Castilho et al., 2012; Gilbert et al., 2003; Pinto-Gouveia et al., 2012). In this vein, the present data suggest that the early experiences of threat, subordination and devaluation may directly cause negative affective states, which in turn impact on DSH. Furthermore, the present study adds to the current knowledge by demonstrating that the influence of negative emotional states on DSH is magnified by the presence of moderate and high levels of daily peer hassles. The same is to say that, when experienced negative affect, adolescents who perceive moderate and high levels of everyday life hassles with peers tend to engage in DSH. It seems that adolescents who struggle with the complex interplay between negative affect and daily disruptions in life with peer groups are more likely to engage in DSH.

Therefore, our findings converge on the notion that DSH may serve as an affect-regulation function, since adolescents may engage in these behaviors in an attempt to reduce or avoid a negative stimulus (e.g., negative affect) and to cope with day-to-day stressful peer experiences, albeit in a maladaptive way (i.e., automatic function) (Chapman et al., 2006; Marshall et al., 2013; Nock, 2010; Nock & Prinstein, 2004, 2005). Although stressful life experiences and negative emotional states have been previously demonstrated to confer risk for

DSH (Kaess et al., 2013; Madge et al., 2011; Xavier et al., 2015), the current study advances the literature by identifying that the link between negative affect from early threatening experiences and DSH is exacerbated by the presence of moderate and high levels of daily peer hassles. Thus, the effect of negative affect on DSH seems to be particularly augmented for those adolescents who perceive greater daily hassles with their friends and peers.

These results entail some methodological limitations. Firstly, the cross-sectional nature of the data limits causal conclusions that can be drawn from our findings. Prospective studies are needed to determine the directionality of the relations. Secondly, our data relies mainly on self-report questionnaires and future studies may benefit from other assessment methods, such as semi-structured interviews (Klonsky et al., 2011; Nock, Prinstein, & Sterba, 2010) and ecological momentary assessment (EMA; Stone & Shiffman, 1994). Third, the use of non-clinical sample does not allow us to extend our findings to clinical samples.

Nevertheless, this study offers relevant data on risk factors for DSH in adolescence. Thus, in a preventive and intervention contexts, our results suggest the relevance of assessing and intervening on the type of emotional memories (i.e., threat, subordination, devaluation). In addition, this study indicates that contextual factors, particularly daily disruptions with peers, seem to have a crucial impact on emotional states of adolescents and their lives. That is, the impact of negative emotional states on frequent DSH is potentially conditioned by the presence of moderate and high levels of daily peer hassles. In conclusion, the challenge of the preventive and intervention programs for deliberate self-harm in adolescence requires addressing both emotional development and psychosocial context.

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ESTUDO EMPÍRICO VI

SELF-CRITICISM AND DEPRESSIVE SYMPTOMS MEDIATE THE RELATIONSHIP BETWEEN EMOTIONAL EXPERIENCES WITH FAMILY AND PEERS AND SELF-INJURY IN ADOLESCENCE

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Ana Xavier, José Pinto Gouveia, Marina Cunha, & Sérgio Carvalho

ABSTRACT

Although the relationship between negative childhood experiences, peer victimization, depressive symptoms and Non-Suicidal Self-Injury (NSSI) is widely recognized, the mechanisms involved are not fully understood, especially among adolescents. This study aims to test the mediating role of both self-criticism and depressive symptoms in the relationship between memories of negative or positive experiences, current peer victimization and NSSI. The sample consists 854 Portuguese adolescents, 451 female and 403 male, with ages between 12 and 18 years (M = 14.89; SD = 1.79), from middle and secondary schools. Participants answered self-report measures. Results from path analysis showed that memories of negative experiences, the absence of positive memories with family in childhood and peer victimization indirectly impact on NSSI through self-criticism and depressive symptoms. In addition, these stressful experiences led to depressive symptoms through self-criticism. Lastly, the most severe form of self-criticism indirectly impacts on NSSI through depressive symptoms, even though it also has a strong direct effect. It suggests that negative experiences with parents and peer victimization, as well as the absence of positive memories with family, have a negative impact on NSSI when these experiences are linked with a sense of self-hatred and depressive symptoms.

Keywords: Adolescence; Depression; Non-suicidal self-injury (NSSI); Peer victimization; Self-criticism.

INTRODUCTION

Non-suicidal self-injury (NSSI) is defined as the deliberate and direct destruction of body tissue without suicidal intent for purposes not socially sanctioned (American Psychiatric Association, 2013). NSSI commonly occurs during adolescence with dramatically high prevalence rates in community samples (10-40%; Giletta, Scholte, Engels, Ciairano, & Prinstein, 2012; Klonsky, Muehlenkamp, Lewis, & Walsh, 2011). Besides its elevated occurrence in adolescence (e.g., Giletta et al., 2012), NSSI is associated with several psychopathological indicators and increased risk for future suicide (Klonsky, May, & Glenn, 2013). Both the high prevalence of NSSI and its associated consequences in adolescence have been accounted in several studies in different countries (e.g., U.S.A, European countries, China), suggesting that NSSI is a cross-cultural phenomenon (Barrocas, Giletta, Hankin, Prinstein & Abela, 2015; Giletta et al., 2012; Muehlenkamp, Claes, Haventarpe & Plener, 2012). In Portugal, although studies on NSSI are scarce, some have reported similar prevalence rates (e.g., Xavier, Cunha, & Pinto-Gouveia, 2015).

A growing body of research has consistently supported the impact of adverse childhood experiences in the etiology of NSSI, including invalidating environments, sexual and physical abuse, neglect and parental conflicts (Kaess et al., 2013; Klonsky et al., 2011). As far as we know, fewer studies have explored the possible mechanisms underlying the associations between adverse childhood experiences and NSSI. For instance, Glassman, Weierich, Hooley, Deliberto and Nock (2007) found that the impact of emotional abuse on engagement in NSSI during adolescence (12–19 years old) is mediated by the presence of self-criticism. Another study conducted in a large sample of college students showed that emotion regulation difficulties may explain the relationship between physical and sexual abuse subtypes and NSSI (Muehlenkamp, Kerr, Brandley, & Larsen, 2010).

However, the recall of how one felt in relation to parents' behaviors, more than the recall of parental actual behavior, seems to play a relevant role on psychological mal-adjustment (Gilbert, Cheung, Grandfield, Campey, & Irons, 2003; Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006; Pinto-Gouveia, Xavier, & Cunha, 2016). Memories of feeling rejected, threatened, subordinated and devalued are some of the most powerful elicitors of stress responses and are linked to self-criticism and depression (Gilbert et al., 2003; Irons et al., 2006). In a recent cross-sectional study among a community adolescent sample (N = 441; 13–18 years old), the recall of threatening, submissiveness and devaluation feelings within one´s family were associated with NSSI through negative emotional states and these associations were amplified by daily peer hassles (Xavier, Cunha, & Pinto-Gouveia, 2016a). However, the role of self-hatred in the relationship between negative backgrounds and NSSI was not accounted for. In contrast,

memories of being valued, cared for and supported by parents are regulators of physiological and emotional systems and are associated with the ability to self-reassure (Richter, Gilbert, & McEwan, 2009). Such memories may become the basis for representations of others and of the self that influence emotional and social response to events (Mikulincer & Shaver, 2005).

In the context of difficult situations or failure in important life tasks, individuals may engage in an internal shaming process as an attempt to reduce the emotional arousal associated with the perceived failure or conflict situations, which is known as self-criticism (Gilbert, 2000; Gilbert & Irons, 2009). Self-criticism could take different forms and functions (Gilbert, Clarke, Hempel, Miles, & Irons, 2004). The form of self-criticism that is known to be more pathological is the hated self, as it refers to a sense of disgust, hatred and anger, with the desire to persecute, punish and exclude the self (Gilbert et al., 2004). Studies showed that this pervasive form of self-criticism is associated with depressive symptoms (Castilho, Pinto-Gouveia, & Duarte, 2013; Gilbert et al., 2004) and NSSI (Gilbert et al., 2010; Xavier, Pinto-Gouveia, & Cunha, 2016b). Throughout early adolescence to adulthood, self-criticism constitutes a stable characteristic and contributes to the perpetuation of the vicious cycle between self-criticism and depression, especially in female adolescents (Shahar, Blatt, Zuroff, Kupermine, & Leadbeater, 2004).

Although the earliest precursors for psychopathological pathways are in more intimate and family relationships, peer group relationships, especially those involving bullying, also play a crucial role in adolescence. “Bullying, an often studied form of peer victimization, is a subtype of aggressive behaviour, in which an individual or group of individuals repeatedly attacks, humiliates, and/or excludes a relatively powerless person” (van Geel, Goemans, & Vedder, 2015, p. 364). Peer victimization has many adverse short- and long-term consequences, namely internalizing problems (e.g., depression and anxiety), psychosomatic symptoms, difficulties in academic performance and school attendance, isolation, feelings of loneliness, suicidal ideation, suicide attempts and NSSI (Hawker, & Boulton, 2000; Turner, Exum, Brame, & Holt, 2013; van Geel et al., 2015).

A meta-analysis review focused on non-clinical adolescent samples reveals that peer victimization constitutes an important risk factor for NSSI (van Geel et al., 2015). A two-wave longitudinal study conducted in a sample of 880 adolescents (13-15 years old) corroborated that peer victimization has a predictive effect on deliberate self-harm (Jutengren, Kerr, & Stattin, 2011). Moreover, two cross-sectional studies conducted by Hay and Meldrum (2010) and Claes, Luyckx, Baetens, Van de Ven, and Witteman (2015) found that the relationship between peer victimization and NSSI occurred through negative emotions and depressive symptoms among community adolescent samples. Another longitudinal study demonstrated that being victim of

bullying during early childhood increases risk of NSSI in late adolescence indirectly via depressive symptoms (Lereya et al., 2013).

According to theoretical conceptualizations, NSSI may emerge as an attempt to manage and regulate negative emotional states resulting from stressful external experiences (e.g., with family and peers), which diminishes or eliminates such intense emotional arousal, resulting in a temporary emotional relief. However, the long-term outcomes are the maintenance of increased levels of negative emotional states through negative reinforcement. This vicious cycle strengthens the association between negative emotional arousal and NSSI, such that NSSI becomes an automatic response to similar situations and is maintained in the future (Chapman, Gratz, & Brown, 2006; Klonsky et al., 2011; Nock, & Prinstein, 2005).

Although negative experiences with parents and peer victimization are associated with NSSI, the possible mechanisms through which they might lead to NSSI are not well understood in adolescence. Based on current conceptualizations of NSSI, the present study aims to test the sequential effects of recalled negative (threat, subordination and devaluation) and positive (warmth and safeness) feelings in childhood, as well as peer victimization on self-criticism, which in turn affects depressive symptoms, which lastly affects NSSI. Firstly, we hypothesized that the extent to which memories of negative or positive experiences during childhood with family, and current peer victimization impact on NSSI is through self-criticism and current depressive symptoms. Secondly, we hypothesized that the associations between early negative or positive memories and peer victimization and depressive symptoms would occur through self-criticism. Lastly, we expect that the most pathological form of self-criticism (i.e., hated self) influences NSSI both directly and indirectly through depressive symptoms.

Although the literature separately documents the role of adverse experiences in the development of depressive symptoms and NSSI, as far as we know, this is the first study to test an integrative model for NSSI in which multiple risk factors (experiences with parents and peers) and sequential mediators (self-criticism and depressive symptoms) are integrated. The key contribution of this study is to understand how emotional experiences with both parents and peer group can lead to the development of a negative self-view focused on criticism, disgust and hostility, which, in turn, increases depressive symptoms and then affect NSSI. These assumptions to be confirmed can provide valuable information for prevention and intervention programs in adolescence.

METHOD

Participants

The sample consists of 854 Portuguese adolescents from middle and secondary schools (7^{th}–12^{th} grade). Of these 403 are male (47.2%) and 451 are female (52.8%). Mean age was 14.89 (*SD* = 1.79), ranging between 12 and 18 years old. No gender differences were found for age, $t_{(852)} = 1.803$, $p = .072$, except for years of education, $t_{(852)} = 2.646$, $p = .008$. Female adolescents have more years of education (*M* = 9.59, *SD* = 1.69) than male adolescents (*M* = 9.29, *SD* = 1.62).

Measures

The **Early Life Experiences Scale (ELES;** Gilbert et al., 2003; Portuguese version for adolescents by Pinto-Gouveia, Xavier, & Cunha, 2016) assesses memories of personal feelings within one´s family, namely recall of feeling frightened, devalued and having to behave in a subordinate way. This scale comprises 15 items and each item is rated on a 5-point scale (1 = *completely untrue*; 5 = *very true*). The scale can be used as a single construct or as three separate subscales: Threat (e.g., "There was little I could do to control my parents' anger once they became angry."), Submissiveness (e.g., "I often had to go along with others even when I did not want to.") and (Un)valued (e.g., "I felt able to assert myself in my family." – reverse scored). Gilbert et al. (2003) found Cronbach's alphas of .89 for threat, .85 for submissiveness, .71 for (un)valued and .92 for the total score. Also, this scale showed adequate internal reliability among adolescents, with Cronbach's alphas of .77 for threat, .74 for submissiveness, .68 for (un)valued and .86 for the total score. In the current study only the total score was used and it presented an adequate internal reliability (α = .86).

The **Early Memories of Warmth and Safeness Scale (EMWSS;** Richter, Gilbert, & McEwan, 2009; Portuguese version for adolescents by Cunha, Xavier, Martinho, & Matos, 2014) is a 21-item scale and measures the recall of positive personal feelings, linked to experiences of safeness, contentment and warmth in childhood (e.g., "I felt that I was a cherished member of my family"). This scale is rated on a 5-point scale (0 = *no, never*; 4 = *yes, most of the time*). Richter et al. (2009) found a single factor solution and a high Cronbach's alpha of .97. In the adolescents' version of EMWSS the internal consistency was good (α = .95). The Cronbach's alpha of EMWSS in the current study was .97.

The **Peer Relations Questionnaire (PRQ**; Rigby & Slee, 1993; Portuguese version: Silva & Pinheiro, 2010) assesses three styles of personal relating with peers, as a bully, a victim, or in a prosocial manner. This 20-item scale includes 6 items representative of the tendency to bully others, 6 items measuring the tendency to be victimized by others, 4 items taping prosocial behavior and 4 items as filler. Each item is rated on a 4-point scale (1 = *never*; 4 = *often*), with

higher scores indicating greater frequencies in each behavioral tendency. These scales are factorially distinct and have adequate internal consistency (α > .70). In the current study, only the subscale of tendency to be victimized by others (e.g., "I get picked on by other kids.") was used and the internal consistency was adequate (α = .82).

The **Forms of self-criticizing/attacking and self-reassuring scale (FSCRS**; Gilbert, Clark, Hempel, Miles, & Irons, 2004; Portuguese version: Castilho, Pinto-Gouveia, & Duarte, 2013) is a 22-item self-report questionnaire that assess how critical/attacking or how supportive/reassuring individuals are when facing failures and difficult situations.
This scale comprises two forms of self-criticizing (inadequate self and hated self) and other attitude focused on the positive aspects of the self (reassured self). Each item is rated on a 5-point scale (0 = *not at all like me*; 4 = *extremely like me*). In the original study the Cronbach's alphas were .90 for inadequate self and .86 for both hated and reassured self. Also, the Portuguese version presented good internal consistency, ranging between .72 and .89 (Castilho et al., 2013). In the current study only the *hated self* subscale was used to captures self-disgust, self-dislike feelings and an aggressive desire to hurt or persecute the self (e.g., "I have become so angry with myself that I want to hurt or injure myself.") and it presented adequate internal reliability (α = .79).

The **Depression Anxiety and Stress Scales** (DASS-21; Lovibond & Lovibond, 1995; Portuguese version: Pais-Ribeiro, Honrado, & Leal, 2004) is a 21-item scale and assesses three dimensions of negative emotional symptoms: depression, anxiety and stress. The items are rated on a 4-point scale (0–3) during the last week. In the original study the subscales had high internal consistency (α = .91 for depression; α = .84 for anxiety; α = .90 for stress). In the current study only the depression subscale was used and presented good internal consistency (α = .90).

The **Risk-taking and Self-harm Inventory for Adolescents** (RTSHIA; Vrouva, Fonagy, Fearon, & Roussow, 2010; Portuguese version: Xavier, Cunha, Pinto-Gouveia, & Paiva, 2013) is a self-report questionnaire that measures simultaneously risk-taking and self-harm behaviors. In the current study only the Self-harm dimension was used to assess the frequency of self-injury behaviors (e.g., cutting, burning or biting). The items refers to *intentionally* self-injury behaviors and are rated on a 4-point scale (0 = *never*; 3 = *many times*), referring to the lifelong history. In the present study, items 32 and 33, which assess suicidal ideation and intent respectively, were not included in the overall sum of NSSI. In addition, before conducting the analyses fourteen respondents were excluded from data set because they reported both suicidal ideation and intent. Vrouva et al. (2010) found an excellent good internal consistency for self-harm dimension (α = .93). In the present study the self-harm dimension (15 items) presented adequate internal reliability (α = .87).

Procedure

We recruited the sample in middle and secondary schools from the central region of Portugal. Before the administration of the questionnaires, ethical approvals were obtained by the Portuguese Ministry of Education and the Commission for Data Protection. After ethics approvals, schools were contacted and both the Head Teacher and the parents were given informed written consent. The informed consent sheet also included the contact of the research center and of the principal investigator in order to clarify any question related to the study or how to get help. In addition, all adolescents enrolled in the study were fully informed about the goals of the study and the aspects of confidentiality. Adolescents agreed to participate and filled out voluntarily the instruments in the classroom in the presence of the teacher and the researcher. When necessary, clarification regarding the protocol was provided. Participants who did not want to participate or were not authorized by their parents to participate in this study were excluded and were given an academic task by the teacher in the classroom.

Data Analysis

We conducted all statistical analyses using PASW Software (Predictive Analytics Software, version 18, SPSS, Chicago, IL, USA) and Amos Software (Analysis of Moment Structures, version 18, Amos Development Corporation, Crawfordville, FL, USA).

We performed descriptive statistics to analyze demographic variables and means scores on all variables. Gender differences were tested using independent-samples *t*-tests (Field, 2013). In addition, we conducted a one-way independent ANOVA to compare means scores of variables in study among age and grade groups. The *post hoc* Tukey HSD procedure was performed because it is considered the most powerful test for controlling the Type I error. However, when the assumption of homogeneity of variances was violated, the Welch and Brown-Forsythe F-ratios were analyzed and the *post hoc* Games-Howell procedure was chosen because it is accurate when population variances are different (Field, 2013).

We performed Pearson product-moment correlation coefficients to explore the relationships between early experiences of threat, subordination and devaluation (ELES), early memories of warmth and safeness (EMWSS), peer victimization (PRQ), self-criticism (hated self subscale of FSCRS), depressive symptoms (subscale of DASS-21) and NSSI (measured by Self-harm dimension of RTSHIA).

We conducted *Path analysis* to estimate the presumed relations among variables in the proposed theoretical model. This technique from structural equation modelling (SEM) considers theoretical causal relations among variables that have already been hypothesized (Kline, 2005).

In the path model tested, it was examined whether memories of negative and positive experiences and peer victimization would impact upon the frequency of non-suicidal self-injury (NSSI), mediated by hated self and current depressive symptoms. In addition, it was tested whether memories of negative and positive experiences and peer victimization would impact upon depressive symptoms, mediated by hated self. Furthermore, in this path analysis it was also tested whether the effect of hated self on NSSI is mediated by depressive symptoms. Demographic variables were included in the model, namely sex (a dummy variable where 0 = male and 1 = female) because it is a significant predictor of NSSI, and age (continuous variable measured in years) in order to control its potential confounding effect. The Maximum Likelihood (ML) was used as the estimation method to test for the significance of all path coefficients in the model and to compute fit indexes statistics (Kline, 2005). The following goodness-of-fit indexes were used to evaluate overall model fit: Chi-square value and the associated degrees of freedom, Goodness of Fit Index (GFI ≥ .95, good), Comparative Fit Index (CFI ≥ .95, good), Tucker-Lewis Index (TLI ≥ .95, good), Root Mean Square Error of Approximation (RMSEA ≤ .05, good fit; ≤ .08, acceptable fit; ≥ .10, poor fit), with 90% confidence interval (CI) (Hu & Bentler, 1999). The significance of the direct, indirect and total effects was assessed by the Bootstrap resampling method. This procedure with 2000 Bootstrap samples was used to create 95% bias-corrected confidence intervals. The effects were considered as significantly different from zero ($p < .05$) if zero is outside of the upper and lower bounds of the 95% bias-corrected confidence interval (Hayes & Preacher, 2010; Kline, 2005).

RESULTS

Preliminary Data Analysis

Data were screened for univariate normality and there were no severe violations to normal distribution (|Sk| < 3 and |Ku| < 8–10; Kline, 2005, p. 50). To inspect for possible multivariate outliers Mahalanobis Distance squared (D^2) were used and some extreme observations were excluded. Missing data was handled by using maximum likelihood estimation available in AMOS software. Multicollinearity was examined by inspecting the tolerance and variance inflation factor (VIF < 5) and no multicollinearity problems were found among variables (Kline, 2005).

Descriptive Analyses

Table 1 shows descriptive statistics of each variable for the full sample and by gender. As can be seen in Table 1, female adolescents have significantly higher levels of self-criticism (hated self) and depressive symptoms than males. They also report more engagement in NSSI than males. The Cohen's d effect sizes were small (cf. Table 1).

Table 1

Means (M), standard deviations (SD), independent-samples t-test for gender differences and Cohen's d effect size (N = 854)

Variables	Total sample (*N* = 854)		Males (*n* = 403)		Females (*n* = 451)		*t(df)*	Cohen's *d*	*r*
	M	*SD*	*M*	*SD*	*M*	*SD*			
ELES	28.44	9.40	27.83	9.10	28.99	9.65	1.813 (852)	n/a	n/a
EMWSS	65.24	15.42	65.68	15.04	64.84	15.75	0.792 (852)	n/a	n/a
Peer victimization	6.75	2.18	6.89	2.35	6.62	2.01	1.798 (796.444)	n/a	n/a
Hated self	3.14	3.79	2.62	3.49	3.61	3.98	3.875 (851.663)***	-0.26	-0.13
Depression	4.19	4.58	3.39	4.26	4.91	4.74	4.925 (851.957)***	-0.34	-0.17
NSSI	2.55	4.52	1.79	3.77	3.24	4.99	4.820 (828.778)***	-0.33	-0.16

Note. ***$p < .001$. n/a = not applicable. ELES = Early Life Experiences Scale; EMWSS = Early Memories of Warmth and Safeness Scale; NSSI = Non-suicidal self-injury measured by the Risk-taking and Self-harm Inventory for Adolescents (RTSHIA).

Table 2 presents the means, standard deviations and one-way ANOVA's F by age and grade groups. Results for age groups showed significant differences for early positive memories, peer victimization, hated self and depressive symptoms. *Post hoc* comparisons using Tukey HSD test indicated that early adolescents (12–13 years old) recall significantly more positive feelings within family than middle (14–15 years old) and later adolescents (16–18 years old). Since the assumption of homogeneity of variance was compromised for peer victimization, hated self and depression scores (Levene´s test $p < .05$), the Welch's F and Brown-Forsythe's F were used, indicated that two or three age groups differ significantly on their mean scores of peer victimization, hated self and depressive symptoms (cf. Table 2). *Post hoc* comparisons using Games-Howell test demonstrated that adolescents aged 12 or 13 years old reported significantly higher peer victimization experiences than adolescents 16 to 18 years old. Middle adolescents (14–15 years old) had significantly higher levels of hated self than early adolescents (12–13 years old). Both middle and later adolescents (14–15 and 16–18 years old) reported significantly higher levels of depressive symptoms than early adolescents (12–13 years old). The effect sizes were small (cf. Table 2).

Table 2

Means (M), standard deviations (SD), one-way independent ANOVA with F-ratio and effect size (N = 854)

Age Groups	**12-13 (*n* = 248)**		**14-15 (*n* = 256)**		**16-18 (*n* = 350)**		***F(df)***	**Partial η^2**
	M	***SD***	***M***	***SD***	***M***	***SD***		
ELES	28.56	9.12	28.40	9.25	28.39	9.73	0.028 (2, 851)	n/a
EMWSS	68.19	13.93	64.34	15.53	63.81	16.08	6.555 (2, 851)***	.015
Peer victimization	7.21	2.61	6.72	2.14	6.45	1.78	8.208 (2, 495.786)*** 8.671 (2, 677.757)***	.021
Hated self	2.76	3.78	3.69	4.26	3.00	3.37	3.639 (2, 514.655)* 4.101 (2, 741.652)*	.010
Depression	2.93	4.05	4.38	4.81	4.95	4.58	16.749 (2, 541.513)*** 15.000 (2, 801.685)***	.034
NSSI	2.16	4.25	2.75	4.54	2.69	4.67	1.326 (2, 851)	n/a
Grade Groups	**7–8 (*n* = 302)**		**9–10 (*n* = 278)**		**11–12 (*n* = 274)**		***F(df)***	**Partial η^2**
	M	***SD***	***M***	***SD***	***M***	***SD***		
ELES	28.81	9.21	28.48	9.31	28.00	9.73	0.537 (2, 851)	n/a
EMWSS	66.84	14.41	63.85	16.41	64.88	15.63	2.846 (2, 851)	n/a
Peer victimization	7.21	2.62	6.58	1.91	6.42	1.78	9.165 (2, 563.094)*** 11.040 (2, 785.479)***	.025
Hated self	3.01	3.96	3.62	4.09	2.79	3.20	3.649 (2, 562.166)* 3.676 (2, 823.204)*	.009
Depression	3.01	4.02	4.77	4.87	4.91	4.61	17.850 (2, 555.420)*** 15.998 (2, 814.910)***	.037
NSSI	2.43	4.71	2.89	4.61	2.34	4.19	1.196 (2, 851)	n/a

Note. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$. n/a = not applicable. ELES = Early Life Experiences Scale; EMWSS = Early Memories of Warmth and Safeness Scale; NSSI = Non-suicidal self-injury measured by the Risk-taking and Self-harm Inventory for Adolescents (RTSHIA).

In regard to grade in school, results from one-way ANOVA's F showed significant differences in peer victimization, hated self and depression (cf. Table 2). *Post hoc* comparison using Games-Howell test indicated that adolescents from 7th-8th grade reported significantly more enrolment in peer victimization than adolescents from 9th–10th and 11th–12th grades. Adolescents from 9th-10th grade had significantly higher levels of hated self than adolescents from 11th–12th grades. Lastly, adolescents from 9th–10th and 11th–12th grades reported significantly higher levels of depressive symptoms than adolescents from 7th–8th grade. The effect sizes were small (cf. Table 2).

Correlations

Table 3 presents the Pearson product-moment correlations between all variables in the study. Results showed that early memories of threat, submissiveness and devaluation within family were significantly and negatively correlated with early memories of warmth and safeness. Such early negative memories had positive and moderate correlations with peer victimization, hated self and depressive symptoms. There was a significant and positive correlation between early negative memories and NSSI. In contrast, early memories of warmth and safeness within family were significantly and negatively correlated with peer victimization, hated self, depressive symptoms and NSSI. Peer victimization presented significant and lower correlations with hated self, depressive symptoms and NSSI. Hated self and depressive symptoms were significantly and moderately associated with NSSI.

Table 3

Correlations (Pearson product-moment) between all variables in study (N = 854)

	ELES	**EMWSS**	**Peer victimization**	**Hated self**	**Depression**
EMWSS	-.62	–			
Peer victimization	.41	-.33	–		
Hated self	.41	-.35	.32	–	
Depression	.40	-.42	.28	.56	–
NSSI	.38	-.33	.26	.58	.49

Note. All correlation coefficients are significant at $p < .001$. ELES = Early Life Experiences Scale; EMWSS = Early Memories of Warmth and Safeness Scale; NSSI = Non-suicidal self-injury measured by the Risk-taking and Self-harm Inventory for Adolescents

Path Analysis

Taking into account the previous results and the proposed hypotheses, a model was tested, in which memories of threat, submissiveness and devaluation, memories of warmth and safeness within family and peer victimization indirectly influence NSSI through their effect on hated self and depressive symptoms. In addition, in the same path model it was tested whether memories of threat, submissiveness and devaluation, memories of warmth and safeness within family and peer victimization indirectly affects depressive symptoms through hated self. Furthermore, it was tested whether the effect of hated self on NSSI occurs through depressive symptoms. In this path model demographic variables (i.e., sex, and age) were included to control their effect (i.e., drawing covariances among exogenous variables).

The theoretical model was tested through a saturated or just-identified model, which comprised 39 parameters. Since this is a saturated or just-identified model, its degrees of freedom are zero and the goodness-of-fit is perfect to the data. The following paths were not statistically significant: the direct effect of age on NSSI (b = –.004, SE = .071, Z = –0.049, p = .961, β = –.001); the direct effect of age on hated self (b = .035, SE = .066, Z = 0.532, p = .595, β = .02); the direct effect of peer victimization on NSSI (b = .063, SE =.064, Z = 0.980, p = .327, β = .03); the direct effect of early memories of warmth and safeness on NSSI (b = –.011, SE = .010, Z = –1.061, p = .289, β = –.038). These non-significant paths were sequentially removed, and the model, consisting of 35 parameters, was respecified and recalculated (Figure 1). This respecified model revealed an excellent model fit: $\chi^2_{(4)}$ = 2.586, p = .629, GFI = .999, CFI = 1.000, TLI = 1.006, RMSEA = 0.000, 90% CI [0.000, 0.042], p = .979. In the respecified model all paths were statistically significant, and the significance of indirect effects was further confirmed through bootstrap resampling method. The model accounted for 22% of hated self, 41% of depressive symptoms and 39% of NSSI variances (Figure 1).

Results showed a significant indirect effect of memories of threat, subordination and devaluation on NSSI (b_{ELES} = .14, 95% CI [0.086, 0.185], p = .001), even when other variables were controlled for. This indirect effect indicates that more negative memories are associated with NSSI through its effect on hated self and depression. Also, these memories of threat, subordination and devaluation had a direct effect on NSSI (β = .13). There was a significant and negative indirect effect of memories of warmth and safeness on NSSI (b_{EMWSS} = –.10, 95% CI [–0.147, –0.054], p = .001) through hated self and greater levels of depressive symptoms, even when covariates and predictor variables were controlled for. Similarly, peer victimization had an indirect effect on NSSI (b_{PRQ} = .11, 95% CI [0.064, 0.155], p = .001) through hated self and depressive symptoms, even when controlling other variables in the model. Results from this path analysis showed an indirect effect of memories of threat, subordination and devaluation on

depressive symptoms (b_{ELES} =.11, 95% CI [0.064, 0.152], p = .001) through hated self. Also, these negative memories had a direct effect on depressive symptoms (β = .09). On the contrary, higher levels of memories of warmth and safeness indirectly impact on lesser levels of depressive symptoms (b_{EMWSS} = –.059, 95% CI [–0.097, –0.025], p = .001) through diminished hated self. Such early memories of warmth and safeness in childhood also had a direct effect with a negative direction on depressive symptoms (β = –.16). There was an indirect effect of peer victimization on depressive symptoms (b_{PRQ} = .078, 95% CI [0.040, 0.121], p = .001) through hated self. Also, peer victimization presented a direct effect on depressive symptoms (β = .09). In addition, hated self had an indirect effect on NSSI ($b_{HatedSelf}$ =.085, 95% CI [0.050, 0.130], p = .001) through depressive symptoms. Also, this severe form of self-criticism had a strong direct effect on NSSI (β = .40). Regarding covariate variables, results demonstrated that sex had a significant indirect effect on NSSI (b_{sex}= .079, 95% CI [0.046, 0.112], p = .001) through its effect on hated self and depression, even when other variables in the model were controlled for. In addition, sex had a direct effect on NSSI (β = .07). Also, there was an indirect effect of sex on depression (b_{sex}= .053, 95% CI [0.027, 0.080], p = .001) through hated self. Lastly, age had an indirect effect on NSSI (b_{age} = .033, 95% CI = [0.019, 0.055], p = .001) through depressive symptoms.

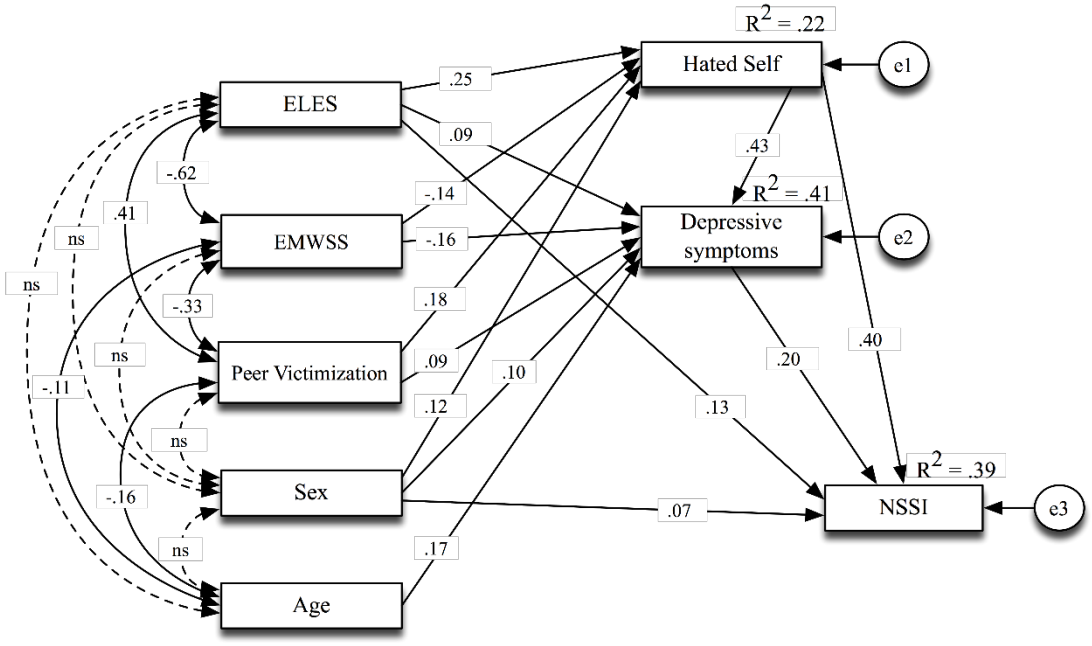

Figure 1. Path diagram for the final model explaining non-suicidal self-injury (NSSI) in the total sample (N = 854). ELES = Early Life Experiences Scale; EMWSS = Early Memories of Warmth and Safeness Scale. Model fit: $X^2_{(4)}$ = 2.586, p = .629, GFI = .999, CFI = 1.000, TLI = 1.006, RMSEA = 0.000, 90% CI [0.000, 0.042], p = .979. Standardized regression coefficients and squared multiple correlations (R^2) are presented; ns = non-significant correlations; the paths are statistically significant (p < .001).

DISCUSSION

The current study had the main goal of testing a hypothesized model in which memories of negative experiences with parents, current negative experiences with peers, as well as a lack of warm and affectionate memories with family predict NSSI through both self-criticism and current depressive symptoms.

In the present study, results from the descriptive analysis were in line with previous studies that suggest females are more vulnerable to experience internalizing symptoms than males (e.g., Turner et al., 2013; Xavier et al., 2016). In addition, current results suggest that during middle adolescence (14–15 years of age), individuals experience higher levels of self-hatred and depressive symptoms, when compared with early adolescence (12–13 years of age). Moreover, individuals in early adolescence seem to recall more experiences of warmth, safeness and affection with family when compared to middle and later adolescence (16–18 years of age). These results are consistent with previous studies in which early adolescents report being more protected and cared for in parental interactions than older adolescents (e.g., Cunha et al., 2014). However, our findings also indicate that individuals in early adolescence tend to report more victimization at the hands of peers when compared to individuals in later adolescence. These age trends have also been found by Scheithauer, Hayer, Petermann, and Jugert (2006).

The current study showed that adolescents who have more memories of threat, subordination and devaluation with their parents tend to have a sense of self as diminished, hated and devalued, tend to experience more depressive symptoms and tend to endorse more NSSI, which is in accordance with existent literature (e.g., Xavier et al., 2016a). On the other hand, our results show that adolescents who have fewer memories of warmth and safeness tend to experience higher levels of self-criticism, depressive symptoms and NSSI. This seems to suggest that the absence itself of experiences of being valued, cared for and safe in childhood by their family is an important factor in later experience of self-criticism, depressive symptoms and endorsing in NSSI.

The main contribution of the current study was to help clarify the extent to which these memories of negative experiences or absence of positive experiences with family, as well as peer victimization, impact on NSSI, as well as to contribute to the understanding of the processes through which this impact occurs. Results confirm our first hypothesis by suggesting that adolescents who have negative experiences in childhood with parents and/or lack on memories of being cared for and safe seem to internalize a sense of self as worthless, disgusting and hated, with a desire to persecute and exclude these negative aspects of the self, which in turn seems to increase negative emotional states (such as depressive symptoms) and lead to the engagement of NSSI. These results seem to provide evidence for what has been conceptualized as the functions

of NSSI, i.e., on the one hand NSSI has the purpose of regulating negative affect, and on the other hand it seems to be executed as a self-punishment strategy (Chapman et al., 2006; Klonsky et al., 2011; Nock, & Prinstein, 2005). In addition, these results are in accordance with literature on the etiology of NSSI, highlighting the pervasive role of early negative experiences (e.g., Chapman et al., 2006; Kaess et al., 2013). Although the association between peer victimization, depressive symptoms and NSSI has been documented (e.g., Claes et al., 2015; van Geel et al., 2015), the current study adds novel information as it shows that the link between peer victimization and NSSI occurs indirectly through the activation of a hated sense of self and also the eliciting of depressive symptoms, even when controlling for early negative experiences in childhood.

In addition, although the literature has presented sound evidence of the link between early negative experiences and the absence of positive experiences in childhood and self-criticism and depressive symptoms (e.g., Gilbert et al., 2004; Irons et al., 2006), our findings extend these results to adolescence. According to our second hypothesis, results demonstrate that this self-critical and persecuting self–to–self relating mirrors earlier experiences of being criticized, put-down and victimized by others, which in turn leads to depressive symptoms. Lastly, results from path analysis are in accordance with our last hypothesis and corroborate a recent study (Xavier et al., 2016b) in which self-hatred contributes indirectly to the endorsement of NSSI through depressive symptoms, but more importantly impacts directly on NSSI. Thus, these results show that adolescents who have a negative sense of self and self-directed hostility might engage in NSSI, even in the absence of depressive symptoms.

Although these results come from a Portuguese sample, we suggest that they can be integrated within the overall research on NSSI, having no reason to assume the presence of cultural factors influencing these results. Firstly, the prevalence of NSSI in Portugal (20%; e.g., Xavier et al., 2015, 2016a) are in line with the one reported in international studies on NSSI among non-clinical samples (24%; Giletta et al., 2012). Secondly, the correlation between NSSI and other related constructs (e.g., depression, bullying) are identical to the associations found in other studies (e.g., Marshall, Tilton-Weaver, & Stattin, 2013; Jutengren et al., 2011). Lastly, the self-report measures used in the current study were previously validated for the Portuguese population, in which their psychometric properties were in accordance with the original versions. Although we recognize that the generalization of our results should be extended with caution, these results are comparable with the ones in international studies.

Before interpreting the current results, one should be aware of some limitations. Firstly, the cross-sectional design does not allow inferences on causality between variables. All causal interpretation should be carefully considered. Nevertheless, all relationship among variables in the current study was drawn from theoretical backgrounds. Moreover, it should be noted that the

questionnaire protocol was composed by self-report measures. Although there are inherent limitations in self-report measures, the protocol benefited from its anonymity. Moreover, there is some evidence that the influence of current mood states on the recall of early experiences has been exaggerated and that this is a reliable way of measuring these kinds of experiences (e.g. Brewin, Andrews, & Gotlib, 1993). Nevertheless, other measures (e.g., ecological momentary measure; e.g., Nock, Prinstein, & Sterba, 2009) should be included in future studies when assessing self-injury as the current tool (RTSHIA) measures retrospectively NSSI. Lastly, as the current sample was collected from the community, future research should replicate these results in a clinical sample of adolescents before generalizing these results for this population.

Several preventive and clinical implications can be suggested based on the current study´s findings. Firstly, the preventive actions should not only be focused on merely identifying bullying and peer victimization, but also in conducting a rigorous assessment and intervention of self-criticism, especially its most pathogenic form, as it seems to be a risk factor for depressive symptoms and NSSI when these stressful peer situations occur. Moreover, it seems to be of additional value to implement tailored interventions according to self-critical levels in adolescents. At the same time, the current study seems to echo the importance of including parents in preventive actions, providing them with evidence for the importance of affectionate, warm and safe relationships with their children. In addition, the pervasive impact of establishing dominance-submission relationships on the development of a hostile and aggressive self–to–self relationship and in turn the vulnerability for psychopathology of their children should be acknowledged. At a clinical level, results suggest the importance of promoting new and more effective ways of relating with one´s negative internal experiences, such as memories of being rejected, devalued, threatened and subordinated in childhood. It seems that therapy with adolescents who have negative memories should benefit from promoting the development of mindfulness skills as a way of coping with these emotional memories (e.g., Baer, 2003). In addition, therapy should not only be focused on early childhood memories, but should also address the internal shaming process that underlies these experiences. Recently, the development of an internal relationship based on kindness and compassion seems to be an effective way to regulate negative affect, diminish shame and self-criticism (e.g., Gilbert & Procter, 2006), which in turn are linked to lesser depressive symptoms and NSSI.

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ESTUDO EMPÍRICO VII

NON-SUICIDAL SELF-INJURY IN ADOLESCENCE: THE ROLE OF SHAME, SELF-CRITICISM AND FEAR OF SELF-COMPASSION

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NON-SUICIDAL SELF-INJURY IN ADOLESCENCE: THE ROLE OF SHAME, SELF-CRITICISM AND FEAR OF SELF-COMPASSION

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ABSTRACT

Background: Non-suicidal self-injury (NSSI) is a serious and relatively prevalent problem in adolescence. Although several studies have identified risk factors for the aetiology and maintenance of NSSI, little is known about the impact of individual and contextual variables in such pervasive behaviors among adolescents.

Objective: This paper aims to test whether specific internal traits characterized by shame, self-criticism and fear of self-compassion impact on NSSI, through their effect in daily peer hassles and depression.

Methods: Participants are 782 adolescents with 12-18 years-old from middle and secondary schools (years of education's mean = 9.46). This study has a cross-sectional design. Self-report measures include external shame, self-criticism, fear of self-compassion, daily peer hassles, depressive symptoms and NSSI.

Results: External shame, hated self and fear of self-compassion indirectly predict NSSI, through their effect in daily peer hassles and depression. The most pathological form of self-criticism (hated self) is strongly associated with NSSI.

Conclusions: These findings contribute to clarification of the paths through which the belief that one is seen negatively by others, the hostile self-to-self relationship and the inability to direct compassion for self may increase NSSI. Daily peer hassles and current depressive symptoms seem to play an important role in the association between internal traits and NSSI. Preventive and intervention actions for reducing NSSI in adolescence should address not only interpersonal difficulties but also self-to-self relationship.

Keywords: Adolescence; Fear of self-compassion; Non-suicidal self-injury; Self-criticism; Shame.

INTRODUCTION

Non-suicidal self-injury (NSSI) is defined as the direct and intentional destruction of one's own body tissue without suicidal intentions and for purposes not culturally sanctioned (American Psychiatric Association, 2013), such as cutting, burning, scraping skin, hitting and biting oneself. Although estimates of prevalence rates vary due to different definitions and methods used, NSSI is especially frequent during adolescence with prevalence rates ranging between 10% and 40% (Cerutti, Manca, Presaghi, & Gratz, 2011; Giletta, Scholte, Engels, Ciairano, & Prinstein, 2012; Klonsky, Muehlenkamp, Lewis, & Walsh, 2011; Madge et al., 2011). The average age of onset for NSSI range consistently between 12 and 16 years old (Gratz & Chapman, 2009; Klonsky et al., 2011). Regarding differences in gender, there is a trend to find that adolescent girls engage more frequently in NSSI than boys (Giletta et al., 2012; Klonsky et al., 2011; Madge et al., 2011).

Theoretical frameworks have emerged to explain how NSSI may serve specific functions and motivations that maintain and reinforce these behaviors (Gratz & Chapman, 2009; Klonsky et al., 2011; Nock, 2009). The main functions of NSSI are to regulate negative emotional states, to punish the self, and to influence or communicate with others (Gratz & Chapman, 2009; Nock, 2009). Indeed, the intrapersonal functions are more common in individuals with NSSI, highlighting the role of self-punishment in the vulnerability for and maintenance of these behaviors (Klonsky et al., 2011). In this case, NSSI is used to direct anger, disgust and loathing towards the self and is experienced as familiar, ego-syntonic and provides immediate emotion relief in face of distress, intense feelings of shame and guilt (Gratz & Chapman, 2009; Klonsky et al., 2011). Although affect regulation is the most commonly cited motive for NSSI, interpersonal difficulties also seem to represent a common precursor to engage in NSSI (Klonsky et al., 2011).

Even though there are biological and psychological explanatory models for NSSI, the mechanisms for its occurrence and maintenance are not yet fully explored in adolescence. At this stage of life, adolescents begin to form an identity separated from their parents, while turning to peers as a source of support, values and sense of belonging (Gilbert & Irons, 2009; Wolfe & Mash, 2006). Adolescents become more focused on and highly sensitive to the images and emotions they are eliciting in their peers in order to be approved, valued and included in social groups (Gilbert & Irons, 2009). Such concerns may render them more susceptible to difficulties with self-consciousness, self-identity, self-presentation, fear of rejection and victimization, which in turn may lead to different forms of distress and psychopathology (Cunha, Matos, Faria, & Zagalo, 2012; Gilbert & Irons, 2009). Indeed, stressful peer experiences (e.g., bullying, rejection, harassment, victimization and hassles with friends) are linked to depression, shame and NSSI

(Åslund, Nilsson, Starrin, & Sjöberg, 2007; Claes, Luyckx, Baetens, Van de Ven, & Witteman, 2015; Giletta et al., 2012).

Early experiences of shame with family and peer groups operate within an interactional experience (e.g., where the child or adolescent is abused, criticized, ridiculed, ostracized or rejected by significant others) and can become the basis for negative self-experience and negative self-evaluation (Gilbert & Irons, 2009). Shame (in other words an experience of shame) arises when one has been criticized, judged or viewed negatively by others. Shame response displays a submission signal and withdrawal as a means to limit possible attacks or rejection from others (Keltner & Harker, 1998). According to Gilbert (1998), this socially focused emotion has internal and external dimensions that are extremely linked to each other, since both involve negative attributes of the self and interact mutually. In other words, when one experiences oneself as existing in a negative way in the minds of others, one may engage in an internal shaming process that involves a harsh self-blaming and self-persecutory attitude towards the self and the adoption of defensive submissive strategies (Gilbert, 1998). This internalized shame response entails an internal hostile self-to-self relationship known as self-criticism (Gilbert, 1998, 2000; Gilbert & Irons, 2009; Gilbert, Clarke, Hempel, Miles, & Irons, 2004).

Self-criticism typically emerges when people perceive failures in important life tasks or in difficult situations, and involves automatic harsh self-blame and self-attacks, with self-direct anger, disgust or even hate (Gilbert, 2000; Gilbert & Irons, 2009; Gilbert et al., 2004). Self-criticism may have different forms and functions, which may focus on feeling inadequate, defeated (also known as 'inadequate self') or focus on a sense of disgust and anger with the self (i.e., hated self) and with the desire to persecute the self (Gilbert et al., 2004). This last form of self-criticism seems to be more problematic and pathogenic, since it can be used as an attempt to eliminate, exclude and persecute the self (e.g., the self perceived as being bad, defective, and worthless; Castilho, Pinto-Gouveia, & Duarte, 2013; Gilbert, 2000; Gilbert & Irons, 2009; Gilbert et al., 2004). Indeed, this self-persecuting function of self-criticism was associated with self-harm, depression, and anxiety in a mixed clinical adult population (Gilbert et al., 2010a).

The pathogenic impact of such internal self-to-self relationship not only leads to an increased vulnerability for psychopathology, but also to the inability to generate feelings of self-directed soothing, warmth and care (Gilbert, 2000; Gilbert & Irons, 2009). In fact, individuals with high shame and self-criticism tend to report negative beliefs about compassion, which are translated in fears, resistance and avoidance to compassionate feelings and behaviors towards themselves (Gilbert, 2009; Gilbert, McEwan, Matos, & Rivis, 2010). Fears of compassion involve the resistance and tendency to avoid experiencing compassionate feelings as well as behaving in a compassionate way towards others and oneself. Additionally, fears of compassion might also

involve being the target of compassion from others (Gilbert et al., 2010b). Studies conducted in adult populations demonstrated that fears of compassion (especially compassion from others and for self) were associated with self-criticism, depression, anxiety and stress symptoms, alexithymia and difficulties with safeness and self-reassuring feelings (Gilbert et al., 2010b; Gilbert, McEwan, Gibbons, Chotai, Duarte, & Matos, 2012). Recently, Xavier, Cunha, and Pinto-Gouveia (2015) found that experiences of threat and submissiveness in childhood, fear of compassion for self, negative affect and being female have a significant and an independent contribution to the prediction of the frequency of self-harm behaviors among a community sample of adolescents. Overall, it seems that individuals who are fearful of compassion may have the social safeness/soothing system underdeveloped, and find it hard to feel reassured or calmed/soothed in difficult situations of their lives (Gilbert, 2000, 2009; Gilbert et al., 2004; Gilbert & Irons, 2009). In addition, both the sense of disconnection from others and the lack of feeling valued or cared for may drive the engagement in NSSI.

The Current Study

Based on the above theoretical and empirical evidence, the present study aims to develop an integrative model to predict the frequency of NSSI among adolescents. Particularly, the model tests whether specific internal traits characterized by shame, self-criticism and fear of self-compassion increase the engagement in NSSI, through their effect on perceived troubles with peers and current depressive symptoms. We expect shame, self-criticism and fear of compassion towards oneself to be associated with increased levels of troubles with peers, depressive symptoms and NSSI. We hypothesized that adolescents who believe to be negatively evaluated by others (e.g., unattractive, undesired, inadequate), endorse harsh self-criticism and express resistance and fears of self-compassion will engage in more NSSI, and that this impact occurs through their effect on current troubles with peers and depressive symptoms. The hypothesized model and all paths are displayed in Figure 1.

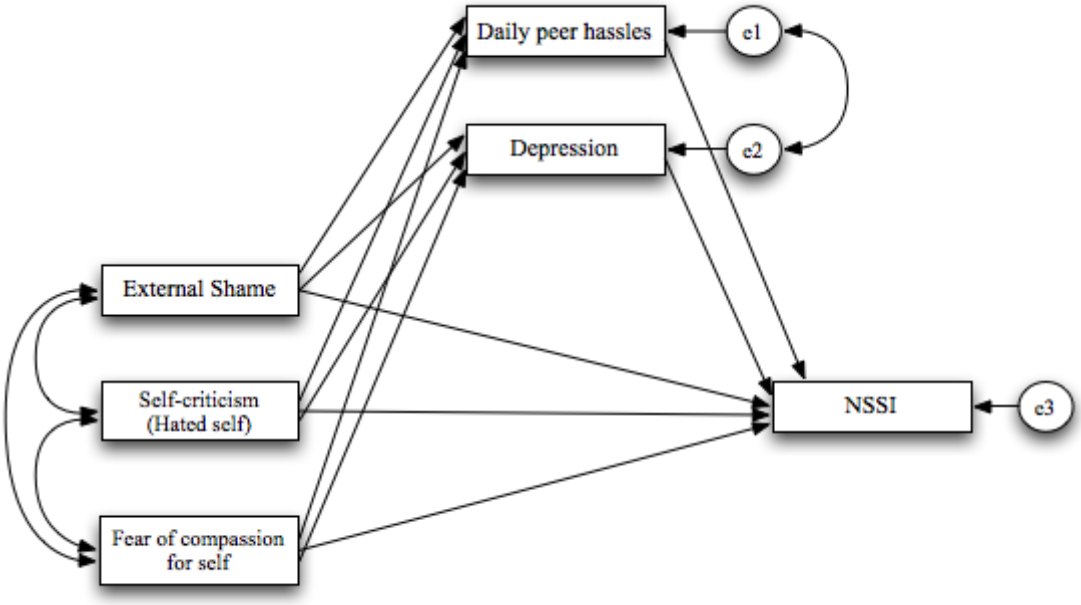

Figure 1. Path diagram for the hypothesized model predicting non-suicidal self-injury (NSSI).

METHOD

Participants

The sample consists of 782 adolescents, 369 boys (47.2%) and 413 girls (52.8%). The adolescents age ranged between 12 and 18 years old (M = 14.89, SD = 1.76). Regarding years of education, the mean was 9.46 (SD = 1.61). No sex differences for age were found, $t_{(780)}$ = 1.135, p = .257, except for years of education, $t_{(780)}$ = 2.475, p = .014, with girls presenting more years of education than boys (M = 9.59, SD = 1.63 *vs*. M = 9.31, SD = 1.58).

Measures

External Shame

The **Other as Shamer Scale** (**OAS2**; Matos, Pinto-Gouveia, Gilbert, Duarte, & Figueiredo, 2015; Portuguese version for adolescents: Cunha, Xavier, Cherpe, & Pinto-Gouveia, 2014) is a shortened version of the Other as Shamer Scale and consists of 8 items that assess external shame (i.e., global judgments of how people think others view them). Respondents are asked to indicate the frequency on a 5-point scale (0 = *never*; 4 = *almost always*) of their feelings and experiences to items such as "Other people see me as small and insignificant". In the original version, OAS2 showed a very good internal consistency (α = .85) as well as in the adolescents' version (α = .93). In this study we also obtained a very good internal consistency (α = .94)

Self-Criticism

The **Forms of Self-Criticism/Self-Reassuring Scale** (**FSCRS**; Gilbert, Clark, Hempel, Miles, & Irons, 2004; Portuguese version: Castilho, Pinto-Gouveia, & Duarte, 2013) is a 22-item self-report questionnaire that assess respondents' thoughts and feelings about themselves in a perceived failure or mistake. This scale comprises three subscales: inadequate self; hated self; reassured self. Participants respond on a 5-point scale (ranging from 0 = *not at all like me*, to 4 = *extremely like me*). Gilbert and colleagues (2004) found good internal reliability with Cronbach alphas of .90 for inadequate self and .86 for both hated and reassured self. The Portuguese version also presented good internal consistency, ranging between .72 and .89 (Castilho et al., 2013). In this study we only used *hated self* subscale that assess the desire to hurt or persecute the self (e.g., "I have become so angry with myself that I want to hurt or injure myself.") and it presented good internal reliability (α = .80).

Fears of Compassion for Self

The **Fears of Compassion Scales** (**FCS**; Gilbert, McEwan, Matos, & Rivis, 2010; Portuguese version: Duarte, Pinto-Gouveia, & Cunha, 2014) are composed by three scales that assess fear of compassion for self, fear of compassion from others and fear of compassion for others. In the present study we only used the *fear of compassion for self* (FCself) scale in order to tap the resistance or fear of compassionate feelings and behaviors toward ourselves when we make mistakes or things go wrong in our lives. This fear of compassion for self scale comprises 15 items (e.g., "I fear that if I am more self compassionate I will become a weak person.") and each item is rated on a 5-point scale (0 = *don't agree at all*; 4 = *completely agree*). In the original version the FCself scale had good internal consistency (α = .85). In the present study the Cronbach's alpha was .90.

Daily Peer Hassles

The **Daily Hassles Microsystem Scale** (**DHMS**; Seidman et al., 1995; Portuguese version: Paiva, 2009) is a self-report questionnaire composed by 25 items that assess the perceived daily hassles within four microsystems. For each item, respondents answer *yes* or *no* to whether the event "has happened this month", and if the hassles had occurred, how much of a hassles it was, on a 4-point scale (1 = *not at all a hassles*; 4 = *a very big hassles*). According to the original study, rating of "hasn't happened this month" and "not at all a hassle" were scored as 1 in calculating the hassles intensity scores, in order to avoid missing subjects. In the present study we only used the *peer hassles subscale***,** which represents trouble with friends (5 items; e.g., "Trouble with friends over beliefs, opinions and choices"). In the original study (Seidman et al., 1995) adequate internal consistency was found (α = .71 for peer hassles). In this study we also obtained an adequate internal consistency (α = .77).

Depressive symptoms

The **Depression Anxiety and Stress Scales** (**DASS-21**; Lovibond & Lovibond, 1995; Portuguese version: Pais-Ribeiro, Honrado, & Leal, 2004) is a self-report measure composed of 21 items to assess three dimensions of psychopathological symptoms: depression, anxiety and stress. The items indicate negative emotional symptoms and are rated on a 4-point scale (0-3) during the last week. Lovibond and Lovibond (1995) found the subscales to have high internal consistency (α = .91 for depression; α = .84 for anxiety; α = .90 for stress). In the present study only the depression subscale was used and presented good internal consistency (α = .90).

Non-suicidal self-injury (NSSI)

The **Risk-taking and Self-harm Inventory for Adolescents** (**RTSHIA**; Vrouva, Fonagy, Fearon, & Roussow, 2010; Portuguese version: Xavier, Cunha, Pinto-Gouveia, & Paiva, 2013) is a self-report questionnaire that assesses simultaneously risk-taking and self-harm behaviors. In this study we only used the Self-harm dimension that measures frequency of self-injury behaviors, such as cutting, burning or biting. The items contain the word *intentionally*, or end with the phrase *to hurt yourself* or *to hurt or punish yourself* and are rated on a 4-point scale (0 = *never*; 3 = *many times*), referring to the lifelong history. In the present study, items 32 and 33, which assess suicidal ideation and intent respectively, were not included in the overall sum of NSSI and prior to analyses four respondents were excluded from data set because they reported suicidal intent. In the original study the authors found a very good internal consistency for self-harm dimension (α = .93). In this study the self-harm dimension (15 items) presented good internal reliability (α = .88).

Procedure

The current sample was collected from middle and secondary schools in the district of Coimbra, Portugal. Prior to the administration of the questionnaires, ethical approvals were obtained by the Ministry of Education and the Commission for Data Protection from Portugal. Then, the Head Teacher of the school and parents were informed about the research goals and gave their written consent. Adolescents consented to participate and were fully informed about the purpose of the study and aspects of confidentiality. They voluntarily participated and filled out the instruments in the classroom in the presence of the teacher and researcher in order to ensure confidential and independent responding. Clarifications were provided when necessary. Participants who did not want to participate or were not authorized by their parents to participate in this study were excluded and were given an academic task by the teacher in the classroom.

Data Analysis Strategy

The current study has a cross-sectional design. Statistical analyses were conducted using PASW Software (Predictive Analytics Software, version 18, SPSS, Chicago, IL, USA) and path analysis from Structural Equation Modelling (SEM) was tested using AMOS software (Analysis of Moment Structures, version 18, Amos Development Corporation, Crawfordville, FL, USA).

Descriptive statistics were computed to analyze demographic variables and means scores on study's variables. Gender differences were tested using independent-samples *t*-tests (Fidel, 2013). Additionally, a one-way independent ANOVA was used to compare means scores of variables in study among age and grade groups. The *post hoc* Tukey HSD procedure was performed because it is considered the most powerful test for controlling the Type I error. However, when the assumption of homogeneity of variances was violated, the *post hoc* Games-Howell procedure was chosen because it is accurate when population variances are different (Field, 2013). Pearson product-moment correlation coefficients were performed to explore the relationships between external shame, self-criticism (hated self), fear of self-compassion, daily peer hassles, depressive symptoms and NSSI. Path analysis was performed to estimate the presumed relations among variables in the proposed theoretical model (Figure 1). This technique from structural equation modelling (SEM) considers theoretical causal relations among variables that have already been hypothesized (Kline, 2005). Although the cross-sectional data of the current study do not allow the establishment of causal chain between variables, it may contribute for the understanding of the possible pathways between the variables under examination and whether these pathways are consistent with the underlying hypothesized theoretical model (Hayes, 2013; Kline, 2005). In the path model tested, it was examined whether trait-variables (external shame, self-criticism, fear of self-compassion) would predict the frequency of non-suicidal self-injury (NSSI), mediated by current depressive symptoms and daily peer hassles. Demographic variables were included in the model, namely sex as a dummy variable (0 = male, 1= female) because it is a significant predictor of NSSI; and age and years of education in order to control their effect. Given the limitations linked to cross-sectional data, we also tested a reverse causality model. The Maximum Likelihood (ML) was used as the estimation method to test for the significance of all path coefficients in the model and to compute fit indexes statistics (Kline, 2005). Some goodness-of-fit indexes were used to evaluate overall model fit: Goodness of Fit Index (GFI $\geq$ .95, good), Comparative Fit Index (CFI $\geq$ .95, good), Tucker-Lewis Index (TLI $\geq$ .95, good), Root Mean Square Error of Approximation (*RMSEA* $\leq$ .05, good fit; $\leq$ .08, acceptable fit; $\geq$ .10, poor fit), with 90% confidence interval (CI) (Hu & Bentler, 1999). The significance of the direct, indirect and total effects was assessed by the Bootstrap resampling method. This procedure with 1000 Bootstrap samples was used to create 90% bias-corrected confidence intervals. The effects were considered as significantly different from zero ($p < .05$) if

zero is outside of the upper and lower bounds of the 90% bias-corrected confidence interval (Hayes & Preacher, 2010; Kline, 2005).

RESULTS

Preliminary Data Analysis

Data was screened for univariate normality and there were no severe violations to normal distribution (|Sk| < 3 and |Ku| < 8-10; Kline, 2005). To inspect for possible multivariate outliers Mahalanobis Distance squared (D^2) were used and results suggest the presence of some high values. The model was tested with and without these cases and since the results did not change, we decided to maintain them in order to preserve the factor's variability (Kline, 2005). There was no missing data. Multicollinearity was examined by inspecting the tolerance and variance inflation factor (VIF < 5) and no multicollinearity problems were found among variables (Kline, 2005).

Descriptive Statistics

The means, standard deviations and independent-samples *t-test* for gender differences are shown in Table 1. As can be seen in Table 1, there are gender differences for all variables in study. In this sample, females reported more levels of external shame, self-criticism, fear of self-compassion, daily peer hassles, depressive symptoms and NSSI than males. The effect size of the differences ranged between insignificant and small effects (cf. Table 1).

Table 2 displays the means, standard deviations and ANOVA's *F* by age and grade groups. Results for age groups showed significant differences for external shame, depression and NSSI. *Post hoc comparisons,* using the *Tukey HSD* test, indicated that middle adolescence (14-15 years old) had significantly higher levels of external shame than early adolescence (12-13 years old) and later adolescence (16-18 years old). Since the assumption of homogeneity of variance was compromised for depression and NSSI scores (Levene's *F* test: $p < .05$ for depression and NSSI), the *Welch's F* and *Brown-Forsythe's F* were used, indicating that at least two or the three age groups differ significantly on their means scores of depression and NSSI (cf. Table 2). Results from *post hoc* comparisons, using the *Games-Howell post hoc* procedure, showed that middle adolescents (14-15 years old) had significantly higher levels of depressive symptoms than early adolescents (12-13 years old). In addition, later adolescents (16-18 years old) reported significantly higher levels of depressive symptoms than early adolescents (12-13 years old). For NSSI, *Games-Howell post hoc comparison* demonstrated that middle adolescence

(14-15 years old) report more engagement in NSSI than early adolescents (12-13 years old). All the effect sizes were small (cf. Table 2).

Table 1

Means (M), Standard deviations (SD) and independent-samples t-test for gender differences (N = 782)

	Total sample (*N* = 782)		**Males (*n* = 369)**		**Females (*n* = 413)**		***t(df)***	**Cohen's *d***	***r***
	M	***SD***	***M***	***SD***	***M***	***SD***			
External shame (OAS2)	6.36	6.67	5.37	6.12	7.24	7.03	3.975*** (779.492)	-0.28	-0.14
Hated self (FSCRS)	4.37	4.55	3.82	4.14	4.86	4.84	3.219*** (778.545)	-0.23	-0.11
FCself	16.26	11.87	15.09	11.41	17.31	12.18	2.622** (780)	-0.18	-0.09
Daily peer hassles (DHMS)	8.01	2.82	7.57	2.51	8.40	3.02	4.227*** (775.971)	-0.30	-0.15
Depression (DASS-21)	4.89	5.05	3.96	4.49	5.73	5.37	5.021*** (776.644)	-0.36	-0.18
NSSI	3.07	5.09	2.12	3.72	3.94	5.93	5.178*** (702.767)	-0.37	-0.18

Note. $^{**}p \leq .01$, $^{***}p \leq .001$. OAS2 = Other as Shamer Scale – brief version; FSCRS = Forms of Self-Criticism/Self-Reassuring Scale; FCself = Fear of Compassion for Self scale; DHMS = Daily Hassles Microsystem Scale; NSSI = Nonsuicidal self-injury measured by the Risk-taking and Self-harm Inventory for Adolescents (RTSHIA).

Regarding grade in school results demonstrated significant differences in external shame, hated self, depression and NSSI (Table 2). Results from *Tukey HSD comparison* indicated that adolescents attending 9-10 grades reported significantly higher scores on external shame than 7-8 grades and 11-12 grades. For Hated self, *Games-Howell post hoc procedure* suggested that adolescent from 9-10 grades are more self-critical than adolescents from 11-12 grades. In depression scores, *Games-Howell post hoc procedure* indicated that adolescents from 9-10 and 11-12 grades had significantly higher levels of depressive symptoms than adolescents in the 7-8 grades. Finally, adolescents in 9-10 grades reported more often NSSI behaviors than adolescents in 7-8 grades. The effect sizes were small (cf. Table 2).

Table 2

Means (M), standard deviations (SD), one-way independent ANOVA with F-ratio and effect size (N = 782)

Age Groups	**12-13 (*n* = 195)**		**14-15 (*n* = 279)**		**16-18 (*n* = 308)**		***F(df)***	**Partial η^2**
	M	***SD***	***M***	***SD***	***M***	***SD***		
External shame (OAS2)	5.67	6.19	7.38	7.15	5.87	6.42	5.156 (2,779)**	.013
Hated self (FSCRS)	4.40	4.43	4.80	4.86	3.96	4.29	2.463 (2,779)	n/a
FCself	16.66	12.16	16.57	11.69	15.73	11.86	0.519 (2,779)	n/a
Daily peer hassles (DHMS)	8.11	3.12	8.07	2.62	7.88	2.79	0.508 (2,779)	n/a
Depression (DASS-21)	3.70	4.38	5.31	5.01	5.28	5.36	8.821 (2,496.320)*** 7.764 (2,768.125)***	.019
NSSI	2.36	3.71	3.72	5.87	2.94	5.02	4.739 (2,507.722)** 4.583 (2,741.352)**	.011
Grade Groups	**7-8 (*n* = 252)**		**9-10 (*n* = 296)**		**11-12 (*n* = 234)**		***F(df)***	**Partial η^2**
	M	***SD***	***M***	***SD***	***M***	***SD***		
External shame (OAS2)	5.74	6.53	7.29	6.94	5.84	6.38	4.743 (2, 779)**	.012
Hated self (FSCRS)	4.48	4.53	4.82	4.77	3.68	4.20	4.552 (2,514.382)** 4.369 (2,776.187)**	.011
FCself	16.72	11.89	16.65	12.09	15.28	11.54	1.152 (2, 779)	n/a
Daily peer hassles (DHMS)	8.03	2.93	8.07	2.74	7.91	2.80	0.228 (2, 779)	n/a
Depression (DASS-21)	3.83	4.48	5.61	5.16	5.13	5.30	10.032 (2,506.696)*** 9.065 (2,746.269)***	.023
NSSI	2.51	3.85	3.80	5.95	2.76	4.98	4.770 (2,505.216)** 5.246 (2,731.550)**	.013

Note. *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$. ns = non-significant. n/a = not applicable. OAS2 = Other as Shamer Scale – brief version; FSCRS = Forms of Self-Criticism/Self-Reassuring Scale; FCself = Fear of Compassion for Self scale; DHMS = Daily Hassles Microsystem Scale; NSSI = Non-suicidal self-injury measured by the Risk-taking and Self-harm Inventory for Adolescents (RTSHIA).

Correlations

Pearson product moment correlation coefficients for all variables are shown in Table 3. External shame was significantly and positively associated with self-criticism (hated self) and with fear of self-compassion. External shame also revealed positive moderate correlations with daily peer hassles and depressive symptoms. Hated self and fear of self-compassion were positively associated with each other and with daily peer hassles and depressive symptoms. External shame, fear of self-compassion and daily peer hassles presented lower correlations with NSSI. Hated self and depression were moderately related to NSSI.

Table 3

Summary of intercorrelations for scores on self-report measures (N = 782)

	External shame (OAS2)	**Hated self (FSCRS)**	**FCself**	**Daily peer hassles (DHMS)**	**Depression (DASS-21)**
Hated self (FSCRS)	.54				
FCself	.47	.46			
Daily peer hassles (DHMS)	.57	.41	.38		
Depression (DASS-21)	.61	.63	.48	.42	
NSSI	.39	.59	.29	.34	.49

Note. All coefficients are significant at $p < .001$. OAS2 = Other as Shamer Scale – brief version; FSCRS = Forms of Self-Criticism/Self-Reassuring Scale; FCself = Fear of Compassion for Self scale; DHMS = Daily Hassles Microsystem Scale; NSSI = Non-suicidal self-injury measured by the Risk-taking and Self-harm Inventory for Adolescents (RTSHIA).

Path Analysis

Taking into account the previous results and the proposed hypotheses, we intend to test whether external shame, hated self and fear of self-compassion indirectly influence NSSI through their effect on daily peer hassles and depression. In this path model demographic variables (i.e., sex, age and years of education) were included to control their effect (i.e., drawing covariances among exogenous variables). A reverse causality model was also tested (i.e., NSSI impact on daily peer hassles and depression and these variables impact on the dispositional variables). Results showed that the model fit was very similar to the previous model and both models explain the data equally well. These results do not clarify the direction of the effects of the relationship

between variables under study. However, the hypothesized model is considered more plausible according to theoretical background. Indeed, theoretical accounts point out that shame, self-criticism and fears of self-compassion are vulnerability factors for the development of depression (Gilbert, 1998, 2000, 2009). Additionally, a longitudinal study conducted by Marshall and colleagues (2013) clarify the direction of the effects of the relationship between depression and NSSI, showing that depressive symptoms predict increases in NSSI one year later.

The theoretical model (Figure 1) was tested through a saturated model, which comprised 45 parameters. Given that saturated models always produce a perfect fit to the data, model fit indexes were neither examined nor reported. The following paths were not statistically significant: the direct effect of years of education on depression (b = .238, SE = .205, Z =1.161, p = .246, β = .076); the direct effect of years of education on daily peer hassles (b = -.058, SE = .135, Z = -.427, p = .669, β = -.033); the direct effect of age on depression (b = .136, SE = .187, Z = .728, p = .467, β = .047); the direct effect of age on daily peer hassles (b = .018, SE = .123, Z = .144, p = .886, β = .011); the direct effect of fear of self-compassion on NSSI (b = -.018, SE = .015, Z = 1.230, p = .219, β = -.042); the direct effect of external shame on NSSI (b = -.005, SE = .031, Z = -.171, p = .865, β = -.007); the direct effect of years of education on NSSI (b = .067, SE = .237, Z = .284, p = .776, β =.021); and the direct effect of age on NSSI (b = .012, SE = .216, Z = .056, p = .955, β =.004). Thus, these non-significant paths were sequentially removed, and the model, consisting of 37 parameters, was respecified and recalculated (Figure 2). This respecified model revealed an excellent model fit: GFI = .99, CFI = .99, TLI = .97, RMSEA = .055, 90% CI [0.033, 0.079], p = .311. In the respecified model all paths were statistically significant, and the significance of indirect effects was further confirmed through bootstrap resampling method. The model accounted for 52% of depressive symptoms, 36% of daily peer hassles peers and 39% of NSSI variances (Figure 2).

Results showed a significant indirect effect of external shame on NSSI (b_{OAS} = .087, 95% CI [0.046, 0.133], p = .002), even when covariate and predictor variables were controlled for. This indirect effect indicates that higher external shame is associated with NSSI through its effect on depression (β = 0.323 x 0.154 = 0.049) and daily peer hassles (β = 0.456 x 0.081 = 0.036). Similarly, even when covariate and predictor variables were controlled for, there was a significant indirect effect of hated self on NSSI ($b_{Hated.self}$ = .067, 95% CI [0.039, 0.099], p = .001) through greater levels of depressive symptoms (β = 0.382 x 0.154 = 0.059) and daily peer hassles (β = 0.102 x 0.081= 0.008). Additionally, hated-self is strongly associated with NSSI with a direct effect of β = .45 (b = .507, SE = .041, Z = 12.248, p < .001). There was also a significant indirect effect of fear of compassion for self on NSSI (b_{FCself} = .032, 95% CI [0.017, 0.052], p = .001), even when covariate and predictor variables were controlled for. This significant indirect effect

indicates that fear of compassion for self is associated with NSSI through its effect on depression (β = 0.145 x 0.154 = 0.022) and daily peer hassles (β = 0.116 x 0.081= 0.009).

Regarding covariate variables, results demonstrated that sex had a significant indirect effect on NSSI (b_{sex}= .016, 95% CI [0.007, 0.030], p = .002), even when other variables in the model were controlled for. Sex is associated with NSSI through its effect on depression (β = 0.073 x 0.154 = 0.011) and daily peer hassles (β = 0.062 x 0.081= 0.005). Additionally, sex variable had a direct effect on NSSI, β = .09, b = .893, SE = .164, Z = 3.070, p = .002.

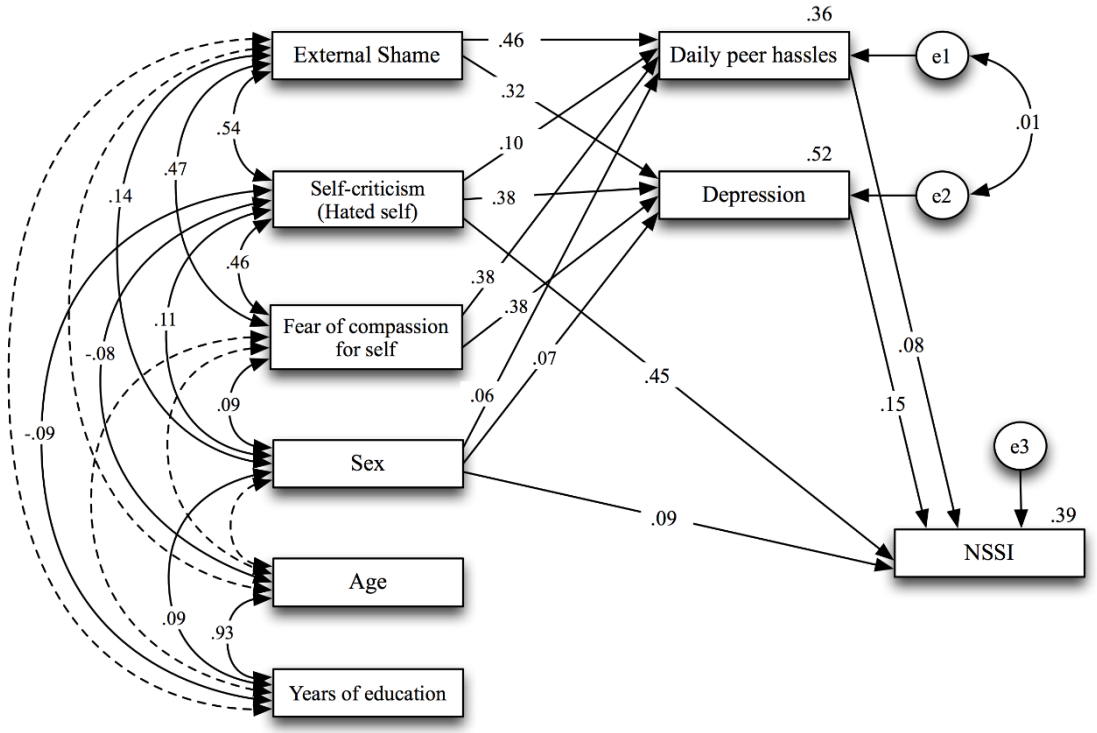

Figure 2. Path diagram for the final model predicting non-suicidal self-injury (NSSI). Standardized regression coefficients are presented; all paths are statistically significant (p < .001). Correlation paths drawn in dotted lines are not statistically significant (p > .05).

DISCUSSION

NSSI is a serious and relatively prevalent problem in adolescence, as evidenced by the high prevalence rates (Giletta et al., 2012; Klonsky et al., 2011). Although several studies have identified risk factors for the aetiology and maintenance of NSSI, little is known about the impact of individual and contextual variables in such pervasive behaviors among adolescents. Therefore, the major aim of this study was to test an integrative model to predict the frequency of NSSI among adolescents. Specifically, the present study explored the indirect impact of individual traits

characterized by external shame, self-criticism and fear of self-compassion on the engagement in NSSI, through stressful life events with peers and current depressive symptoms.

The primary goal of this study was to explore the descriptive data regarding variables in study. In this sample, female adolescents reported higher levels of external shame, self-criticism (hated self), fear of self-compassion, daily peer hassles, depressive symptoms and NSSI than males. Our findings also demonstrate that middle adolescence (14-15 years old) were at major risk for psychopathology, particularly for external shame, depression and NSSI. The same pattern was found for grade in school, where adolescents attending 9th and 10th grades reported higher levels of external shame, self-criticism (hated self), depression and NSSI. Cognitive-developmental changes that occur during the transition to adolescence (e.g. self-evaluative processes) can foster heightened self-focus, concerns about negative social evaluations, self-consciousness, and self-critical thinking, which may increase the vulnerability for internalizing problems (Steinberg, 2010; Wolfe & Mash, 2006), specially for girls (De Rubeis, & Hollenstein, 2009; Madge et al., 2011; Wolfe & Mash, 2006).

Consistent with prior research with adult populations (Gilbert et al., 2004, 2010), correlation analyses results showed that the perception that others look down to the self is associated with self-criticism and fear of self-compassion. In addition, adolescents with an internal relationship characterized by external shame, hated self and fear of self-compassion tend to present more troubles with peers, high levels of depressive symptoms and frequent NSSI.

Results from path analysis indicated that the impact of higher levels of external shame and fear of self-compassion on the engagement in NSSI occurs through daily peer hassles and depressive symptoms. As expected, these results seem to indicate that adolescents who believe they exist in the mind of others in a negative way (e.g., as unvalued, undesired, inferior) and express resistance to compassionate feelings towards themselves tend to engage in NSSI, particularly in the presence of daily troubles with peers and depressive symptoms. Interestingly, our results also showed that hated self had both a direct and indirect effect (through daily peer hassles and depressive symptoms) on NSSI.

In line with previous theoretical and empirical contributions (Cunha et al., 2012; Gilbert, 1998, 2000; Gilbert & Irons, 2009), these results suggest that the emotional disposition characterized by a sense of self negatively perceived by others, a harsh and persecutory self-critical attitude and an inability to experience compassionate feelings towards the self may render the adolescent more vulnerable to enter defeat and threat emotional states when facing stressful life events.

One of the key finding was the strong association between hated self and NSSI. Self-criticism has different forms and functions (Gilbert et al., 2004), aimed at improving and

correcting behavior to prevent bad things to happen (e.g., noting mistakes); or aimed at harming or wanting to hurt and destroy the self (e.g., seen as defective, bad, unvalued). Our data suggest that the hatred and disgust towards the self is one reason for physically attacking the self. Thus, NSSI may emerge as an attempt to punish and condemn the self viewed as bad, flawed, unworthy, undesirable, and to regulate negative emotions linked to this hated self (e.g., disgust, anger and hatred). These findings are in line with the conceptualizations of NSSI as an attempt to regulate intense and negative emotions (Gratz & Chapman, 2009; Klonsky et al., 2011; Nock, 2009). Furthermore, they add to the existent literature by identifying those adolescents with a persecutory and hatred self-attacking who are more likely to engage in NSSI.

Our findings also indicate that gender still has a significant direct and indirect effect on NSSI, even when other variables are controlled for. This result is in accordance with several studies conducted in community-based adolescents, showing that being female is a significant predictor of NSSI (Madge et al., 2011).

The results of the present study should be interpreted in the light of the following limitations. First, this study has a cross-sectional design that limits the confidence in causal relations among variables. However, the current study contributes for the understanding of the possible pathways through which internal traits might transmit their effect on NSSI. Future studies should use longitudinal design to prove the causal chain of these mechanisms. Secondly, the data were collected through self-report measures and are retrospective. Although self-report questionnaires used in this study do benefit from being anonymous, future research should include other measures to assess frequency, methods and functions of NSSI, such as structured interviews. Thirdly, the use of a nonclinical sample impairs generalizability of results to a clinical population. Although the processes involved in shame and self-criticism may apply to both clinical and nonclinical populations, the replication of the present study in clinical samples may find more robust findings.

Nevertheless, this study clarifies the paths through which the hostile self-to-self relationship, along with troubles with peers and depression, impacts on NSSI among adolescents. To sum up, the model tested demonstrated that the proneness to feelings of shame, self-directed hostility and fear of compassion towards oneself increases the engagement in NSSI, through their effect in daily peer hassles and depressive symptoms. A key finding is the strong link between hated self and NSSI. Thus, this study has important implications for preventive and intervention actions. At a preventive level, parents, educators, and clinicians should be aware of the pervasive effect of shame feelings, self-critical attitudes and the lack of compassionate/affiliative feelings and behaviors on adolescents' inner states and daily events. At the same time, it is important to promote positive, attentive and safe contexts (e.g., in school, community) to provide opportunities

for adolescents to develop adaptive emotional and behavior skills. In clinical practice with adolescents, the assessment and identification of the possible origins of the internalizing shaming processes (e.g., abuse, criticism and neglect in childhood) seems to be important. It seems that adolescents, with a self-view as defective or bad and the desire to persecute and punish the self, experience difficulties to be empathic to their distress or reassure themselves when feeling depressed and ashamed or failing at things. Thus, the interactions between the functions of self-criticism and the fear and avoidance of self-compassion should be addressed in therapy. In conclusion, compassion training (e.g., Compassion-focused therapy; Gilbert, 2009; Gilbert & Irons, 2009), that focus on developing feelings of safeness, warmth and connectedness and diminishing the fears of compassionate feelings, may have a key role to help adolescents managing intense negative emotions and cognitions (e.g., shame and hatred self-criticism) without engaging in NSSI.

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ESTUDO EMPÍRICO VIII

THE PROTECTIVE ROLE OF SELF-COMPASSION ON RISK FACTORS FOR NON-SUICIDAL SELF-INJURY IN ADOLESCENCE

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ABSTRACT

Non-suicidal self-injury (NSSI) in adolescence is a serious public health problem. Although self-compassion is a protective factor of mental health difficulties in adult populations, its potential impact on adolescence remains scarcely explored. Therefore, we aimed to test whether self-compassion can mitigate the impact of daily peer hassles and depressive symptoms on NSSI. The participants were 643 adolescents (51.6% female) with ages between 12 and 18 years old, from middle and secondary schools. Self-report questionnaires were used to measure daily peer hassles, depressive symptoms, self-compassion and NSSI. Daily peer hassles were positively correlated with depressive symptoms and NSSI. Self-compassion was inversely associated with daily peer hassles and depressive symptoms and NSSI. Path Analysis showed that self-compassion had a moderator effect on the association between depressive symptoms and NSSI. Results suggest that self-compassion can be a protective process, as it may buffer against the impact of depressive symptoms on NSSI. This study presents preventive and clinical implications for educators and therapists working with adolescents.

Keywords: Adolescence; Depression; Life Hassles; Non-Suicidal Self-Injury; Self-Compassion

INTRODUCTION

Non-suicidal self-injury (NSSI) refers to deliberate and direct destruction of one's body tissue, without suicidal intent. This phenomenon is a serious public health problem, not only because it is associated with debilitating mental health problems, but also because its occurrence is dramatically high during adolescence (Klonsky, Muehlenkamp, Lewis, & Walsh, 2011). For instance, 13-36% of adolescents report a lifetime history of NSSI in community samples (Hankin & Abela, 2011). The onset of NSSI is between 12 and 16 years old and it is especially prevalent in female adolescents (Hawton, Saunders, & O'Connor, 2012).

NSSI is multi-determined, including genetic, biological, psychological, social and cultural factors (Hawton et al., 2012). Research has consistently shown that NSSI is frequently associated with stressful life events (e.g., invalidating family environment, emotional, physical and sexual abuse, bullying victimization), with several psychopathological conditions (e.g., depression, anxiety), and with maladaptive psychological processes (e.g., emotional dysregulation, impulsivity, self-criticism, interpersonal difficulties) (Giletta, Scholte, Engels, Ciairano, & Prinstein, 2012; Klonsky et al., 2011; Marshall, Tilton-Weaver, & Stattin, 2013). These both distal and proximal vulnerabilities increase the likelihood that an individual, in face of stressful life events and intense negative emotions, will use NSSI to regulate undesirable internal experiences (e.g., emotions, memories, thoughts), which on the one hand leads to temporary emotional relief, but on the other results in negative long term outcomes (Gratz & Chapman, 2009; Klonsky et al., 2011; Marshall et al., 2013; Nock & Prinstein, 2005). NSSI is negatively reinforced by the reduction in the intensity or removal of an aversive emotional arousal/stimulus. This negative reinforcement is the maintaining factor in the persistence of NSSI (Gratz & Chapman, 2009; Klonsky et al., 2011; Nock & Prinstein, 2005).

Although the link between major negative life events and psychopathology is well-established, minor stressors (e.g., daily hassles) also seem to play a crucial role. Major life events are "discrete, observable events standing for significant life changes with a relative clear onset and offset (e.g., divorce, job loss and death of a loved one)" (Wheaton, 1999, p. 183). Daily hassles, on the other hand, are defined as "irritating, frustrating demands that occur during everyday transactions with the environment" (Holm & Holroyd, 1992, p. 465), namely family, peers, school and neighborhood contexts. Major and minor life stressors can be distinguished in the following aspects. Firstly, daily hassles appear to be more frequent than major life events and affect the majority of individuals (Pinquart, 2009). Secondly, the temporal intervals between the occurrence of daily hassles and psychological distress are shorter than the temporal intervals between the occurrence of negative major life events and psychological distress (Pinquart, 2009). Third, daily hassles seem to mediate the relationship between major life events and

psychopathology (Johnson & Sherman, 1997). Indeed, micro stressors, when experienced cumulatively, are associated with high stress and levels of psychopathological symptoms, although major life events also have an important effect (Wheaton, 1999).

Past research has shown that daily hassles are associated with maladaptive cognitive emotion regulation strategies (Garnefski, Boon, & Kraaij, 2003), depressive symptoms (Chang & Sanna, 2003), substance use (Bailey, & Covell, 2011) and suicidal ideation (Mazza & Reynolds, 1998) among adolescents. Daily hassles may be an important source of psychological distress during adolescence, especially if these minor stressors in day-to-day life occur within peer group (e.g., problems with peers, disappointments by friends). Thus, daily peer hassles can be hypothesized as one of the negative minor stressor that may contribute to the development and maintenance of NSSI during adolescence. Indeed, adolescents may engage in NSSI to cope with interpersonal problems, such as negative peer relations at school (Jutengren, Kerr, & Stattin, 2011).

In contrast, there is an alternative and effective way to regulate threat and negative affect. Self-compassion refers to the ability to be kind and understanding towards oneself in the face of failure or difficulties, rather than being harshly judgmental and self-critical. In addition, self-compassion also encompasses the recognition of personal mistakes, failures and setbacks as part of the overall human condition, rather than seeing them as personal and isolating. Being self-compassionate also implies being mindfully aware of painful thoughts and feelings rather than to avoid, suppress or over-identify oneself with them (Neff, 2003a). According to Neff (2003a), self-compassion entails six interrelated components: three of them are positive indicators of self-compassion (i.e., self-kindness, common humanity and mindfulness) and other three are negative and counterparts of the first three components (i.e. self-judgment, isolation and over-identification). Self-compassion is an adaptive way of relating to the self when confronted with personal mistakes, inadequacies or difficult life situations, without attempts to avoid or suppress undesirable emotions nor engaging in self-critical thoughts (Neff, 2003a, 2003b; Neff & McGehee, 2010).

Research has been consistently supporting that self-compassion is significantly associated with positive psychological functioning (e.g., positive affect, adaptive coping, life satisfaction, social connectedness) and may have a protective effect in a wide range of mental health difficulties (e.g., shame, self-criticism, rumination, avoidance, maladaptive coping, depression; Barnard & Curry, 2011; MacBeth & Gumley, 2012; Neff, Kirkpatrick, & Rude, 2007). Although the majority of research on self-compassion was mainly conducted in adult populations, there has been an increasing interest in the development of self-compassion skills among adolescents. Part of this interest has been encouraged by the results from some studies showing that self-

compassion is significantly associated with mental health in adolescent populations (e.g., Bluth & Blanton, 2014, 2015; Neff & McGehee, 2011).

Indeed, adolescents who are more self-compassionate tend to report secure attachment style, greater feelings of social connectedness, higher levels of mindfulness and lower levels of depression and anxiety (Bluth & Blanton, 2014, 2015; Cunha, Martinho, Xavier, Espírito-Santo, 2013; Cunha, Xavier, & Castilho, 2016; Neff & McGehee, 2011). In contrast, adolescents who are low in self-compassion were more likely to struggle with psychological distress, emotion dysregulation, substance use and suicide attempt (Tanaka, Wekerle, Schomuck, Paglia-Boak, & the map research team, 2011; Vettese, Dyer, Li, & Wekerle, 2011). According to research on Compassion-focused Therapy (CFT; Gilbert, 2009), some individuals tend to display difficulties, fears and resistance to generate compassionate, warm and soothing feelings towards themselves and others, and even to receive these feelings from others. These have been defined as fears of compassion, which may difficult and block the motivation to learn and develop compassionate skills (Gilbert, McEwan, Matos, & Rivis, 2010). Moreover, two recent studies in a community sample of adolescents showed that adolescents who fear and avoid compassionate feelings towards themselves, when they make mistakes or are confronted with difficult situations, are more likely to engage in NSSI (Xavier, Cunha, & Pinto-Gouveia, 2015), particularly in the presence of daily peer hassles and depressive symptoms (Xavier, Pinto-Gouveia, & Cunha 2016).

On the one hand, these results suggest that it is not only the low levels of self-compassion itself, but also the resistance or difficulty to generate soothing, warmth, and calming feelings towards oneself that are linked to psychopathology (Gilbert & Irons, 2009). On the other hand, self-compassion may operate as a useful emotional regulation strategy to cope with adverse or difficult situations (Neff, 2003a; Neff & McGehee, 2011). For instance, a recent study, conducted in a large adolescents' sample, found that self-compassion predicts changes in mental health over 1 year and acts as a buffer against the negative effects of low self-esteem (Marshall, Parker, Ciarrochi, Sahdra, Jackson, & Heaven, 2015). Thus, self-compassion is an adaptive psychological process that can help to regulate negative affect. When promoting these self-compassionate skills, psychological health and resilience can be enhanced (Barnard & Curry, 2011; Neff, 2003a, 2003b).

In addition to these empirical studies, therapeutic interventions for developing, cultivating and increasing self-compassion abilities have been proposed (for a review see Barnard & Curry, 2011). Several authors have also pointed out the relevance of developing self-compassion approaches for adolescent population (Gilbert & Irons, 2009; Neff & McGehee, 2010) and, in particular, for adolescents at-risk (e.g., NSSI; adolescents with maltreatment histories) (Reddy et al., 2012; Vliet & Kalnins, 2011). However, research on self-compassion in adolescence is still

in its early stages and the potential protective impact of self-compassion on this age group should be explored.

Therefore, we aim to explore the relationship among daily disruptions with peers group, depressive symptoms, self-compassion and NSSI. The major goal of this study is to test the moderator effect of self-compassion in the relationship between daily disruptions with peers, depressive symptoms and NSSI. It is expected that daily disruptions with peers and depressive symptoms would be positively associated with NSSI. In turn, self-compassion is predicted to be inversely associated with daily disruptions with peers, depressive symptoms and NSSI. It is hypothesized that self-compassion would mitigate the impact of daily peer hassles and depressive symptoms on the frequency of NSSI.

METHOD

Participants

The sample consisted of 643 adolescents, 311 boys (48.4%) and 332 girls (51.6%), aged between 12 and 18 years old (M = 15.24, SD = 1.64) from 7th to 12th grade (years of education mean = 9.77, SD = 1.52). No significant differences were found between males and females regarding age, $t(641) = 1.856$, $p = .064$, except for years of education, $t(641) = 3.179$, $p = .002$. Girls had more years of education (M = 9.95, SD = 1.49) than boys (M = 9.57, SD = 1.54).

Procedures

This sample was recruited as part of a broader research on relative impact of different emotion regulation processes on psychopathological symptoms. This sample of adolescents was collected from middle and secondary schools in the center region of Portugal. Prior to administering the scales, the ethics approval was obtained from the Ministry of Education and the National Commission for Data Protection of Portugal. Additionally, ethics approvals were granted by the schools' Head Teacher, and parents were informed of the goals of the research and gave their written informed consent. Adolescents were informed of the purpose of the study and aspects of its confidentiality. They assented to voluntarily participate in the research. The questionnaires were administered in the classroom in the presence of the teacher and the researcher. Participants completed the questionnaires on their own and the researcher was only allowed to help them if they had any doubts about the instructions or content of the questionnaires.

Measures

Daily peer hassles

The **Daily Hassles Microsystem Scale** (**DHMS**; Seidman et al., 1995; Portuguese version: Paiva, 2009) comprises 25 items that assesses the perceived daily hassles within four microsystems (family, peer, school, and neighborhood), in the last month. For each item responses are rated on a 4-point scale (1-4), with higher scores representing great daily hassles within each kind of microsystems transactions. In the present study we only used the *daily peer hassles* subscale (4 items), which represents troubles with friends (e.g., "Trouble with friends over beliefs, opinions and choices"). The original study (Seidman et al., 1995) found a Cronbach's alpha of .71 for daily peer hassles. The Portuguese version (Paiva, 2009) obtained a good internal consistency for daily hassles subscale (α = .72). In the present study the internal reliability for daily peer hassles subscale was also good (α = .73).

Self-compassion

The **Self-Compassion Scale (SCS**; Neff, 2003a; Portuguese version for adolescents: Cunha, Xavier, & Castilho, 2016) is a self-report questionnaire composed by 26 items and six subscales: Self-kindness (five items), Self-judgment (five items), Common humanity (four items), Isolation (four items), Mindfulness (four items) and Over-identification (four items). In the present study, the total self-compassion score was used to assess the overall attitude of being kind, tolerant and compassionate towards oneself. Items were rated on a 5-point scale (1-5), with higher scores indicating greater self-compassion. The individual subscale scores were also analyzed by the positive valence subscales (i.e. self-kindness, common humanity and mindfulness) and the negative valence subscales (i.e., self-judgment, isolation and over-identification). This measure demonstrated good internal consistency for both adolescents (Cronbach's alpha of .88 for total score and ranging between .70 and .79 for subscales) and adult samples (Cronbach's alpha of .92 for total score and ranging between .75 and .81 for subscales). In the present study, the internal reliability was also good for the total score (α = .88) and for each subscale: self-kindness α = .82, self-judgment α = .87, common humanity α = .79, isolation α = .86, mindfulness α = .77, and over-identification α =.83.

Depressive symptoms

The **Depression Anxiety and Stress Scale** (**DASS-21**; Lovibond & Lovibond, 1995; Portuguese version: Pais-Ribeiro, Honrado, & Leal, 2004) is a self-report measure composed of 21 items and designed to assess three dimensions of psychopathological symptoms: depression, anxiety and stress. The items indicate negative emotional symptoms and are rated on a 4-point scale (0-3). For the purposes of this study, only depression subscale was used. The depression

subscale had high internal consistency in the original study (Cronbach's α = .91), in the Portuguese version (Cronbach's α = .85) and in the present study (Cronbach's α = .90).

Non-suicidal self-injury (NSSI)

The **Risk-taking and Self-harm Inventory for Adolescents** (**RTSHIA**; Vrouva, Fonagy, Fearon, & Roussow, 2010; Portuguese version: Xavier, Cunha, Pinto-Gouveia, & Paiva, 2013) is a self-report questionnaire that assesses risk-taking and self-harm behaviours. This scale comprises two dimensions: Risk-taking (8 items) and Self-harm (18 items). In this study, the Portuguese version and only the Self-harm dimension were used, which measures frequency of self-injury behaviours, such as cutting, burning, biting. The items contain the word *intentionally*, or end with the phrase *to hurt yourself* or *to hurt or punish yourself* and are rated on a 4-point scale (0 = *never*; 3 = *many times*), referring to lifelong history. In the current study, items 32 and 33, which assess suicidal ideation and intent respectively, were not included in the overall sum of NSSI and prior to analyses ten respondents were excluded from data set because they reported suicidal intent. In the original study the self-harm dimension had an excellent internal consistency (α = .93). The Portuguese version found a Cronbach's alpha of .89 for self-harm dimension. In this study the self-harm dimension (15 items) had a good internal reliability (α = .86).

Analytic Strategy

Statistical analyses were conducted using PASW Software (Predictive Analytics Software, version 18, SPSS, Chicago, IL, USA) and AMOS software (Analysis of Moment Structures, version 18, Amos Development Corporation, Crawfordville, FL, USA).

Descriptive statistics were computed to examine demographic variables and independent-samples t-tests were performed to analyze mean differences for sex in studied variables. Effect size was analyzed accordingly with Cohen (1988) recommendations.

Pearson product-moment correlation coefficients were calculated to explore the relationships between all variables in the study (Cohen, Cohen, West, & Aiken, 2003).

A Path analysis from Structural Equation Modelling was performed to estimate the presumed relations of the proposed theoretical model (Kline, 2005). This Path Analysis tested the moderator effect of self-compassion in the relationship between daily peer hassles and depressive symptoms and NSSI. The moderator model presents six causal paths to the dependent variable (NSSI): (a) the direct effect of daily peer hassles; (b) the direct effect of depressive symptoms; (c) the direct effect of self-compassion; (d) the interaction term between daily peer hassles and self-compassion; (e) the interaction term between depressive symptoms and self-compassion;

(f) the effect of sex as covariate variable. The moderator hypothesis is corroborated if each interaction term is significant. The Maximum Likelihood estimation method was used and some recommended goodness-of-fit indexes were analyzed (Goodness of Fit Index, GFI ≥ .95, good; Comparative Fit Index, CFI ≥ .95, good; Tucker-Lewis Index, TLI ≥ .95, good; Root Mean Square Error of Approximation, RMSEA ≤ .05, good; Kline, 2005). To avoid multicollinearity problems, a standardized procedure was used, centering the values of the predictors, moderator and outcome variables. Then, the interaction variables through the product of the created variables were obtained (Aiken & West, 1991).

Finally, in order to interpret the significant interaction, a graph was plotted. As recommended by Cohen et al. (2003) and since the moderator variable has no theoretical cut-points, the following cut-point values were considered: *M – SD; M* and *M + SD*, to create three curves of different levels of self-compassion (i.e., low, medium and high levels). Additionally, a simple slope analysis was performed to probe whether these slopes were statistically significant, i.e., differ significantly from zero (Jose, 2013).

RESULTS

Preliminary Data Analyses

The assumptions of normality, linearity, homoscedasticity, independence of residuals were assured. There were no severe violations to normal distribution (|Sk| < 3 and |Ku| < 8-10; Kline, 2005). There was no evidence of the presence of multicollinearity or singularity amongst the variables, as indicated by the Variance Inflation Factor (VIF) values (VIF < 5).

Descriptive Statistics

As can be seen in Table 1, there were sex differences for all variables. In this sample, female adolescents reported higher levels of daily peer hassles, depressive symptoms and NSSI than male adolescents. In contrast, males had higher levels of self-compassion than females. The magnitude of the differences had a small effect size (Table 1).

Table 1

Means (M), standard deviations (SD) and independent-samples t-test for sex differences among all variables in study (N = 643)

Variables	Total sample (N = 643)	Boys (n = 311)	Girls (n = 332)	*t(df)*	Cohen's *d*	*r*
	M (SD)	*M (SD)*	*M (SD)*			
Daily peer hassles	5.54 (2.19)	5.19 (1.89)	5.87 (2.39)	4.020*** (623.221)	-0.32	-0.16
Self-compassion (SCS)	3.09 (0.59)	3.21 (0.48)	2.98 (0.66)	5.189*** (603.605)	0.40	0.20
Depression (DASS-21)	4.84 (5.01)	3.85 (4.42)	5.77 (5.33)	4.977*** (631.964)	-0.39	-0.19
NSSI (RTSHIA)	2.86 (4.71)	2.00 (3.56)	3.67 (5.46)	4.622*** (573.551)	-0.36	-0.18

Note. ***$p \leq .001$. SCS = Self-compassion Scale; DASS-21 = Depression Anxiety and Stress Scales; NSSI = Non-suicidal self-injury measured by the Risk-taking and Self-harm Inventory for Adolescents (RTSHIA).

Correlations

As shown in Table 2, results showed that daily peer hassles was significantly and positively correlated with depressive symptoms and NSSI, and negatively correlated with self-compassion. Depressive symptoms were significantly and moderately associated with NSSI and inversely correlated with self-compassion. Finally, self-compassion was negatively and moderately correlated with NSSI.

Table 2

Intercorrelations between all variables for male (above the diagonal) and female (below the diagonal) adolescents (N = 643)

	1	2	3	4	5	6
(1) Age	-	.91	ns	ns	ns	ns
(2) Years of education	.91	-	ns	ns	ns	ns
(3) Daily peer hassles	ns	ns	-	.43	-.28	.35
(4) Depression (DASS-21)	ns	ns	.37	-	-.51	.41
(5) Self-compassion (SCS)	ns	ns	-.34	-.64	-	-.33
(6) NSSI (RTSHIA)	ns	ns	.31	.46	-.41	-

Note. All correlation coefficients are statistically significant at $p \leq .001$. ns = non-significant. DASS-21 = Depression Anxiety and Stress Scales; SCS = Self-compassion Scale; NSSI = Non-suicidal self-injury measured by the Risk-taking and Self-harm Inventory for Adolescents (RTSHIA).

Moderation Analysis

A path analysis was performed in order to test whether self-compassion moderated the effect of daily peer hassles and depressive symptoms on NSSI. Sex variable was included in the model as covariate in order to control its potential confounding effect. Results showed that all paths were statistically significant, except the direct effect of the interaction term between daily peer hassles and self-compassion on NSSI (b = -.04, SE = .13, Z = -.28, p = .783, β = -.01) and the direct effect of sex on NSSI (b = .56, SE = .33, Z = 1.71, p = .087, β = .06). These two non-significant paths were removed and the model was recalculated. The model (cf. Figure 1) revealed an excellent fit to the data (GFI = .99, TLI = .99, CFI = .99, RMSEA = .03, 95% CI [0.00, 0.88], p = .643) and explained 27% of NSSI. Daily peer hassles presented a direct positive effect (b = .34, SE = .08, Z = 4.27, p < .001, β = .16), depressive symptoms revealed a direct positive effect (b = .20, SE = .05, Z = 4.28, p < .001, β = .21) and self-compassion showed a direct negative effect (b = -1.49, SE = .34, Z = -4.39, p < .001, β = -.19) on NSSI. The interaction effect between the depressive symptoms and self-compassion was β = -.13 (b = -.15, SE = .05, Z = -3.16, p = .002). In the final model all effects were statistically significant and these results suggest the existence of a moderator effect of self-compassion on the association between depressive symptoms and NSSI.

To better understand the relationship between depressive symptoms (independent variable) and NSSI (dependent variable) towards different levels of self-compassion (moderator variable), a graph was plotted, considering low, medium and high levels of self-compassion (Figure 2). The graphic representation indicated that, for the same level of depressive symptoms, adolescents who scored higher in self-compassion presented lower levels of NSSI. That is, as self-compassion increased, the magnitude of the relationship between depressive symptoms and NSSI decreased. Thus, this graphic representation confirms the buffer effect of self-compassion against the impact of depressive symptoms on the severity of NSSI. Additionally, the simple slope analysis confirmed that the effect of depressive symptoms on NSSI was statistically significant for all levels of self-compassion, $t_{low\_SCS}(640) = 8.686$, $p < .001$; $t_{medium\_SCS}(640) = 5.590$, $p < .001$; $t_{high\_SCS}(640) = 2.591$, $p = .010$.

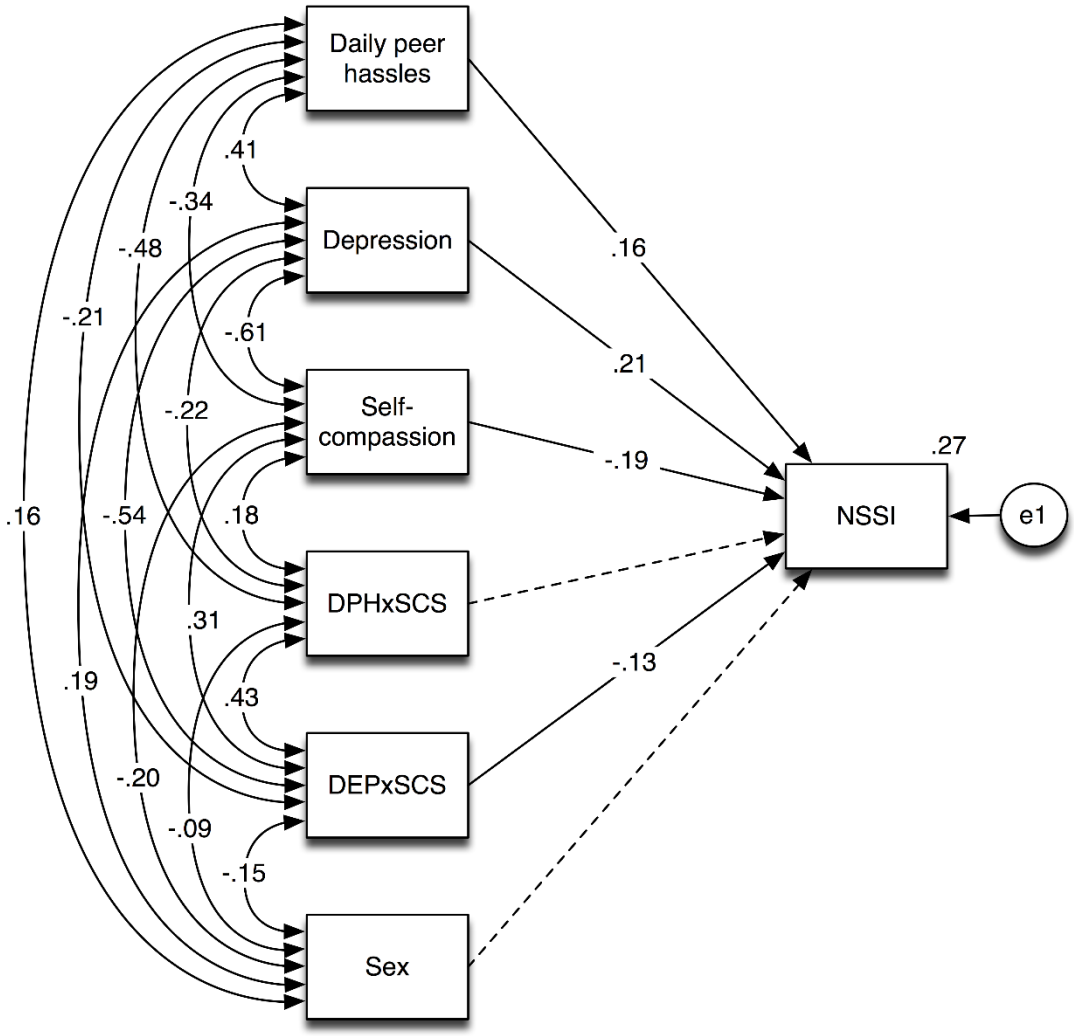

Figure 1. Results of a moderation path analysis showing the relationships among daily peer hassles, depressive symptoms, self-compassion, the interaction between daily peer hassles and self-compassion (DPHxSCS), the interaction between depressive symptoms and self-compassion (DEPxSCS) and non-suicidal self-injury (NSSI). Standardized regression coefficients are presented; all paths are statistically significant ($p < .001$), except the paths drawn in dotted line.

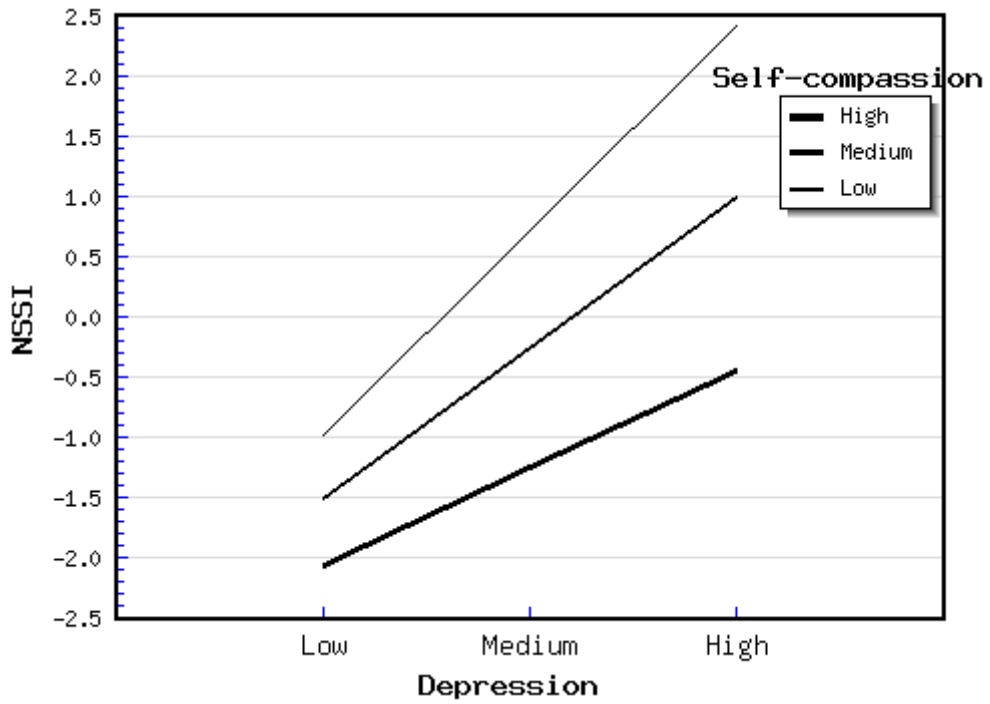

Figure 2. Graphic for the relationship between depressive symptoms and non-suicidal self-injury (NSSI) with different levels of self-compassion.

Finally, the same moderation analysis was performed in order to test whether the subscales of self-compassion (i.e., self-kindness, self-judgment, common humanity, isolation, mindfulness and over-identification) have individually a moderating effect on the relationship between daily peer hassles, depressive symptoms and NSSI. Results for self-kindness subscale showed that the model accounted for 23% of the NSSI and the interaction term between depressive symptoms and self-kindness was statistically significant (β = -.09, p = .028), but the interaction term between daily peer hassles and self-kindness was not statistically significant (p = .811). Results for mindfulness subscale showed that the model explained 24% of NSSI and while the interaction term between depressive symptoms and mindfulness was statistically significant (β = -.08, p = .038), the interaction term between daily peer hassles and mindfulness was not (p = .212). For common humanity subscale, neither the interaction term between depressive symptoms and common humanity nor the interaction term between daily peer hassles and common humanity were not statistically significant (p = .585 and p = .785, respectively) to explain NSSI.

Regarding the negative components of self-compassion scale, results indicated that the interaction terms between depressive symptoms and each subscale of negative valence of self-compassion were statistically significant: self-judgment, R^2 = 25%, β = .12, p = .009; isolation, R^2 = 24%, β = .11, p = .012, and over-identification, R^2 = 25%, β = .14, p = .002. The interaction

terms between daily peer hassles and the negative components of self-compassion were not statistically significant ($p > .05$).

DISCUSSION

Previous research has identified the role of stressful life events and depression in the onset and maintenance of NSSI (Hankin & Abela, 2011; Hawton et al., 2012; Marshall et al., 2013). Self-compassion may be a protective factor against mental health difficulties (Barnard & Curry, 2011; Neff, 2003a, 2003b) and appears to be beneficial in adolescence (Bluth & Blanton, 2014, 2015; Cunha et al., 2013, 2016; Marshall et al., 2015; Neff & McGehee, 2010). However, research on self-compassion among adolescents is still scarce. Therefore, the present study aimed to explore the relationship between NSSI and its risk factors and the potential protective factor of self-compassion. The main goal was to test whether self-compassion would mitigate the impact of daily peer hassles and depressive symptoms on the frequency of NSSI in a community sample of adolescents.

Results of the current study indicated that there were significant differences between males and females among studied variables. Females tend to perceive greater daily peer hassles, depressive symptoms and NSSI, when compared with males. Conversely, males endorsed more levels of self-compassion than females. Overall, these findings are in accordance with empirical research showing that females tend to be self-critical, sensitive to stressful events and to ruminate on their negative emotions, which may contribute to differential pattern of depression prevalence among both genders (Nolen-Hoeksema, 2001). Thus, it is expected that female adolescents are less likely to be kind and self-compassionate in comparison with male adolescents. This trend is similar to that recently found by Bluth and Blanton (2015) and by Cunha and colleagues (2016). Other studies also found sex differences in NSSI, with female adolescents reporting more NSSI (e.g., Hawton et al., 2012; Xavier et al., 2015)

Results from correlation analysis showed that daily disruptions with peers were associated with depressive symptoms and NSSI, even when sex was controlled. This result is consistent with broad literature documenting links between stressful life events and psychological maladjustment (e.g., Chang, & Sanna, 2003). The well-known significant association between depressive symptoms and NSSI was also found in the present study. In addition, correlation analyses showed that self-compassion was inversely correlated with daily peer hassles, depressive symptoms and NSSI (even when sex was controlled). These findings suggest that adolescents who are kind and compassionate towards themselves tend to be perceived as having lower problems with peers and to have lower levels of depressive symptoms and NSSI.

Given these findings, a path analysis was performed to test whether self-compassion would moderate the relationship between daily peer hassles, depressive symptoms and NSSI. Results showed that the interaction between daily peer hassles and self-compassion was not statistically significant. Daily peer hassles had a significant and independent effect on NSSI. As documented in literature, peer relationships assume a newfound importance during adolescence, since adolescents become more sensitive to the images and emotions they are creating in their peers' mind and rely highly on social comparisons and feedback from peers for self-identity development (Gilbert & Irons, 2009). Thus, repetitive daily disruptions or troubles with peers may be particularly damaging among adolescents, whom may use NSSI to regulate threatening and negative emotions arising in these stressful situations. Contrary to our hypothesis, the impact of daily peer hassles on NSSI was not moderated by self-compassion. Daily peer hassles appear to go beyond negative affect and trigger other kind of emotions, such as anger directed to others and to oneself, which may explain its relationship with NSSI. Because self-compassion is focused on strategies to cope with negative affect linked to personal failures, mistakes and inadequacies, the buffering effect of self-compassion in negative affect and not in other emotions seems to be warranted.

Self-compassion involves a self-to-self relationship characterized by kindness, empathic understanding, a sense of common humanity and a balanced perspective of one's experiences, when confronted with personal failings (Neff, 2003a, 2003b). Moreover, self-compassion is an emotionally positive self-attitude that also entails a motivation to be open to personal suffering without avoiding it (Neff, 2003b). These self-compassion abilities may act as counter affective responses to harsh self-criticism (Gilbert, 2009, 2010; Neff, 2003b, 2016). Thus, each component of self-compassion involves aspects of a self-to-self relationship (i.e., how individuals emotionally respond, cognitively understand, or pay attention to their suffering) and are not focused on a self-to-other relationship (Neff, 2016). We believe that if we had used a measure of compassion for others, which implies how we relate to others, we may have found its protective effect on daily peer hassles against NSSI. Therefore, future studies may help to elucidate the absence of moderating effect of self-compassion in the relationship between daily peer hassles and NSSI, and analyze the role of other relevant variables linked to self-compassion, such as acceptance, compassion for others and receive compassion from others.

Furthermore, the current study also demonstrates that the interaction between depressive symptoms and self-compassion has an expressive and significant effect upon overall levels of NSSI. This finding suggests that self-compassion attenuates the impact of depressive symptoms on NSSI. In other words, the impact of depressive symptoms on NSSI is diminished in adolescents who have the ability to be kind and compassionate towards themselves. Moreover, the graphic representation supports this moderator effect of self-compassion and also indicated that the three

levels of self-compassion (i.e., low, medium and high) were statistically significant. The key finding here is that for high levels of depressive symptoms, the ability to be kind and compassionate towards oneself acts as a buffer against the engagement in NSSI.

Regarding the subscales of self-compassion, the positive components attenuated the effect of depressive symptoms on NSSI. It seems that the self-kindness and mindfulness are protective factors against depressive symptoms and NSSI. Common humanity has not proven a significant moderator, which can be understood by the developmental characteristics of adolescence. Indeed, the egocentrism characteristic of adolescence may lead to difficulties in taking the perspectives of others and recognizing suffering and personal inadequacies as being a normal part of human experience. Other studies have found this lack of common humanity in adolescent samples (e.g., Cunha et al., 2016). On the other hand, the negative components of self-compassion (e.g., self-judgment, isolation and over-identification) seem to amplify the effect of depressive symptoms on NSSI.

Overall, these findings are consistent with theoretical models, showing that increased self-compassion is a protective psychological factor for depressogenic stressors (Gilbert, 2010; MacBeth & Gumley, 2012). Additionally, results of the present study add to the existent research on adolescence, showing the salutary effect of self-compassion to cope with depressive symptoms and self-destructive behaviors. Thus, these findings may have important preventive and clinical implications. At a preventive level, intervention actions should promote safety, secure and affectionate contexts within community and school settings and emphasize the development of positive emotions and learning of self-compassion abilities.

Regarding the influence of components of self-compassion, our findings revealed that five elements had a moderating effect in depressive symptoms and NSSI. Results indicate that the abilities of self-kindness and mindfulness are important to diminish depressive symptoms and NSSI. Thus, in face of personal inadequacies, adolescents who have the ability to be self-compassionate, instead of being self-critical, will adaptively cope with thoughts and emotions, without experiencing depressive symptoms and engaging in NSSI. Although Common humanity was not a significant moderator, all components of self-compassion should be addressed in practice with adolescents, because the six components of self-compassion mutually influence each other to create a self-compassionate mind-state. Thus, intervention programs for schools aimed to develop self-compassion abilities should cultivate all these components. Recently, a pilot study of a Mindful Self-Compassion Program for adolescents demonstrated promising results in the reduction of negative outcomes (e.g.., depression, anxiety and stress) and the improvement of mindfulness, self-compassion skills and emotional health (Bluth, Gaylord, Campo, Mullarkey, & Hobbs, 2016). Effective interventions for school contexts should employ universal programs in

order to promote these abilities in all students and not only in students with emotional and behavioral problems, and to create a caring and supportive school community (i.e. school ecology; Osher, Dwyer, & Jackson, 2004; Welford, & Langmead, 2015).

Therapeutic approaches should be especially developed for adolescents who struggle with NSSI, by focusing on the development of a kind, soothing, warm, compassionate and non-judgmental self-to-self relationship to counteract high levels of shame, self-criticism and emotional dysregulation in these adolescents. Compassion-focused approaches (e.g., CFT; Gilbert, 2009) may be particularly well-suited to replace maladaptive emotion regulation processes (e.g., dissociation, rumination and self-criticism), improve affect regulation (e.g., distress tolerance) and address fears of compassion. Additionally, therapeutic supports should preserve the link between the clinical and school contexts, in order to ensure students with NSSI are not singled out as having pathology but are helped to form relationships with adults and peers and otherwise feel connected and part of a school community.

Nevertheless, some limitations should be noted in this study. Firstly, the cross-sectional design does not allow us to establish causality between variables under study. Secondly, the data are retrospective in nature. Although self-report questionnaires do benefit from being anonymous, future research should include other measures to assess frequency, methods and functions of NSSI, such as structured interviews. Third, given the objectives of the current study, we only analyzed daily peer hassles. Future studies should explore other type of minor life stressors that may also be important in adolescence (e.g., family, school). Finally, we recognize that NSSI is a multi-determined and complex phenomenon and that other risk factors and emotion regulation processes may be involved. However, the model tested in the present paper was intentionally restrained in order to specifically explore the role of self-compassion.

Despite the above methodological limitations, the current study offers new avenues for the implications of self-compassion in adolescence. In particular, these findings showed the protective role of self-compassion against the impact of depressive symptoms on non-suicidal self-injury among adolescents.

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ESTUDO EMPÍRICO IX

DAILY PEER HASSLES AND NON-SUICIDAL SELF-INJURY IN ADOLESCENCE: GENDER DIFFERENCES IN AVOIDANCE-FOCUSED EMOTION REGULATION PROCESSES

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ABSTRACT

This study aimed to examine the mediating role of rumination, experiential avoidance, dissociation and depressive symptoms in the association between daily peer hassles and non-suicidal self-injury among adolescents. Additionally, this study explored gender differences in these associations and tested whether the proposed model was invariant across genders. Path analysis showed that daily peer hassles indirectly impact on non-suicidal self-injury through increased levels of brooding, experiential avoidance, dissociation and depressive symptoms. Male adolescents are more likely to engage in brooding and experiential avoidance in response to external distress, whereas female adolescents are more likely to engage in non-suicidal self-injury in response to internal distress.

Keywords: Adolescence; Depression; Dissociation; Experiential Avoidance; Gender Differences; Non-Suicidal Self-Injury; Rumination

INTRODUCTION

Non-suicidal self-injury (NSSI) is highly prevalent among adolescents and is associated with several psychological impairments and augmented risk for future suicide (Klonsky, May, & Glenn, 2013). NSSI refers to a deliberate and direct destruction of one's body tissues for non-socially sanctioned reasons without suicidal intent (American Psychiatric Association, 2013). Previous studies found prevalence rates ranging between 10% and 40% in community samples of adolescents and the age of onset for NSSI ranging between 12 and 16 years old (Klonsky, Muehlenkamp, Lewis, & Walsh, 2011; Nock, 2010). Regarding gender differences there are mixed results, although there is a general trend in finding that female adolescents report engaging more frequently in NSSI (Bresin & Schoenleber, 2015; Klonsky et al., 2011).

Although several distal risk factors have been identified in the development of NSSI, including family environment, early life events and temperament, there are proximal vulnerabilities that may trigger and maintain NSSI. Among these proximal factors, daily life hassles may play a prominent role. Daily hassles are the frustrating and irritating everyday experiences that occur during transactions with the environment (e.g., family, peers, school and neighborhood; Seidman et al., 1997). Daily life hassles are common chronic stressors that affect individuals' psychological adjustment (Pinquart, 2009). Research conducted in samples of adolescents showed that daily life hassles are associated with maladaptive cognitive emotion regulation strategies (Garnefski, Boon, & Kraaij, 2003), depressive symptoms, substance use (Bailey & Covell, 2011) and suicidal ideation (Mazza & Reynolds, 1998). Recently, some studies found that high levels of current life stressors prospectively predict NSSI (Hankin, & Abela, 2010; Liu et al., 2014), especially interpersonal stressors (Guerry & Prinstein, 2010; Jutengren, Kerr, & Stattin, 2011). Other study showed that, when experiencing negative emotional states, adolescents who perceived moderate and high levels of daily hassles with their peers are more likely to engage in NSSI (Xavier, Cunha, & Pinto-Gouveia, 2016a).

According to Nock (2010), when exposed to stressful life events, individuals who experience both physiological hyperarousal activation and difficulties in emotion regulation may be particularly at risk for engaging in NSSI as a maladaptive coping strategy. Such predisposing characteristics may include poor interpersonal problem-solving skills (Nock & Mendes, 2008), rumination (Hilt, Cha, & Nolen-Hoeksema, 2008), self-criticism in its most severe form – hated self (Xavier, Pinto-Gouveia, & Cunha, 2016).

Rumination is a response to distress that involves the tendency to brood and reflect on "the symptoms of depression and on the causes, meanings, and consequences of those symptoms'' (Nolen-Hoeksema, 1991, p.569) and has been found to exacerbate and prolong depressive symptoms in adolescence (Abela & Hankin, 2011). Female adolescents tend to endorse higher

levels of ruminative response style than male adolescents and this trend may help to explain gender differences in depression during adolescence (Nolen-Hoeksema, 2001). Indeed, rumination is considered a maladaptive cognitive emotion regulation strategy, especially when it takes the form of brooding (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008; Treynor et al., 2003), as it is implicated on several aspects of both mental and physical health (Smith & Alloy, 2009). Ruminative response style has been associated with NSSI (Hoff & Muehlenkamp, 2009) and had a moderator effect in the relationship between depressive symptoms and NSSI among female early adolescents (Hilt et al, 2008). Selby, Connell, and Joiner (2010) found a significant interaction between rumination and painful or provocative life events to explain NSSI among college students. Another study conducted with undergraduate students (18-29 years-old) showed that individuals with higher temperamental negative affectivity and rumination are more likely to engage in NSSI (Nicolai, Wielgus, & Mezulis, 2015). Recently, ruminative thinking has been found as an underlying mechanism in the association between stressful life events and psychological distress and NSSI among adolescents (12-18 years-old; Voon, Hasking, & Martin, 2014).

Another transdiagnostic process that may be implicated in the development and maintenance of psychopathology is experiential avoidance (EA). EA is defined as the "phenomenon that occurs when a person is unwilling to remain in contact with particular private experiences and takes steps to alter the form or frequency of these events and the contexts that occasion them" (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996; p. 1154). Various studies conducted with adult populations suggest that EA may serve as a mediator of the impact of stressful events on poor outcomes (e.g., Biglan, Hayes, & Pistorello, 2008). Although empirical research are still scant, a few studies on EA during adolescence showed that female adolescents tend to report more levels of experiential avoidance and cognitive fusion than male adolescents (Biglan et al., 2015; Greco, Lamber, & Bayer, 2008; Howe-Martin, Murrell, & Guarnaccia, 2012). Among different samples of adolescents, EA has been associated with anxiety, depressive symptoms, social comparison (Cunha & Santos, 2011), family conflicts (Biglan et al., 2015), daily school and peer hassles (Xavier, Pinto-Gouveia, & Cunha, 2015), lower quality of life (Greco et al., 2008), difficulties in emotion regulation (Sharp, Kalpakci, Mellick, Venta, & Temple, 2015), and NSSI and other functionally equivalent behaviors (e.g., eating disturbance, substance abuse; Howe-Martin et al., 2012). In fact, according to Chapman, Gratz and Brown (2006), NSSI may be included in the broader class of experiential avoidance behaviors, as it is usually served the purpose of escaping, managing and regulating emotions, resulting in a temporary emotional relief. Thus, NSSI becomes negatively reinforced, strengthening the association between unwanted emotional states and NSSI, which in turn contributes to its persistence and maintenance (Chapman et al., 2006).

Dissociation is an extreme form of avoidance and is defined as the partial or complete disruption of the normal integration of a person's memory, consciousness, identity or perception (American Psychiatric Association, 2013). Dissociative experiences are commonly psychological responses aiming at coping with severe trauma (Putman, 1996) and are frequently associated with other mental health difficulties (e.g., post-traumatic stress disorder, attention deficits) (e.g., Ozdemir, Boysan, Ozdemir, & Yilmaz, 2015). Furthermore, there is empirical evidence that dissociation mediates the relationship between trauma experiences (e.g., child maltreatment) and psychopathology, including NSSI (e.g., Rallis, Deming, Glenn, & Nock, 2012; Swannell et al., 2012). Thus, previous trauma and current stress may trigger dissociative experiences into avoiding intolerable emotions, thoughts and memories, which in turn may lead to NSSI as a way to escape from unpleasant states of dissociation, numbness or emptiness (Chapman et al., 2006; Klonsky, 2007; Rallis et al., 2012).

Based on the above, the current study aims to test a hypothesized model in which daily peer hassles would impact on NSSI through avoidance psychological processes (namely, rumination, experiential avoidance and dissociation) and depressive symptoms. In the same model, it is tested whether these avoidance psychological processes would impact upon NSSI through depressive symptoms. Furthermore, the current study also aims to test whether this explanatory model of NSSI is equal or vary across gender. We hypothesized that adolescents who perceived greater daily hassles with their peers are more likely to brood, avoid and dissociate and experience depressive symptoms, which in turn impacts upon NSSI. We also expected that the effect of daily peer hassles on depressive symptoms occurs through rumination, EA and dissociation. Additionally, it was hypothesized that avoidance-focused emotion regulation processes are associated with NSSI through their effect on depressive symptoms. Given the theoretical conceptualizations on gender differences of emotion regulation in adolescence (e.g., Nolen-Hoeksema, 2001, 2012), we hypothesized that the associations between daily peer hassles, rumination, EA, dissociation, depressive symptoms and NSSI would differ for adolescent males and females.

METHOD

Participants

The sample included 776 adolescents, of them 369 are males (47.6%) and 407 are females (52.4%). Participants are aged between 12 and 18 years old (M = 14.55, SD = 1.76) and were recruited in 7th to 12th grade from middle and secondary schools (mean of years of education = 9.45, SD = 1.61). No gender differences were found for age, $t_{(774)} = 1.069$, $p = .286$,

except for years of education, $t_{(774)} = 2.417$, $p = .016$. Female adolescents had more years of education ($M = 9.58$, $SD = 1.63$) than male adolescents ($M = 9.30$, $SD = 1.58$).

Measures

The **Daily Hassles Microsystem Scale** (**DHMS**; Seidman et al., 1995; Portuguese version: Paiva, 2009) is a self-report questionnaire composed by 25 items that assess the perceived daily hassles within four microsystems. Respondents answer to each event how much of hassles it was in the last month on a 4-point scale (1 = *not at all a hassles*; 4 = *a very big hassles*). In the present study only *peer hassles subscale* was used, which represents trouble with friends (4 items; e.g., "Trouble with friends over beliefs, opinions and choices"). In the original study (Seidman et al., 1995) the daily peer hassles subscale had an adequate internal consistency (α = .71). In the current study the internal consistency for daily hassles subscale was also adequate (α = .72).

The **Ruminative Responses Scale – short version** (**RRS**; Treynor, Gonzalez, & Nolen-Hoeksema, 2003; Portuguese version for adolescents: Xavier, Cunha, & Pinto-Gouveia, 2016) is a 10-item scale that measures the individual's tendency to ruminate when in a sad or depressed mood. In the current study only brooding subscale (5 items) was used to assess the passive and judgmental pondering of one's mood because it is considered the maladaptive component of rumination. Each item is rated on a 4-point scale (1= *almost never* to 4= *almost always*). In the original version, the Cronbach's alpha for brooding subscale was .77 (Treynor et al., 2003). This subscale also had adequate internal consistency in adolescents' sample (α = .80; Xavier et al., 2016). In the current study the brooding subscale presented a Cronbach's alpha of .80.

The **Avoidance and Fusion Questionnaire for Youth** (**AFQ-Y;** Greco, Lambert, & Baer, 2008; Portuguese version: Cunha & Santos, 2011) is a 17-item self-report questionnaire that was based on Acceptance and Commitment Therapy's model to assess psychological inflexibility fostered by: Cognitive fusion (e.g., "My thoughts and feelings mess up my life."); and Experiential avoidance (e.g., "I push away thoughts and feelings that I don't like"). Items responses are rated on a 5-point scale (0 = *not at all true*; 4 = *very true*). Greco et al. (2008) found good internal reliability (α = .90). The Portuguese version also found adequate internal consistency (α = .82). In the current study the AFQ-Y presented a Cronbach's alpha of .89.

The **Adolescent Dissociative Experiences Scale-II** (**A-DES-II**; Armstrong, Putnam, Carlson, Libero, & Smith, 1997; Portuguese version: Espirito-Santo, Lopes, Simões, Cunha, & Lemos, 2014) is a 30-item self-report questionnaire that assesses dissociative experiences. The A-DES-II items can be grouped into four domains reflecting basic aspects of dissociation (experiences of dissociative amnesia; absorption and imaginative involvement; passive influence; and despersonalization and derealization) and be used as a total score. Each item is rated on 11-point scale (from 0 = *never* to 10 = *always*) and higher scores representing high levels of

dissociative experiences. Armstrong et al., (1997) found a Cronbach's alpha of .93 for the total score. In the present sample the Cronbach's alpha was .94.

The **Depression Anxiety and Stress Scales** (**DASS-21**; Lovibond & Lovibond, 1995; Portuguese version: Pais-Ribeiro, Honrado, & Leal, 2004) is a self-report measure composed of 21 items to assess depression, anxiety and stress. The items indicate negative emotional symptoms and are rated on a 4-point scale (0-3) during the last week. Lovibond and Lovibond (1995) found the subscales to have high internal consistency (α = .91 for depression; α = .84 for anxiety; α = .90 for stress). In the present study only the depression subscale was used and presented good internal consistency (α = .90).

The **Risk-taking and Self-harm Inventory for Adolescents** (**RTSHIA**; Vrouva, Fonagy, Fearon, & Roussow, 2010; Portuguese version: Xavier, Cunha, Pinto-Gouveia, & Paiva, 2013) is a self-report questionnaire that assesses simultaneously risk-taking and self-harm behaviors. In the present study only the Self-harm dimension was used to measures the frequency of intentional self-injury behaviors (e.g., cutting, burning or biting). The items are rated on a 4-point scale (0 = *never*; 3 = *many times*), referring to the lifelong history. In the present study, items 32 and 33, which assess suicidal ideation and intent respectively, were not included in the overall sum of NSSI and prior to analyses four respondents were excluded from data set because they reported suicidal intent. There is also one categorical item to assess the absence or presence of NSSI, following by a question about the part(s) of the body that were deliberately injured and a question about when it happened (in the last month; in the last three months; and more than three months), if applicable. Vrouva et al. (2010) found a good internal consistency for self-harm dimension (α = .93). In the current study the self-harm dimension (15 items) presented a good internal reliability (α = .88).

Procedure

After obtaining ethical approvals from Portuguese Commission for Data Protection and Ministry of Education, schools in the central region of Portugal were contacted to participate in the study. The Head Teacher and the parents were informed and they gave written consent. All adolescents enrolled in the study were fully informed about the goals of the study and the aspects of confidentiality. Adolescents consented to participate and filled out voluntarily the instruments in the classroom in the presence of the teacher and researcher. The researcher provided clarifications about the questionnaires when requested. Participants who did not want to participate or were not authorized by their parents to participate in this study were excluded and were given an academic task by the teacher in the classroom.

Data Analysis

Statistical analyses were performed using PASW Software (Predictive Analytics Software, version 18, SPSS, Chicago, IL, USA) and AMOS Software (Analysis of Moment Structures, version 18, AMOS Development Corporation, Crawfordville, FL, USA).

Descriptive statistics were computed to analyze demographic variables and means scores on all variables. Gender differences were tested using independent-samples t-tests (Field, 2013). Pearson product-moment correlation coefficients were performed to explore the relationships between all variables in the study (Field, 2013).

Path analysis was performed to estimate the presumed relations among variables in the proposed theoretical model. This technique from structural equation modelling (SEM) considers theoretical causal relations among variables that have already been hypothesized (Kline, 2005). In the path model tested, it was examined whether daily peer hassles would impact upon the frequency of non-suicidal self-injury (NSSI), mediated by brooding, experiential avoidance (EA), dissociation and current depressive symptoms. Additionally, it was tested whether brooding, EA and dissociation would impact upon NSSI, mediated by depressive symptoms.

The Maximum Likelihood (ML) estimation method was used (Kline, 2005). The following goodness-of-fit indexes were analyzed to evaluate overall model fit: Goodness of Fit Index (GFI $\geq$ .95, good), Comparative Fit Index (CFI $\geq$ .95, good), Tucker-Lewis Index (TLI $\geq$ .95, good), Root Mean Square Error of Approximation (RMSEA $\leq$ .05, good fit; $\leq$ .08, acceptable fit; $\geq$ .10, poor fit), with 90% confidence interval (CI) (Hu & Bentler, 1999). Significance tests of indirect effects were performed using Bootstrap sampling with 2000 samples and bias-corrected confidence levels set at .95 (Hayes & Preacher, 2010; Kline, 2005).

A multi-group analysis was performed to test whether path coefficients in the model are equal or invariant for groups (i.e., males *vs*. females) (Byrne, 2010). The comparison between the unconstrained model (i.e., with free structural parameter coefficients) and the equality constrained model (i.e., where the parameters are constrained equal across groups) was analysed through the chi-square difference test statistic (Byrne, 2010). The critical ratio difference method provided by AMOS software was calculated to test for differences between male and female adolescents among all parameter estimates and critical ratio values larger than 1.96 indicate a significant difference between genders on the corresponding parameter (Byrne, 2010).

RESULTS

Preliminary Data Analysis

Data were screened for univariate normality and there were no severe violations to normal distribution (|Sk| < 3 and |Ku| < 8-10; Kline, 2005). To inspect for possible multivariate outliers Mahalanobis Distance squared (D^2) were used and some extreme observations were excluded. Multicollinearity was examined by inspecting the tolerance and variance inflation factor (VIF < 5) and no multicollinearity problems were found among variables (Kline, 2005).

History of NSSI

In the current sample, approximately 22% of the adolescents reported engaging in NSSI at least once in their lifetime and of them 19% revealed engaging in NSSI in the last month. The most common self-injured parts of the body endorsed by the adolescents were hands, arms, fingers and nails (n = 105, 62%). Additionally, female adolescents did significantly differ in frequency of NSSI, $\chi_{(1)} = 14.403$, $p < .001$, showing that females were more likely to endorse NSSI (n = 111, 27.3%) than males (n = 59, 16%).

Descriptive analyses

Table 1 presents descriptive statistics of each variable for the full sample and by gender. Results showed that female adolescents have significantly higher levels of daily peer hassles, EA, rumination, depressive symptoms and NSSI than male adolescents. The effect sizes ranged between small and medium effects (cf. Table 1).

Correlations

Table 2 shows the Pearson product-moment correlation coefficients for all variables in study for male and females adolescents. As can be seen in Table 2, daily peer hassles is significantly associated with brooding, EA, dissociation, depressive symptoms and NSSI for both males and females. Brooding was significantly and moderately correlated with EA for both males and females. EA and dissociation were significantly correlated with each other and with depressive symptoms and NSSI.

Table 1

Means (M), Standard deviations (SD), independent-samples t-test for gender differences in all variables in study and Cohen's d effect size (N = 776)

	Total sample (*N* = 776)		**Males (*n* = 369)**		**Females (*n* = 407)**		***t(df)***	**Cohen's *d***	***r***
	M	***SD***	***M***	***SD***	***M***	***SD***			
Daily peer hassles (DHMS	5.51	2.11	5.17	1.87	5.83	2.27	4.404 (766.824)***	-0.32	-0.16
Brooding (RRS)	12.46	3.61	11.57	3.43	13.26	3.59	6.666 (774)***	-0.48	-0.23
EA (AFQY)	33.86	13.30	30.47	12.98	36.94	12.85	6.973 (774)***	-0.50	-0.24
Dissociation (A-DES-II)	2.17	1.63	2.09	1.63	2.24	1.64	1.319 (774)	n/a	n/a
Depression (DASS-21)	4.83	5.01	3.96	4.49	5.62	5.32	4.728 (770.135)***	-0.34	-0.17
NSSI (RTSHIA)	2.90	4.68	2.12	3.72	3.60	5.31	4.547 (729.361)***	-0.33	-0.16

Note. ***$p \leq .001$. n/a = not applicable. DHMS = Daily Hassles Microsystem Scale; RRS= Ruminative Responses Scale; EA = Experiential avoidance measured by the Avoidance and Fusion Questionnaire for Youth (AFQ-Y); A-DES-II = Adolescent Dissociative Experiences Scale-II; DASS-21 = Depression Anxiety and Stress Scales; NSSI = Non-suicidal self-injury measured by the Risk-taking and Self-harm Inventory for Adolescents (RTSHIA).

Table 2

Intercorrelations between all variables for male (above the diagonal; n = 369) and female (below the diagonal; n = 407) adolescents (N = 776)

Variables	**Daily Peer Hassles**	**Brooding**	**EA**	**Dissociation**	**Depression**	**NSSI**
Daily Peer Hassles	–	.45	.41	.38	.43	.37
Brooding	.31	–	.69	.51	.57	.38
EA	.36	.62	–	.55	.55	.39
Dissociation	.35	.39	.52	–	.52	.42
Depression	.38	.50	.54	.45	–	.43
NSSI	.29	.24	.29	.38	.49	–

Note. All coefficients are significant at $p < .001$. EA = Experiential Avoidance measured by the Avoidance and Fusion Questionnaire for Youth (AFQY); NSSI = Nonsuicidal self-injury measured by the Risk-taking and Self-harm Inventory for Adolescents (RTSHIA).

Path Analysis

The theoretical model was tested through a saturated or just-identified model, which comprised 26 parameters. Since this is a saturated or just-identified model, its degrees of freedom are zero and the goodness-of-fit is perfect to the data. The following paths were not statistically significant: the direct effect of brooding on NSSI (b = -.012, SE = .056, Z = -0.217, p = .828, β = -.01); and the direct effect of EA on NSSI (b = .010, SE = .016, Z = 0.660, p = .509, β = .03). These non-significant paths were sequentially removed and the model was recalculated (with 24 parameters). The respecified model showed an excellent fit to the data, GFI = 1.000, TLI = 1.000, CFI = 1.000, RMSEA = .000, 95% CI [.000, .045], p = .965, and all paths were statistically significant. The model explained 15% of brooding, 16% of EA, 13% of dissociation, 42% of depressive symptoms and 28% of NSSI (Figure 1).

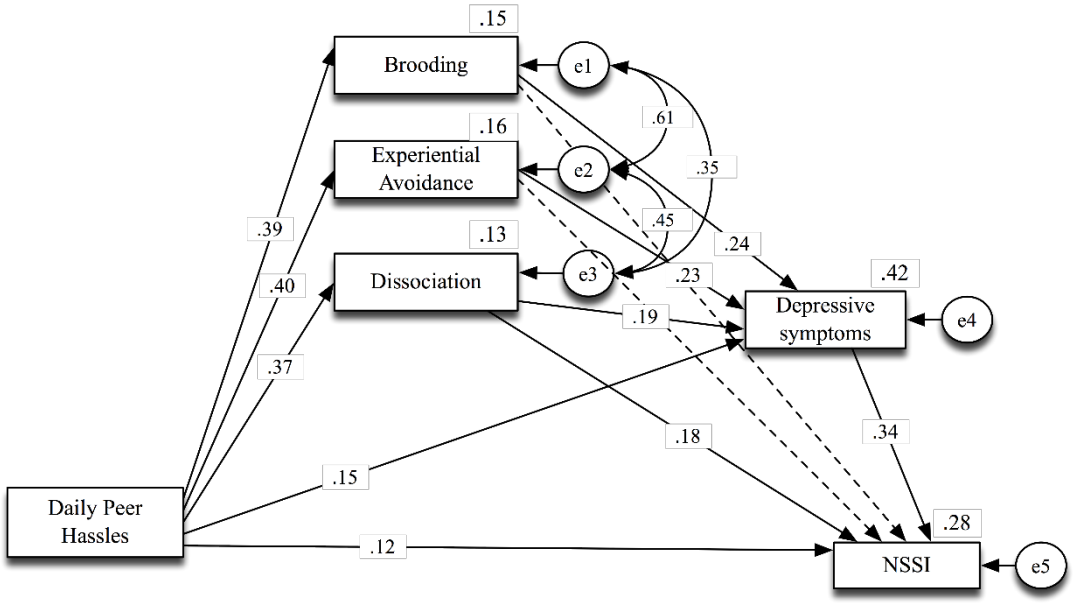

Figure 1. Path diagram for the final model showing the associations between daily peer hassles, brooding, experiential avoidance, dissociation, depressive symptoms and non-suicidal self-injury (NSSI). Standardized regression coefficients and multiple correlations coefficients are presented; all paths are statistically significant (p < .001), except for the two paths drawn in dotted lines.

Results showed that daily peer hassles had an indirect effect on NSSI, b = .21, 95% CI [.164, .264], p = .001, through brooding, EA, dissociation and depressive symptoms. Daily peer hassles also had a direct effect on NSSI (β = .12). There is also an indirect effect of daily peer hassles on depressive symptoms, b = .26, 95% CI [.215, .299], p = .001, through brooding, EA and dissociation. Daily peer hassles also had a direct effect on depressive symptoms

(β = .16). Regarding the association between avoidance processes and NSSI, results indicate that brooding component of rumination had an indirect effect on NSSI, *b* = .08, 95% CI [.053, .123], *p* = .001, through depressive symptoms. Similarly, there was a significant indirect effect of EA on NSSI, *b* = .08, 95% CI [.047, .123], *p* = .001, through depressive symptoms. Dissociative experiences had a significant indirect effect on NSSI, *b* = .07, 95% CI [.039, .100], *p* = .001, through depressive symptoms. Additionally, dissociative experiences had a direct effect on NSSI (β = .19).

Multi-Group Analysis

The hypothesized model was tested by a multi-group approach to analyse gender differences in the relationships among daily peer hassles, brooding, EA, dissociation, depressive symptoms and NSSI. Results from the Chi-square difference test showed that the model was not invariant for both genders, $\chi^2_{dif(12)} = 26.321$, $p = .010$. For male adolescents, the model accounted for 20% of brooding, 17% of EA, 14% of dissociation, 43% of depressive symptoms and 26% of NSSI. For female adolescents, the model explained 10% of brooding, 13% of EA, 12% of dissociation, 39% of depressive symptoms, and 28% of NSSI. Results from critical ratios for differences among parameters indicated significant differences on three parameters. First, daily peer hassles was more strongly related to brooding for male adolescents than for female adolescents (z-score = -2.855, $p < .01$, β = .45 *versus* β = .31, respectively). Second, the direct effect of daily peer hassles on EA was stronger for male adolescents than for female adolescents (z-score = -1.996, $p < .05$, β = .41 *versus* β = .36, respectively). Third, depressive symptoms were more strongly associated to NSSI for female adolescents than male adolescents (z-score = 3.485, $p < .01$, β = .41 *versus* β = .18, respectively).

DISCUSSION

The purpose of the present study was to examine whether rumination, EA, dissociation and depressive symptoms mediate the tendency to engage in NSSI in response to daily peer hassles among a community sample of adolescents. Additionally, this study explored differences between male and female adolescents in daily peer hassles, avoidance-based emotion regulation strategies (i.e., rumination, EA and dissociation), depressive symptoms and NSSI, and tested whether the proposed model was invariant across genders.

The results of this study fit with previous findings showing that the prevalence rate of NSSI among community samples of adolescents is high and female adolescents are at a higher risk than male adolescents to engage in NSSI (e.g., Bresin, & Schoenleber, 2015). Moreover,

there are important gender differences in how each gender perceives and responds to stressful daily experiences. Our findings reveal that female adolescents tend to perceive greater daily peer hassles than male adolescents. Additionally, rumination in its maladaptive component (i.e., brooding), experiential avoidance, dissociation and depressive symptoms are higher among female adolescents than male adolescents. Overall, these results are in line with previous research, showing the same pattern (e.g., Biglan et al., 2015; Greco et al., 2008; Howe-Martin et al., 2012; Nolen-Hoeksema, 2001).

Findings in the present study converge with a substantial body of research, showing that daily hassles, especially with peer group, are a risk factor for depressive symptoms and NSSI (e.g., Liu et al., 2014; Xavier et al., 2016a). However, our results extend this prior work by showing the indirect effect of daily peer hassles on NSSI through avoidance-focused emotion regulation strategies and depressive symptoms. More specifically, adolescents who engage in brooding, EA and dissociation in response to daily peer hassles, tend to experience increased levels of depressive symptoms, which in turn impact on NSSI. Overall, these data suggest that, when confronted with daily stressful peer experiences, adolescents who are unable to deploy adaptive strategies to regulate negative emotional states and struggle with maladaptive cognitive and emotion strategies (e.g., rumination, experiential avoidance and dissociation) may experience depressive symptoms and engage in NSSI.

Moreover, the impact of brooding, EA and dissociation on NSSI occurred through increased levels of depressive symptoms. Additionally, dissociative experiences also had a direct effect on NSSI. These results are in accordance with the experiential avoidance model for NSSI proposed by Chapman et al. (2006), clarifying that NSSI is a behavior output that aims at regulating, escaping and generally avoiding thoughts, emotions, memories, sensations or other undesirable internal experiences, which in turn reduces or eliminates the emotional arousal as a result. However, the association between emotional arousal and NSSI establish a vicious cycle through negative reinforcement that maintains NSSI over time (Chapman et al., 2006). Additionally, NSSI has been found to serve an antidissociation function. In other words, it seems that individuals may use self-injury to interrupt dissociative experiences and numbness (Chapman et al., 2006; Klonsky, 2007; Rallis et al., 2012).

Furthermore, the current study is of key importance in understanding gender differences in the associations between daily peer hassles, rumination, EA, dissociation, depressive symptoms and NSSI. Indeed, results indicate that the relationship between daily peer hassles and brooding and EA is stronger in males than in females. Male adolescents appear to be more affected by daily peer hassles than female adolescents, which lead them to brood and avoid internal experiences. On the other hand, the relationship between depressive symptoms and NSSI is stronger for

females in comparison to males. It seems that female adolescents are more likely to respond to stress with internalizing emotions (e.g., depressive symptoms) and subsequently to engage in NSSI.

On the whole, these results are in line with existent theoretical frameworks on gender differences in depression in which women are suggested to be more vulnerable than men to developing depression and other psychological disorders, even when confronted with similar stressors (e.g., Nolen-Hoeksema, 2001, 2012).The findings of the current study add to the current knowledge by showing gender differences in daily hassles, emotion regulation processes, depressive symptoms and NSSI in adolescence. While adolescent males are more likely to engage in brooding and EA in response to external distress (i.e., daily peer hassles), adolescent females are more likely to engage in NSSI in response to internal distress (i.e., depressive symptoms).

Some limitations of the current study should be noted. Firstly, this study used a cross-sectional design, which implies that causal inferences cannot be drawn. Longitudinal research is needed to identify temporal relationships among variables that are associated with NSSI. Secondly, the study relied on self-report questionnaires and this methodology may lead to bias reporting (e.g., due to social desirability). Future studies should include other assessment methods to assess NSSI and life stressors, such as semi-structures interviews and ecological momentary assessment (EMA). Finally, future studies should examine other types of daily hassles and its impact on adolescents' lives. The model tested in the present study was intentionally restrained to analyze daily peer hassles since peer group plays an important role on adolescence and this variable has been found to be associated with NSSI (e.g., Xavier et al., 2016a).

Nonetheless, the current study highlights the mediating role of avoidance-based emotion regulation processes and depressive symptoms in the relationship between daily peer hassles and NSSI, as well as gender differences in these associations among adolescents. Thus, this study may have important implications for prevention and intervention efforts. Preventive work should prioritize programs that teach adaptive emotion regulation skills to all adolescents not just to those at risk of psychopathology. Such programs should address mindfulness, psychological flexibility and acceptance of internal experiences and of difficult life circumstances. Indeed, mindfulness-based approaches among children and adolescents have been recently integrated in school curriculum and these approaches have been well-suited in reducing distress and promoting psychological health and well-being (e.g., Burke, 2010). In clinical practice, therapists should help adolescents in becoming less ruminative, avoidant and more psychological flexible by teaching them mindfulness skills as a way of coping with stressful experiences and internal distress. Additionally, gender-specific pathways from daily hassles towards maladaptive emotion regulation strategies, depression and NSSI require clinical attention. Continued development of

acceptance and mindfulness-based interventions (such as Acceptance and Commitment Therapy - ACT; Dialectical Behavior Therapy - DBT) specifically designed for adolescents are appropriate to promote their psychological health and well-being (e.g., Hayes, & Ciarrochi, 2015).

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ESTUDO EMPÍRICO X

LONGITUDINAL PATHWAYS FOR THE MAINTENANCE OF NON-SUICIDAL SELF-INJURY IN ADOLESCENCE: THE PERNICIOUS BLEND OF DEPRESSIVE SYMPTOMS AND SELF-CRITICISM

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ABSTRACT

This study aims to concurrently compare intrapersonal variables between adolescents with and without a lifetime history of non-suicidal self-injury; and to longitudinally test whether non-suicidal self-injury over lifetime history predicts 6-months non-suicidal self-injury through self-criticism and depressive symptoms among Portuguese adolescents with a self-reported history of non-suicidal self-injury. Adolescents (N = 418, 12-19 years-old) from middle and secondary schools completed self-report questionnaires to assess self-criticism, depressive symptoms and the frequency of non-suicidal self-injury in two-points in time over the 6-month interval. Results from path analysis showed that lifetime non-suicidal self-injury predicts subsequent non-suicidal self-injury, and this association is mediated by self-hatred and depressive symptoms among adolescents with lifetime non-suicidal self-injury.

Keywords: Adolescence; Depression; Longitudinal; Self-Criticism; Non-Suicidal Self-Injury.

INTRODUCTION

Adolescence is a developmental period with elevated risk for non-suicidal self-injury (Klonsky, Muehlenkamp, Lewis, & Walsh, 2011). Non-suicidal self-injury (NSSI) is the direct and intentional destruction of one's body tissue (e.g., repetitive cutting, burning), conducted neither with lethal intent nor in adherence to religious or cultural customs (American Psychiatric Association, 2013). In community samples of adolescents (aged 12-18), the lifetime prevalence of NSSI ranges between 10% and 40% (Giletta, Scholte, Engels, Ciairano, & Prinstein, 2012; Klonsky et al., 2011). Indeed, NSSI typically first occurs in adolescence with an average age of onset between 12 and 16 years old (Klonsky et al., 2011). In addition, NSSI is associated with various psychopathological indicators (e.g., personality disorders, internalizing and externalizing symptoms), is a strong predictor for suicidal thoughts and behaviors, and can often persist into adulthood (Klonsky, May, & Glenn, 2013; Klonsky et al., 2011).

Theoretical frameworks and several empirical studies converge to the consensus that NSSI is motivated by seeking relief from intense emotional distress or escaping from a situation. Thus, in face of negative intense emotions, individuals try to manage or escape from this emotional activation and engage in NSSI, which quickly reduces or eliminates this intense and undesirable emotional activation and produces an immediate emotional relief. In a vicious cycle, repeated negative reinforcement strengthens the association between emotional activation and NSSI, such that NSSI automatically occurs in similar situations and maintains over time (Chapman et al., 2006; Nock & Prinstein, 2004).

Although research supports that NSSI is mainly used as a maladaptive means of coping with intense or unpleasant emotions, both interpersonal (e.g., stressful interactions with family and peers; Jutengren, Kerr, & Stattin, 2011; Xavier, Cunha, & Pinto-Gouveia, 2016a) and intrapersonal factors are implicated in initiation and maintenance of NSSI (Klonsky, 2009; Nock, 2009; Nock & Prinstein, 2004). For instance, Hankin and Abela (2011) in a sample of adolescents (11-14 years old) found that maternal and youth depressive symptoms, low social support, and negative cognitive style predicted new engagement in NSSI over 2 ½ years. Similarly, two studies (Andrews, Martin, Hasking, & Page, 2014; Tatnell, Kelada, Hasking, & Martin, 2014) demonstrated that the combination of intra- and interpersonal variables seems to influence the onset of NSSI among school-based adolescents, namely lower self-esteem, female gender, higher attachment anxiety, poor problem solving, greater psychological distress and lower perceived family support. Another longitudinal study conducted with a clinical sample (N = 143; 12-15 years-old) showed that adolescents who experience greater stressful interpersonal life events and perceive these stressful life events with a negative attributional style are not only at risk for depressive symptoms, but also for engagement in NSSI $1^{1/2}$ years later (Guerry & Prinstein, 2009).

Regarding the risk factors for continuation of NSSI, Andrews, Martin, Hasking, and Page (2013) found in a large sample of Australian school-based adolescents (12-18 years old) that higher frequency of NSSI and difficulties in emotion regulation (particularly, poor cognitive reappraisal and higher emotional suppression) are associated with the maintenance of NSSI over one year. Another study, conducted with young adult self-injurers, revealed that past NSSI (including the frequency, methods, and recency of NSSI at the beginning of the study), participants' own prediction of their engagement in future NSSI, and Borderline Personality Disorder features prospectively predicted NSSI (Glenn & Klonsky, 2011). Similarly, among young adults with a history of self-cutting the major predictors of future NSSI were prior NSSI, number of NSSI methods and low aversion to self-cutting stimuli (Franklin, Puzia, Lee, & Prinstein, 2014).

Indeed, a large body of research has demonstrated that past and repeated NSSI is often one of the strongest predictors of future NSSI (e.g., Fox et al., 2015; Guerry & Prinstein, 2009; Lundh, Wångby-Lundh, & Bjärehed, 2011; Marshall, Tilton-Weaver, & Stattin, 2013). Despite the robustness of prior NSSI to predict future self-injurious behaviors, other additional factors have been studied. For instance, depressive symptoms concurrently and prospectively predicted the engagement in and maintenance of NSSI among adolescents (Marshall et al., 2013; Lundh et al. 2011), especially for those with high risk for NSSI (Prinstein et al., 2010).

In general, these results suggest that adolescents who have different trajectories of NSSI over time (i.e., low, moderate and chronic) differ among themselves as regard to the frequency and severity of NSSI, cognitive vulnerabilities (e.g., rumination, negative attributional style) and depressive symptoms (Barrocas, Giletta, Hankin, Prinstein, & Abela, 2014). There is some consensus among researchers that interpersonal reasons for engaging in NSSI seem to be associated with the initiation of NSSI (e.g., Hilt et al., 2008), while intrapersonal functions appear be linked to the maintenance of NSSI (Nock, 2009; Nock & Prinstein, 2004; Tatnell et al., 2014).

Among cognitive vulnerability factors for NSSI, self-derogation or self-criticism plays also a key role in NSSI (Klonsky et al., 2011). Indeed, adolescents who self-injure consistently report higher levels of critical and persecutory attitudes towards themselves and lower self-esteem (Glassman et al., 2007). Additionally, self-punishment is also a reason to engage in NSSI (e.g., "to punish myself", "to express anger at myself"; Klonsky et al., 2011). Recently, a cross-sectional study conducted in a school-based adolescents sample (Xavier, Pinto-Gouveia, & Cunha, 2016b) indicated that the most pathological form of self-criticism (i.e., hated self) is strongly associated with NSSI. As pointed out by Gilbert and colleagues (1994), self-criticism refers to an internal hostile self-to-self relationship and has different forms and functions. The *hated self* refers to a sense of disgust, hatred and anger with the self. Its underlying function is the desire to persecute,

punish and exclude the self (Gilbert et al., 2004). Thus, it seems that the dislike, hatred and anger with the self are one reason to attack physically the self, even in the absence of depressive symptoms (Xavier et al, 2016b). In this vein, two experimental studies (Nock, Prinstein, & Sterba, 2009; Armey, Crowther, & Miller, 2011) elucidate about the emotional phenomenology of NSSI, by demonstrating that angry and hostile emotions (e.g., self-directed anger and shame) are higher in, and predictive of, an NSSI episode, especially for individuals who frequently engage in NSSI. In addition to this emotional intensity, individuals who self-injure are willing to endure pain because they have negative cognitions about themselves (e.g., defective, bad) and they believe that they deserve punishment (Hooley, Ho, Slater, & Lockshin, 2010). However, the self-punishment hypothesis for understanding why individuals inflict harm upon themselves remains underexplored (Nock, 2010).

In fact, research has been identifying several risk factors that distinguish between adolescents who initiate NSSI, those who continued NSSI, and those who ceased the NSSI over time. Overall, individuals who maintain NSSI have higher intrapersonal difficulties (e.g., affect dysregulation, personality disorders, cognitive vulnerabilities) and lower interpersonal protective factors (e.g., social support, connection to others) than individuals without a history of NSSI and who ceasing the behavior (e.g., Andrews et al., 2013, 2014; Hankin & Abela, 2011; Tatnell, et al., 2014). In fact, most studies focus on the comparison between different groups to identify risk factors for NSSI. Although these studies provided valuable information, there is also a paucity of longitudinal studies that explore the potential intrapersonal factors for the maintenance of NSSI among adolescent samples with NSSI histories (Fox et al., 2015).

The current study aims to (i) compare scores on self-criticism (i.e., self-hatred), depressive symptoms and lifetime NSSI frequency between adolescents with and without a lifetime history of NSSI; (ii) analyze the longitudinal associations between depressive symptoms and self-criticism and non-suicidal self-injury; and (iii) test whether NSSI over lifetime history predicts 6-months NSSI through self-criticism (i.e., self-hatred) and depressive symptoms among adolescents with a self-reported history of NSSI. We predicted that lifetime history of NSSI would be longitudinally associated with NSSI at 6-months and that this relationship would be mediated by self-hatred and depressive symptoms. If supported, this previously untested hypothesis would provide a useful information to understand the maintenance factors of NSSI and to develop preventive and intervention actions specifically designed for adolescents with NSSI.

METHOD

Sample recruitment

Two waves of data (namely Time 1, T1 and Time 2, T2) were collected in the same adolescents during a temporal period of 6 months in middle and secondary schools. At Time 1, 538 adolescents (233 males, 43.3% and 305 females, 56.7%) in Grades 7 to 11 (M = 9.56, SD = 1.35) participated in the beginning of the study. Participants enrolled in wave 1 were between the ages of 12 and 19 years old (M = 15.12, SD = 1.48).

A total of 421 (78.3%) of these adolescents participated in the study 6 months later (i.e., Time 2) in Grades 7 to 12 (M = 10.44, SD = 1.43). Adolescents from Time 2 were between the ages of 12 and 19 years old (M = 15.65, SD = 1.39). Attrition (n = 117, 21.7%) was mainly due to students transferring to other schools or absent from school on the day of assessment.

Missing data was tested through Little's (1988) Missing Completely at Random (MCAR) test and there was evidence of nonrandom missing data, X^2 (413) = 769.253, $p < .001$. As a result, all analyses were conducted only on the subsample of adolescents with complete longitudinal data. Given that the purpose of this study is to analyze the frequency of NSSI, three cases were excluded from the data set because they have reported suicidal ideation and attempt in both times of assessment.

In order to analyze the first aim of the current study, this subsample of 418 adolescents was divided into two groups: those with a history of NSSI and those without a history of NSSI (measured at Time 2). Then, to test the second and third objectives of this study, those adolescents who had never engaged in NSSI measured at Time 2 (n = 202, 48.3%) were excluded from the subsample of 418 adolescents, because we intend to analyze adolescents with a presence of lifetime history of NSSI in the subsequent statistical analysis.

Participants

The final sample (N = 418) includes 177 males (42.3%) and 241 females (57.7%). The mean age was 14.92 (SD = 1.47) at Time 1 and 15.64 (SD = 1.39) at Time 2. No gender differences were found for age at Time 1, $t_{(416)} = 1.352$, $p = .177$, nor at Time 2, $t_{(416)} = 1.780$, $p = .076$. There were gender differences in years of education at Time 1, $t_{(361.317)} = 2.356$, $p = .019$, as well as at Time 2, $t_{(362.484)} = 2.481$, $p = .014$, indicating that females have more years of education than males (T1: M = 9.62, SD = 1.35 *versus* M = 9.29, SD = 1.46; T2: M = 10.59, SD = 1.37 *versus* M = 10.24, SD = 1.48).

The subsample of adolescents without a lifetime history of NSSI (henceforth referred to Non-NSSI group) is composed by 202 individuals, 102 of which are males (50.5%) and 100 are females (49.5%). At Time 1, the mean age of these adolescents was 14.81 (*SD* = 1.53) and the mean years of education was 9.40 (*SD* = 1.42). No gender differences were found for age, $t_{(200)} = 1.044$, $p = .298$, and years of education, $t_{(200)} = 1.232$, $p = .202$, at Time 1. At Time 2, these adolescents had a mean age of 15.53 (*SD* = 1.43) and a mean of years of education of 10.37 (*SD* = 1.44). No gender differences were found for age, $t_{(200)} = 0.941$, $p = .348$, and years of education, $t_{(200)} = 1.308$, $p = .192$, at Time 2.

The subsample of adolescents who reported a lifetime history of NSSI (henceforth referred to NSSI group) is composed by 216 individuals and includes 75 males (34.7%) and 141 females (65.3%). At Time 1, these adolescents had a mean age of 15.03 (*SD* = 1.41) and a mean of years of education of 9.56 (*SD* = 1.39). At time 2, these adolescents had a mean age of 15.75 (*SD* = 1.36). No gender differences were found for age, $t_{(214)} = 1.263$, $p = .208$, except for years of education, $t_{(214)} = 2.061$, $p = .041$, suggesting that females have more years of education than males (*M* = 10.65, *SD* = 1.37 *vs*. *M* = 10.24, *SD* = 1.46) at Time 2. The most common self-injured parts of the body endorsed by these adolescents were hands, arms, fingers and nails (*n* = 67, 31%) followed by a combination of hands, arms, fingers and legs, feet and toes (*n* = 7, 3.2%) and legs, feet and toes (*n* = 4, 1.9%).

Procedure

After obtaining ethical approvals from the Portuguese Data Protection Authority and Ministry of Education, schools in the center region of Portugal were contacted to participate in the study. The Head Teacher and the parents were informed about the goals of this research and gave written informed consent. All adolescents enrolled in the study were fully informed about the goals of the study and that their participation was voluntary. A unique identifier number for each individual was created for data-matching purposes. Participants were assured strict confidentiality of the collected data and that only the researcher had access to the questionnaires. Adolescents consented to participate and filled out voluntarily the instruments in the classroom in the presence of the teacher and researcher. The researcher provided clarifications about the questionnaires when requested. Participants who did not want to participate or were not authorized by their parents to participate in this study were excluded and were given an academic task by the teacher in the classroom.

Measures

All measures were administered at T1 and then 6 months later at T2.

Self-criticism: Hated self

The **Forms of self-criticizing/attacking and self-reassuring scale (FSCRS**; Gilbert, Clark, Hempel, Miles, & Irons, 2004; Portuguese version: Castilho, Pinto-Gouveia, & Duarte, 2013) is a 22-item self-report questionnaire that measures individual's critical and reassuring self-evaluative responses to a setback or disappointment. This scale comprises two forms of self-criticizing (*inadequate self* and *hated self*) and other attitude focused on the positive aspects of the self (*reassured self*). Each item is rated on a 5-point scale (0 = *not at all like me*; 4 = *extremely like me*). In the original study the Cronbach's alphas were .90 for inadequate self and .86 for both hated and reassured self. The Portuguese version also presented good internal consistency, ranging between .72 and .89 (Castilho et al., 2013). In the current study only the *hated self* subscale (5 items) was used to capture disgust, dislike and anger feelings for the self and an aggressive desire to hurt or persecute the self (e.g., "I have become so angry with myself that I want to hurt or injure myself."). Cronbach's alpha for Hated self in the current study was .78 at T1 and .80 at T2.

Depressive symptoms

The **Depression Anxiety and Stress Scales** (DASS-21; Lovibond & Lovibond, 1995; Portuguese version: Pais-Ribeiro, Honrado, & Leal, 2004) is a 21-item scale and assesses three dimensions of negative emotional symptoms: depression, anxiety and stress. The items are rated on a 4-point scale (0-3) during the last week. In the original study the subscales had high internal consistency (α = .91 for depression; α = .84 for anxiety; α = .90 for stress). In the current study only the depression subscale was used and presented good internal consistency (α = .88) at T1 and T2.

Non-Suicidal Self-Injury

The **Risk-taking and Self-harm Inventory for Adolescents** (RTSHIA; Vrouva, Fonagy, Fearon, & Roussow, 2010; Portuguese version: Xavier, Cunha, Pinto-Gouveia, & Paiva, 2013) is a self-report questionnaire that measures simultaneously risk-taking and self-harm behaviors. In the current study only the Self-harm dimension was used to assess the frequency of self-injury behaviors (e.g., cutting, burning or biting). The items refers to *intentionally* self-injury behaviors and are rated on a 4-point scale (0 = *never*; 3 = *many times*), referring to the lifelong history. In the present study, items 32 and 33, which assess suicidal ideation and intent respectively, were not included in the overall sum of NSSI. Vrouva et al. (2010) found a very good internal

consistency for self-harm dimension (α = .93). In the present study the self-harm dimension (15 items) presented Cronbach's alphas of .89 at Time 1 and .88 at Time 2.

Data Analysis

All statistical analyses were performed using PASW Software (Predictive Analytics Software, version 22, SPSS, Chicago, IL, USA) and Amos Software (Analysis of Moment Structures, version 22, Amos Development Corporation, Crawfordville, FL, USA).

Descriptive statistics were computed to analyze demographic variables and means scores on all variables. First, we assessed cross-sectional differences at baseline (Time 1) on demographic and variables under study between adolescents with and without NSSI using independent samples t-tests and Pearson chi-square test. Second, a mixed between-within subjects' analysis of variance (ANOVA) was conducted to compare scores on the studied variables at Time 1 and Time 2 and to analyze whether the change in variable scores was different for males and females (Field, 2013), in the subsample of adolescents with a lifetime history of NSSI. Effect size was analysed accordingly to Cohen's (1988) recommendations. Pearson product-moment correlation coefficients were performed to explore the relationships between all variables in study among the subsample of adolescents with a lifetime history of NSSI.

Path analysis from structural equation modelling (SEM) was performed to estimate the presumed relations among variables in the proposed theoretical model (Kline, 2005). The current study has two waves of data (i.e., Time 1 and Time 2), which is referred as half-longitudinal design (Cole & Maxwell, 2003). Such data will allow us to explore the relations between variables over time (Cole & Maxwell, 2003; Fritz & MacKinnon, 2012). The proposed mediation model allowed us to analyze whether NSSI at Time 1 would impact on NSSI at Time 2, mediated by Hated self at Time 2 and Depressive symptoms at Time 2. Depressive symptoms at Time 1 were also included in the model to statistically control for its potential confounding effect. This model was tested in the subsample of adolescents with a lifetime history of NSSI.

The Maximum Likelihood (ML) was used as the estimation method to test for the significance of all path coefficients in the models and to compute fit indexes statistics (Kline, 2005). The following standard criteria (Kline, 2005) were used to estimate the overall model fit: Goodness of Fit Index (GFI ≥ .95, good), Comparative Fit Index (CFI ≥ .95, good), Tucker-Lewis Index (TLI ≥ .95, good), Root Mean Square Error of Approximation (RMSEA ≤ .05, good fit; ≤ .08, acceptable fit; ≥ .10, poor fit), with 90% confidence interval (CI) (Hu & Bentler, 1999). Significant indirect effects were tested using the Bootstrap resampling method. This procedure with 2000 Bootstrap samples was used to create 95% bias-corrected confidence intervals (Hayes & Preacher, 2010; Kline, 2005).

RESULTS

Preliminary Data Analysis

Data were screened for univariate normality and there were no severe violations to normal distribution (|Sk| < 3 and |Ku| < 8-10; Kline, 2005). Multicollinearity was examined by inspecting the tolerance and variance inflation factor (VIF < 5) and no multicollinearity problems were found in the variables (Kline, 2005).

Differences between Non-NSSI and NSSI Groups at Time 1

Table 1 displays descriptive statistics for Non-NSSI and NSSI groups at baseline (Time 1) and differences between the groups. As can be seen in Table 1, in the subsample with NSSI, a significantly greater proportion of females reported that they had engaged more frequently in NSSI than males, with a small effect size. In addition, adolescents in the NSSI group endorsed significantly more levels of hated self, depressive symptoms and lifetime NSSI frequency than adolescent without a history of NSSI. According to Cohen's recommendation (1988), the effect sizes were large (cf. Table 1).

Table 1

Descriptive statistics and differences between Non-NSSI and NSSI groups at baseline (Time 1; N = 418)

	Non-NSSI (*n* = 202)	**NSSI (*n* = 216)**	**Statistical test**	***p***	**Effect size**
	M (SD)	***M (SD)***			
Demographics					
Age	14.81 (1.53)	15.03 (1.41)	$t(416) = 1.540$	.124	n/a
Years of education	9.40 (1.42)	9.56 (1.39)	$t(416) = 1.160$	.247	n/a
Gender: % female	49.5%	65.3%	$X^2(1) = 10.637$	.001	Phi = .160
Variables					
T1 Hated self	1.71 (2.50)	5.31 (4.44)	$t(343.485) = 10.281$	<.001	$d = 0.99$, $r = 0.45$
T1 Depressive symptoms	2.86 (3.67)	6.72 (5.22)	$t(386.608) = 8.799$	<.001	$d = 0.86$, $r = 0.39$
T1 Lifetime NSSI	0.62 (1.63)	5.57 (6.72)	$t(241.933) = 10.496$	<.001	$d = 1.01$, $r = 0.45$

Note. T1 = variable measured at baseline assessment; T2 = variable measured after 6-month period; NSSI = Non-suicidal self-injury measured by the Risk-taking and Self-harm Inventory for Adolescents (RTSHIA).

Repeated-Measures ANOVA and Gender Differences for NSSI Group

The means and standard deviations of main study variables for the subsample of adolescents who reported a lifetime history of NSSI and for gender are presented in Table 2. Results from mixed design ANOVA showed that for hated-self scores there was a non-significant main effect for gender, $F_{(1, 214)} = 3.323$, $p = .070$, suggesting that hated-self scores for genders were similar. There was also a non-significant main effect of hated self, $F_{(1, 214)} = 3.116$, $p = .079$, suggesting that the pattern of hated-self scores was identical across time. Additionally, a non-significant interaction effect between hated self and gender was found, $F_{(1, 214)} = 0.391$, $p = .533$, indicating that ratings from male and female adolescents were similar across time.

Regarding depressive symptoms, results showed that there was a non-significant main effect of gender, $F_{(1, 214)} = 3.594$, $p = .059$, indicating that if all other variables were ignored, the pattern of depressive symptoms scores for genders was similar. There was also a non-significant main effect of depressive symptoms, $F_{(1, 214)} = 1.788$, $p = .183$, demonstrating that, if all other variables were ignored, scores on depressive symptoms were similar across time. There was no significant interaction effect between depressive symptoms and gender, $F_{(1, 214)} = 0.441$, $p = .507$, indicating that ratings from male and female adolescents were similar across time (cf. Table 2).

Table 2

Means and standard deviations of main study variables for total sample of NSSI group and for gender (n = 216)

Variables	**Total (*N* = 216)**		**Males (*n* = 75)**		**Females (*n* = 141)**	
	M	***SD***	***M***	***SD***	***M***	***SD***
T1 Hated self	5.31	4.44	4.52	4.04	5.73	4.60
T2 Hated self	4.80	4.38	4.23	3.67	5.11	4.69
T1 Depressive symptoms	6.72	5.22	5.79	4.86	7.22	5.35
T2 Depressive symptoms	6.20	4.92	5.56	4.49	6.55	5.11
T1 NSSI	5.57	6.72	4.52	6.53	6.13	6.78
T2 NSSI	5.94	6.48	4.73	5.36	6.58	6.94

Note. T1 = variable measured at baseline assessment; T2 = variable measured after 6-month period; NSSI = Non-suicidal self-injury measured by the Risk-taking and Self-harm Inventory for Adolescents (RTSHIA).

Finally, results for NSSI scores showed a marginally significant main effect for gender, $F_{(1, 214)} = 3.939$, $p = .048$, $\eta^2 = .02$, indicating that, if all other variables were ignored, females tended to report higher levels of NSSI than males, despite this difference being marginally significant (cf. Table 2). There was a non-significant main effect of NSSI, $F_{(1, 214)} = 0.908$,

p = .342, indicating that NSSI scores were similar across time. There was also a non-significant interaction effect between NSSI and gender, $F_{(1, 214)} = 0.118$, p = .732, demonstrating that the pattern of NSSI scores for males and females was similar across time.

Correlations

Table 3 presents the correlations between all variables in study among the subsample of adolescents who reported a lifetime history of NSSI (n = 216). As can be seen in Table 3, all variables are concurrently associated in the expected direction. The longitudinal relationships among all variables under study were strong, suggesting the stability of the variables over time.

Table 3

Correlations product-moment Pearson between all variables in study for NSSI group (n = 216)

Variables	T1			T2	
	Hated self	**Depressive symptoms**	**NSSI**	**Hated self**	**Depressive symptoms**
T1					
Hated self	–				
Depressive symptoms	.64	–			
NSSI	.62	.47	–		
T2					
Hated self	.66	.49	.58	–	
Depressive symptoms	.48	.57	.37	.67	–
NSSI	.46	.38	.73	.62	.49

Note. All correlation coefficients are statistically significant at $p < .001$. T1 = variable measured at baseline assessment; T2 = variable measured after 6-month period; NSSI = Non-suicidal self-injury measured by the Risk-taking and Self-harm Inventory for Adolescents (RTSHIA).

Mediation Analysis

This mediation analysis was conducted in the subsample of adolescents who reported a lifetime history of NSSI (n = 216). The proposed model was tested through a saturated or just-identified model (i.e., with zero degrees of freedom), which comprised 18 parameters. Only the direct effect of Depressive symptoms at Time 1 on NSSI at Time 2 was not statistically significant (b = -.13, SE = .069, Z = -1.926, p = .054, β = -.11) and for this reason it was removed, and the

model, consisting of 17 parameters, was respecified and recalculated (Figure 1). This respecified model revealed an adequate model fit: GFI = .99, CFI = 1.000, TLI = .95, RMSEA = .112, 90% CI [0.000, 0.243], p = .122. As can be seen in Figure 1, the final model accounted for 39% of Hated self at Time 2, 34% of Depressive symptoms at Time 2 and 60% of NSSI at Time 2 variances.

Results showed a significant indirect effect of NSSI at Time 1 on NSSI at Time 2, b = .11, 95% CI [0.034, 0.183], p = .008, through Hated self at Time 2 and Depressive symptoms at Time 2, even when the covariate depressive symptoms at Time 1 was controlled for. There was also a direct effect of NSSI at Time 1 on NSSI at Time 2, β = .56 (b = .54, SE = .051, Z = 10.565, p < .001), indicating that NSSI at Time 1 strongly predicted NSSI at Time 2 (cf. Figure 1).

Regarding the covariate variable, results demonstrated that depressive symptoms at Time 1 had a significant indirect effect on NSSI at Time 2, b = .13, 95% CI [0.073, 0.199], p = .001, through Hated self at Time 2 and Depressive symptoms at Time 2.

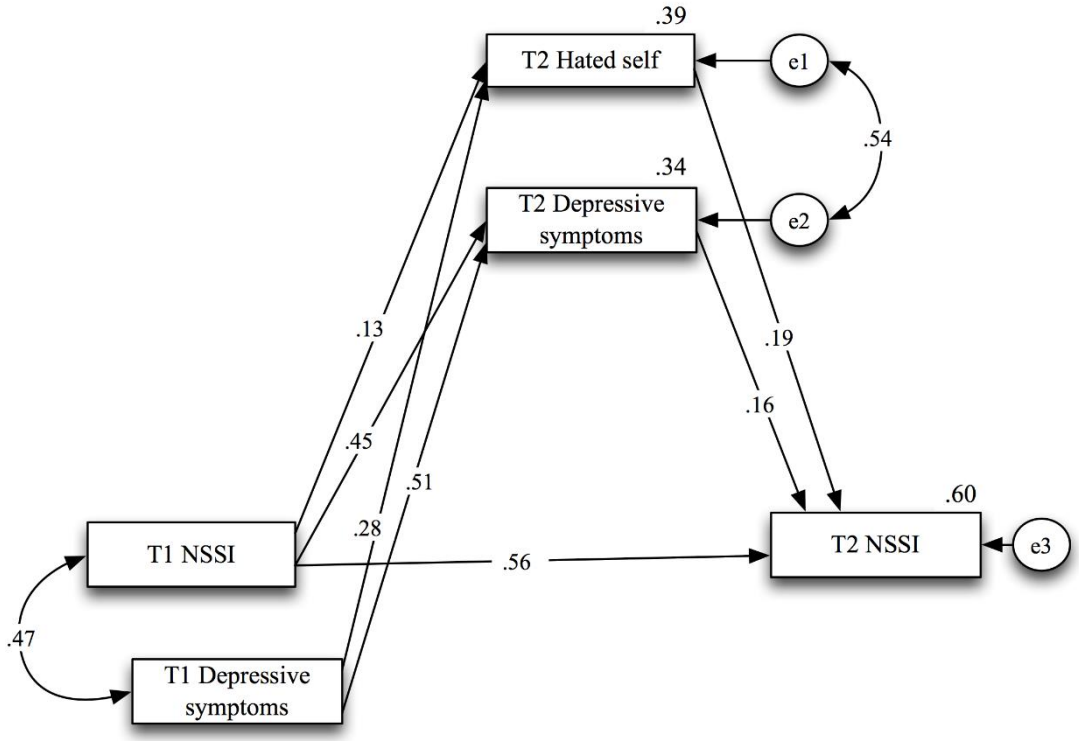

Figure 1. Path analysis predicting the impact of Lifetime Non-suicidal self-injury (NSSI) at Time 1 on NSSI at Time 2 through Hated self at Time 2 and Depressive symptoms at Time 2 (N = 216). Depressive symptoms at Time 1 is the covariate variable. Standardized regression coefficients and squared multiple correlations are presented; all paths are statistically significant (p < .001).

DISCUSSION

Although previous studies have identified concurrently and prospectively several intra- and interpersonal factors associated with the engagement in NSSI, the underlying intrapersonal factors for its maintenance remain unexplored. The current study aims to concurrently compare intrapersonal variables between adolescents with and without a lifetime history of NSSI; and to longitudinally test whether NSSI over lifetime history predicts the occurrence of NSSI over the next six months through self-criticism (i.e., self-hatred) and depressive symptoms among adolescents with a self-reported history of NSSI.

The cross-sectional analyses conducted in the current study largely replicated previous findings (e.g., Giletta et al., 2012; Nock, & Prinstein, 2004; Xavier et al., 2016b) indicating that adolescents who reported a lifetime history of NSSI tend to experience greater harsh and persecutory criticism towards themselves and elevated depressive symptoms than adolescents without a history of NSSI. Additionally, female adolescents tend to endorse concurrently and longitudinally more NSSI than male adolescents, although this last difference was marginally significant.

Among the subsample of adolescents with a lifetime history of NSSI, our findings revealed that NSSI becomes more frequent and severe over the 6-months period, even though this temporal course of NSSI did not reach statistical significance. Indeed, there is some empirical evidence that the continuation of NSSI tend to become more severe (e.g., lethality, frequency and methods), which increases the psychological impairments and the probability of threat to life (e.g., Andrews et al., 2013; Klonsky et al., 2013).

Our finding that higher initial levels of NSSI predicted increased levels of subsequent NSSI is consistent with previous research (e.g., Guerry & Prinstein, 2009; Lundh et al., 2011; Marshall et al., 2013). In fact, a history of NSSI continues to be the strongest predictor of future NSSI, even in combination with other risk factors (e.g., emotional dysregulation, cluster b personality disorders, depression; for review see Fox et al., 2015). The present results also extend this literature by demonstrating that the impact of past NSSI on subsequent NSSI is mediated by the most severe form of self-criticism and depressive symptoms. This finding seems to suggest that adolescents with a past history of NSSI who have a sense of hatred, disgust and anger for the self, with the desire to persecute, punish and exclude negative aspects of the self, in conjunction with greater depressive symptoms, tend to report increasing levels of NSSI over time.

Although previous cross-sectional studies have found that adolescents with NSSI tend to be more self-critical (e.g., Glassman et al., 2007) and that self-hatred is strongly associated with NSSI (e.g., Xavier et al., 2016b), this study is the first to analyze the longitudinally associations between self-criticism, depressive symptoms and NSSI. Our results also indicate the predictive

ability of depressive symptoms to explain subsequent NSSI via self-hatred and depressive symptoms. This finding is in line with previous studies that found the reciprocal associations between depressive symptoms and NSSI among adolescents (Lundh et al. 2011; Marshall et al., 2013; Prinstein et al., 2010), but adds to the current knowledge the role of self-criticism in the complex interplay between negative emotional states and NSSI.

Overall, these results confirm the theoretical models for NSSI (e.g., Chapman et al., 2006; Klonsky, 2009; Nock, 2009), suggesting that adolescents with a history of NSSI engage in future NSSI as a way to cope with negative emotional states (e.g., depressive symptoms, disgust, shame, anger) and to punish the self. These self-to-self persecutory and hatred relationship reinforce the negative emotional states that is further reduced by the engagement in NSSI. It seems that the pernicious blend between a sense of hatred and anger with the self, the desire to exclude and punish the self, and related depressive symptoms seems to negatively reinforce and maintain NSSI. To sum up, the tested theoretical model reflects the vicious cycle between the activation of negative emotional states and self-punishment, as well as highlights that intrapersonal factors are nuclear aspects to understand the maintenance of NSSI.

Some strengths and limitations of this study should be acknowledged. This study has a longitudinal design that allows us to analyze the temporal relationships between variables. Moreover, the current study focuses on intrapersonal factors theoretically implicated in the maintenance of NSSI and tests its maintenance cycle in a sample of adolescents with a history of NSSI. However, the current study has some methodological limitations. First, the study design has only two waves. Future studies might involve more waves of assessment with different follow-up periods in order to assess which factors remain over time in the maintenance of NSSI. Secondly, although this study used adolescents with a history of NSSI, they are from community, and therefore, results cannot be generalized to clinical populations. Third, NSSI was measured using a self-report questionnaire. Although self-report questionnaires are valid and benefit from being anonymous, clinical interviews provide a more reliable gold-standard approach to assess NSSI (e.g., frequency, functions, and methods). Thus, future studies should include multi-method assessment tools, including self-report questionnaires in conjunction with semi-structures interviews and ecological momentary assessment (EMA; e.g., Nock, Prinstein, & Sterba, 2009). Finally and importantly, we recognize that other variables may account for the maintenance of NSSI that we did not analyze in the current study (e.g., rumination, impulsivity and other maladaptive emotion regulation strategies). However, we believe that our findings, while not covering entirely the multi-determined nature of NSSI, shed light on the complexity of the processes involved in it.

The current study has some clinical implications. The therapeutic work should evaluate the origins and functions of self-criticism. In addition, therapy with individuals who self-injure should address the hostile and harmful intent of internal self-criticizing/attacking, and the associated feelings of shame, anger and hatred. It seems that Compassion Focused Therapy (Gilbert, 2010) may be useful for these individuals, since it promotes the development of inner warmth and compassion for the self as a counter affective response to self-disgust, self-hatred and self-critical views.

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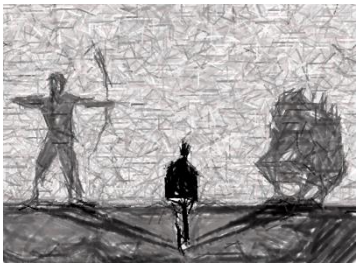


CAPÍTULO 4 |

DISCUSSÃO GERAL

4. DISCUSSÃO GERAL

Os estudos empíricos que compõem esta dissertação foram alvo de dez artigos científicos (dos quais oito estão publicados ou aceites para publicação em revistas internacionais com avaliação de pares e os restantes dois estão submetidos), pelo que os resultados de cada um deles foram já detalhadamente analisados e discutidos. Neste sentido, no presente capítulo iremos dar uma visão articulada e coerente dos principais resultados encontrados no conjunto de estudos, apontando as suas limitações e potencialidades, bem como as implicações práticas e de investigação resultantes.

4.1. SÍNTESE E DISCUSSÃO INTEGRADA DOS PRINCIPAIS RESULTADOS

A adolescência é marcada por rápidas e várias mudanças a nível biológico, psicológico e social, que prepararam os adolescentes para ensaiar e desempenhar papéis sociais importantes para a vida adulta. Nesta fase desenvolvimental à medida que aumenta a autonomia em relação às figuras parentais, aumenta a aproximação ao grupo de pares, assim como as preocupações com a necessidade de ser aceite, valorizado, aprovado e integrado nesse grupo. Estas preocupações e necessidades podem ser entendidas à luz do Modelo Evolutivo Biopsicossocial das Mentalidades Sociais (Gilbert, 1992, 1997, 1998b, 2000a, 2003, 2007), que postula que o ser humano apresenta motivações inatas para a vinculação, a pertença ao grupo social e a competição social. Estas motivações sociais estão associadas à necessidade básica de ser aceite, valorizado e escolhido pelos outros, uma vez que a atratividade social permite atingir importantes objetivos biossociais e aumentar a probabilidade de acesso a recursos. Os seres humanos desenvolvem, desde a infância, uma série de competências cognitivas complexas associadas à autoavaliação, à perceção de como os outros veem o eu, e à comparação social, a qual está especialmente apurada e intensificada durante a adolescência (Gilbert & Irons, 2009). Estas motivações e competências cognitivas tornam o ser humano altamente orientado para as relações sociais e responsivo aos sinais afiliativos. As interações sociais ao longo do desenvolvimento vão moldar a sensibilidade do cérebro para os sistemas de regulação de afeto (focados na ameaça ou no afeto positivo) e vão ficar codificadas como memórias emocionais. A forma como estas memórias emocionais vão influenciar os modelos de relação interna orientados para a competição social ou para a prestação de cuidados pode ajudar a explicar a vulnerabilidade e a manutenção da psicopatologia ou a sua resiliência. A maioria dos estudos empíricos mostra que os indivíduos provenientes de ambientes

adversos estão mais propensos a utilizar estratégias orientadas para a competição social, o que, por sua vez, aumenta a vulnerabilidade para várias dificuldades psicológicas e interpessoais na adultez (e.g., Castilho et al., 2012; Cheung et al., 2004; Gilbert et al., 2003, 2009, 2010; Pinto-Gouveia et al., 2014). Em contraste, os indivíduos com uma orientação para a prestação de cuidados, empatia e compaixão são sensíveis aos sinais de cuidado intra- e interpessoal, o que os vai ajudar a regular as emoções difíceis e a cocriar relações sociais de suporte e segurança, com implicações benéficas na sua saúde mental (e.g., Gilbert, 2015; Kelly & Dupasquier, 2016). Não obstante o crescente desenvolvimento deste referencial teórico, permanece ainda por clarificar de que forma é que as experiências emocionais com a família e com o grupo de pares e os processos de regulação emocional podem estar associados às dificuldades psicológicas na adolescência, esclarecendo possíveis efeitos mediadores ou moderadores. Por sua vez, no âmbito das dificuldades psicológicas, os comportamentos autolesivos pela sua prevalência elevada, complexidade e consequências nefastas na adolescência, merecem inequivocamente mais atenção e investigação.

Assim, o objetivo geral desta dissertação "**Experiências emocionais precoces e (des)regulação emocional: Implicações para os comportamentos autolesivos na adolescência**" é, como indicado no título, compreender a influência das experiências emocionais com os pais e com o grupo de pares no desenvolvimento de processos adaptativos ou mal-adaptativos de regulação emocional e as suas implicações para a vulnerabilidade e manutenção dos comportamentos autolesivos em adolescentes.

Os estudos desta dissertação foram pensados à luz do Modelo Evolutivo Biopsicossocial das Mentalidades Sociais (Gilbert, 1992, 1997, 1998b, 2000a, 2003, 2007), que postula que as experiências emocionais com figuras significativas vão influenciar a sensibilidade do cérebro para diferentes sistemas de regulação de afeto. Quer os estímulos externos quer os estímulos internos podem ativar processos psicológicos e de regulação emocional que estão associados a diferentes indicadores psicológicos adaptativos ou mal-adaptativos. Foram algumas das hipóteses postuladas por este modelo que nos propusemos estudar com a presente dissertação, tendo como população alvo a adolescência, e como *outcome* de psicopatologia os comportamentos autolesivos.

Mais especificamente, os estudos empíricos foram desenhados para compreender a influência de experiências emocionais precoces, negativas e positivas, com a família, e de experiências emocionais negativas com o grupo de pares na vulnerabilidade para o desenvolvimento de sintomas psicopatológicos, em particular para o envolvimento em comportamentos autolesivos. Procurámos também analisar o papel mediador do autocriticismo e da sintomatologia depressiva na relação entre estas experiências emocionais e os comportamentos

autolesivos. Partindo do pressuposto que as experiências emocionais negativas vulnerabilizam os indivíduos para a propensão para a vergonha, autocriticismo e medo de sentimentos positivos (particularmente, de sentimentos compassivos dirigidos ao eu), testámos ainda se o impacto destes traços disposicionais no envolvimento em comportamentos autolesivos seria mediado pela variável contextual de problemas com o grupo de pares e pela variável intrapessoal de sintomatologia depressiva. Uma vez que tanto os problemas diários com os pares como a sintomatologia depressiva tiveram um contributo significativo na explicação dos comportamentos autolesivos, procurámos analisar se a autocompaixão poderia proteger ou amortecer esta relação. Embora a autocompaixão se tenha revelado um fator moderador na relação entre a sintomatologia depressiva e os comportamentos autolesivos, tal atitude adaptativa na relação interna não permitiu diminuir o impacto dos problemas diários com os pares nos comportamentos autolesivos. Com base nestes resultados, procurámos, então, compreender melhor quais os processos de regulação emocional que poderiam mediar a relação entre os problemas diários com os pares e os comportamentos autolesivos. Em particular, hipotetizámos que, nesta relação, os processos de regulação emocional focados no evitamento, nomeadamente, a ruminação, o evitamento experiencial e a dissociação, juntamente com a sintomatologia depressiva, poderiam ter um papel mediador. Por último, dado que, de um modo geral, estes estudos empíricos transversais mostraram o contributo expressivo quer do autocriticismo quer da sintomatologia depressiva na explicação dos comportamentos autolesivos, julgámos pertinente analisar longitudinalmente o seu contributo para a manutenção dos comportamentos autolesivos em adolescentes com história de autodano.

A presente dissertação contemplou também três estudos empíricos iniciais, que dizem respeito à validação, para a população portuguesa de adolescentes, de um conjunto de medidas de autorrelato importantes para a realização dos estudos supracitados. O **primeiro Estudo Empírico** apresentou a Análise Fatorial Confirmatória e o estudo das características psicométricas da **Early of Life Experiences Scale** (ELES; Gilbert et al., 2003; Pinto-Gouveia, Xavier, & Cunha, 2016). Este questionário de autorrelato permite avaliar os sentimentos pessoais de ameaça, subordinação e desvalorização na interação precoce com a família. Este instrumento pode facilitar a avaliação das experiências precoces em adolescentes porque, como não se foca na avaliação dos comportamentos ou práticas parentais, poderá reduzir as atitudes mais defensivas de relato dessas experiências (e.g., desejabilidade social; receios inerentes à divulgação dos comportamentais parentais). Os resultados mostraram que o modelo testado apresentou um adequado ajustamento aos dados e confirmaram a estrutura trifatorial desta medida, composta pelas subescalas de Ameaça, Subordinação e Desvalorização (cf. Estudo Empírico I). Relativamente à consistência interna da medida, verificaram-se adequadas consistências internas para o total da escala ($\alpha = .86$) e para as suas subescalas: Ameaça ($\alpha = .77$), Subordinação ($\alpha = .74$) e Desvalorização ($\alpha = .68$).

A ELES mostrou igualmente uma satisfatória estabilidade temporal para um intervalo de três semanas. O estudo acerca das validades convergente e divergente da ELES mostrou associações positivas com o afeto negativo, e associações negativas com as experiências emocionais de calor e segurança e com o afeto positivo. De um modo geral, estes resultados indicam que, por um lado, embora as experiências de ameaça, subordinação e desvalorização sejam experiências emocionais negativas, elas parecem ter uma natureza distinta, e portanto agrupam-se em três fatores associados entre si. Por outro lado, estas experiências emocionais negativas parecem estar mais ligadas ao afeto negativo, enquanto as experiências emocionais de calor e segurança parecem ser particularmente importantes para o afeto positivo. Assim, estes resultados dão, em parte, suporte à ideia das experiências emocionais (negativas *versus* positivas) se associarem distintivamente a diferentes sistemas de regulação de afeto e ao seu desenvolvimento (aumento *versus* diminuição).

O **segundo Estudo Empírico** analisou a estrutura fatorial da **Ruminative Responses Scale** (RRS; Treynor et al., 2003; Xavier, Cunha, & Pinto-Gouveia, 2016), a invariância da medida para o género, através de Análises Fatoriais Confirmatórias, e as qualidades psicométricas da RRS. Os resultados confirmaram a existência de uma estrutura bidimensional, composta pelos componentes Cismar (do inglês, *Brooding*) e Reflexivo (do inglês, *Reflection*). Embora com um ajustamento satisfatório aos dados, esta estrutura bifatorial sem o item 5 ("*Escrevo aquilo em que estou a pensar e de seguida analiso o que escrevi*.") do componente Reflexivo mostrou-se superior, em termos de ajustamento local e global, relativamente aos outros modelos testados (cf. Estudo Empírico II). Adicionalmente, o estudo mostrou ainda que esta estrutura bifatorial foi invariante para os géneros. A análise da invariância da medida em relação ao género foi um acréscimo importante ao estado da arte, na medida em que, embora se reconheça as diferenças de género quanto à tendência para o envolvimento em pensamentos ruminativos, a estrutura da RRS não tinha ainda sido testada quanto à sua equivalência (ou não) em relação ao género. À semelhança do que é encontrado na literatura, os resultados deste estudo indicaram que as raparigas tendem a envolver-se mais nos estilos de resposta ruminativos do que os rapazes. A RRS revelou uma boa consistência interna para o total da escala ($\alpha = .85$), para a subescala Cismar ($\alpha = .80$) e para a subescala Reflexivo ($\alpha = .75$). Em termos da validade convergente, verificámos que a RRS encontra-se significativamente associada aos sintomas de depressão, ansiedade e de *stress*. Adicionalmente, o estudo de regressão linear múltipla multivariada, através da Análise de Trajetórias, indicou que a dimensão Cismar está fortemente associada à sintomatologia depressiva, ansiosa e de *stress*, enquanto a dimensão Reflexivo apresenta magnitudes de correlação mais baixas. Em síntese, este estudo mostra a distinção entre os dois componentes da ruminação na adolescência e o seu contributo para a vulnerabilidade para os sintomas psicopatológicos.

O **terceiro Estudo Empírico** apresentou a validação do **Risk-taking and Self-harm Inventory for Adolescents** (RTSHIA; Vrouva et al., 2010; Xavier, Cunha, & Pinto-Gouveia, in press; Xavier, Cunha, Pinto-Gouveia, & Paiva, 2013), a sua análise fatorial confirmatória e estudo das qualidades psicométricas. Os resultados confirmaram o modelo estrutural de dois fatores, composto pela dimensão Comportamentos de risco (do inglês, *Risk-taking*) e pela dimensão Comportamentos autolesivos (do inglês, *Self-harm*). Embora resultante da exclusão de alguns itens, o modelo estrutural do RTSHIA é similar ao original e apresentou um bom ajustamento global e local aos dados (cf. Estudo Empírico III). Ambas as dimensões do RTSHIA revelaram uma boa consistência interna (α = .79 e α = .89, respetivamente) e uma elevada estabilidade temporal num intervalo de três semanas (r = .90). O estudo das diferenças de género nas dimensões do RTSHIA mostrou que os rapazes tendem a envolver-se mais em comportamentos de risco, enquanto as raparigas tendem a reportar níveis mais elevados de comportamentos autolesivos. Verificaram-se também importantes diferenças na idade e na escolaridade em relação ao envolvimento em comportamentos de risco (cf. Estudo Empírico III). A validade convergente e divergente das dimensões do RTSHIA foi demonstrada com medidas de afeto negativo e afeto positivo, relações com o grupo de pares (caracterizadas pelo *bullying* e pela vitimização pelos pares) e com a gravidade de problemas diários. De um modo geral, a importância do RTSHIA reside na avaliação em simultâneo dos comportamentos de risco e autolesivos em adolescentes. Dado que a literatura internacional demonstra a elevada prevalência e riscos associados a estes comportamentos, a validação do RTSHIA para a população Portuguesa de adolescentes é importante para compreender melhor a realidade da ocorrência destes comportamentos nesta faixa etária, a nível nacional.

Em suma, os resultados obtidos nestes três estudos empíricos indicaram que as três medidas de autorrelato são instrumentos válidos e fidedignos de aplicação útil no contexto de investigação, escolar e clínico.

O conjunto dos Estudos Empíricos seguintes procurou, de um modo geral, compreender os fatores de risco distais e proximais, psicológicos e contextuais, para o envolvimento em comportamentos autolesivos. Especificamente, estávamos interessados em explorar algumas das hipóteses postuladas pelo Modelo Evolutivo Biopsicossocial das Mentalidades Sociais (Gilbert, 1992, 1997, 1998b, 2000a, 2003, 2007), quanto ao papel das experiências emocionais precoces no desenvolvimento dos sistemas ou processos de regulação dos afetos e o impacto destes na etiologia e manutenção da psicopatologia. Como referido no Capítulo 1, a maioria da literatura empírica foi conduzida em populações de adultos e mostra como a recordação das experiências emocionais na infância e adolescência tem um impacto na saúde mental durante a adultez. Adicionalmente, a natureza destas experiências emocionais parece contribuir para a

internalização de processos psicológicos de regulação dos afetos orientados para a competição social (e.g., vergonha, autocriticismo, ruminação) ou orientados para a prestação de cuidados (e.g., autocompaixão), com consequências distintas na saúde mental. Com efeito, os estudos empíricos realizados e que compõem a presente dissertação procuraram esclarecer a influência das experiências emocionais nos processos de regulação emocional e as suas implicações na adolescência e, em particular, no envolvimento em comportamentos autolesivos.

Como se pode constatar ao longo dos vários Estudos Empíricos conduzidos e apresentados nesta dissertação, a prevalência de comportamentos autolesivos em adolescentes Portugueses da comunidade foi elevada e semelhante às taxas de prevalência reportadas na literatura internacional. Este resultado parece reforçar a importância de estudar este fenómeno nesta faixa etária e identificar os fatores de risco e de manutenção, psicológicos e contextuais associados, e por conseguinte, a partir daí, elaborar estratégias de prevenção e intervenção psicológicas mais eficazes dirigidas quer à melhoria do bem-estar psicológico e emocional dos jovens, quer à redução e/ou eliminação destes comportamentos disfuncionais.

Em geral, também se verificou, nos nossos estudos, que as raparigas tendem a relatar maior frequência e intensidade de dificuldades intrapessoais e interpessoais, comparativamente aos rapazes. No que respeita ao papel da idade, podemos concluir que, de um modo geral, a adolescência média e tardia (i.e., faixas etárias dos 14-15 e 16-18 anos de idade) encontra-se em maior risco de psicopatologia, comparativamente aos adolescentes mais novos (12-13 anos de idade). Estes resultados estão de acordo com a literatura que mostra que a transição para a adolescência é marcada pelo dramático aumento de perturbações de internalização como, por exemplo, a depressão (Nelson et al., 2005; Steinberg et al., 2006; Wolfe & Mash, 2006). Particularmente, os 15 anos de idade são considerados de grande risco para a psicopatologia, sobretudo nas raparigas, porque é nessa idade que elas têm duas vezes mais propensão para experienciar o primeiro episódio depressivo, comparativamente aos rapazes (Steinberg et al., 2006; Wolfe & Mash, 2006). Estas diferenças de género tendem a persistir ao longo da adultez (Nolen-Hoeksema, 2001, 2012). Com efeito, nos Estudos Empíricos, por nós realizados, tivemos em consideração ora a análise da influência do género, idade e escolaridade em relação aos constructos em estudo, ora o seu controlo estatístico, opções estas que foram tomadas consoante os objetivos específicos de cada estudo.

Os resultados do **Estudo Empírico IV** mostraram que os adolescentes que recordam sentimentos de ameaça, subordinação e desvalorização nas interações precoces com a família tendem a reportar níveis mais elevados de afeto negativo, de resistência e medos de sentimentos compassivos (de expressar aos outros, de receber dos outros e de manifestar em relação a si próprios) e um maior envolvimento em comportamentos autolesivos. Os resultados obtidos neste

estudo sugerem que a presença de afeto negativo, de experiências emocionais de ameaça, subordinação e desvalorização, de medo da autocompaixão e a pertença ao género feminino são fatores de risco para os comportamentos autolesivos.

O **Estudo Empírico V** acrescenta informação aos resultados anteriores ao demonstrar que as experiências emocionais de ameaça, subordinação e desvalorização têm um impacto nos comportamentos autolesivos através do seu efeito nos estados emocionais negativos. Além disso, a relação entre o afeto negativo e os comportamentos autolesivos foi moderada pela presença de problemas diários com o grupo de pares. Quer isto dizer que o impacto do afeto negativo nos comportamentos autolesivos é amplificado pela presença de problemas diários com o grupo de pares. Por outras palavras, os adolescentes que recordam sentimentos de ameaça, subordinação e desvalorização na interação precoce com a família, tendem a experienciar estados de afeto negativos e, por sua vez, a envolver-se em comportamentos autolesivos. Mas é, sobretudo, quando percecionam problemas moderados e sérios com o seu grupo de pares, juntamente com a presença de afeto negativo, que o risco de envolvimento em comportamentos autolesivos é aumentado.

O **Estudo Empírico VI** procurou analisar quais os mecanismos psicológicos, para além dos estados emocionais negativos, que podem mediar a relação entre as experiências emocionais, com a família e com o grupo de pares, e os comportamentos autolesivos. Os resultados mostraram que os adolescentes que recordam experiências de ameaça, subordinação e desvalorização, e poucas experiências de calor, afeto e segurança com a sua família, tendem a internalizar uma visão de si próprios focada na crítica e hostilidade, com sentimentos de aversão, raiva e ódio, e com um desejo de perseguir ou excluir essas características pessoais avaliadas como negativas (i.e., forma do autocriticismo Eu detestado). Esta relação interna de hostilidade e subordinação gera, por sua vez, sintomatologia depressiva, conduzindo consequentemente ao envolvimento de comportamentos autolesivos. Adicionalmente, as experiências de vitimização por parte do grupo de pares têm um impacto nos comportamentos autolesivos porque ativam o autocriticismo e geram humor depressivo.

Da análise dos resultados obtidos nestes três estudos sobressaem três tópicos-chave no conjunto das experiências emocionais analisadas: (i) crescer com sentimentos de ter sido ameaçado, subordinado e desvalorizado; (ii) crescer com poucos sentimentos de afeto, carinho, suporte, calor e segurança nas interações precoces com a família; e (iii) experienciar problemas *stressantes* diários e sentimentos de ser ameaçado, criticado, vitimizado, rejeitado e humilhado nas relações com o grupo de pares. O conjunto destas experiências emocionais parece contribuir para o desenvolvimento e ativação do autocriticismo, especialmente na sua forma mais severa (i.e., Eu detestado), e dos estados de afeto negativos, e estes, por sua vez, têm um impacto no envolvimento em comportamentos autolesivos.

De um modo geral, estes resultados podem ser interpretados à luz do Modelo Evolutivo Biopsicossocial das Mentalidades Sociais (Gilbert, 1992, 1997, 1998b, 2000a, 2003, 2007), e dão suporte e validam este modelo na adolescência (Gilbert & Irons, 2009). A vivência constante de experiências de ameaça, subordinação e desvalorização vai contribuir para a criança se tornar mais sensível à ameaça, mais focada em pistas de poder social, e a apresentar uma maior tendência para internalizar a vergonha e um estilo autocrítico. Adicionalmente, os ambientes precoces onde os sentimentos de afeto, calor e segurança são escassos ou inexistentes vão comprometer o desenvolvimento das competências para o cuidado, para a formação de alianças, para a exploração do ambiente social e aproximação aos outros (Gilbert, 2005). O autocriticismo surge destes contextos precoces, insere-se na mentalidade de competição social e funciona como um processo de regulação emocional defensivo porque ativa sentimentos de derrota e depressivos, e comportamentos submissos automáticos e defensivos. Por sua vez, o desenvolvimento de uma relação interna caracterizada pelo cuidado, tranquilização e compaixão parece ficar comprometida quando as figuras significativas não expressaram afeto, calor e segurança para com a criança (Gilbert & Irons, 2005, 2009; Gilbert et al., 2003; Irons et al., 2006; Perris, 1994; Richter et al., 2009). Em conjunto, as experiências emocionais adversas e a ausência de experiências emocionais de calor e segurança vão contribuir para o sobredesenvolvimento do sistema de ameaça-defesa e para o subdesenvolvimento do sistema de segurança/afeto positivo (Gilbert, 2005, 2009b).

Os nossos resultados sugerem que as dificuldades dos adolescentes, que cresceram neste tipo de ambiente de adversidade emocional precoce, estão relacionadas com as memórias emocionais negativas, com as poucas (ou nenhumas) experiências de terem sido amados e protegidos pelas figuras significativas, e com os estados emocionais negativos associados. Além disso, e como consequência destas experiências precoces, estes adolescentes apresentam dificuldades na regulação dos afetos. Estas dificuldades na regulação dos afetos traduzem-se, por um lado, na sobreativação do autocriticismo e do sistema de ameaça-defesa (onde se inserem os sentimentos de tristeza, ansiedade, raiva, aversão) e, por outro lado, em resistências em, ou medo de experienciar sentimentos positivos e compassivos. Com efeito, podem surgir os comportamentos autolesivos como forma de lidar com as suas cognições autocríticas e hostis, e com os sentimentos de raiva e ódio, num contexto de incapacidade ou dificuldade de gerar sentimentos de calor, segurança e tranquilização para consigo próprio.

Para além da importância da qualidade das relações com a família, não poderíamos, em nosso entender, negligenciar o papel das relações com o grupo de pares na explicação das dificuldades psicológicas, pelo que estas foram igualmente analisadas. A este respeito, salientamos dois contributos importantes dos resultados obtidos. Primeiro, a forma como os

adolescentes vivenciam ou percecionam a relação com os seus pares, nomeadamente quando percecionam problemas diários de intensidade moderada e grave, vai aumentar os estados emocionais negativos experienciados e, consequentemente, o envolvimento em comportamentos autolesivos. Em segundo lugar, quando no contexto destas relações com os pares surgem situações de ridicularização, vitimização e *bullying*, esta natureza interpessoal ameaçadora e adversa também vai ativar o autocriticismo e o sistema de ameaça-defesa (e.g., sintomas depressivos) com a função de proteção e defesa. A consequência desta hiperativação da mentalidade de competição social nas relações entre pares reside na alteração constante entre a luta para atingir um lugar social no grupo (i.e., ser valorizado, aceite e integrado) e o medo persistente da rejeição, conduzindo ao aumento de sentimentos de solidão, de depressão e de ansiedade, e à sensação de desconexão em relação aos outros. Este dado é inovador uma vez que acrescenta informação ao estado da arte ao clarificar a via pela qual as experiências de *bullying* têm um impacto nos sintomas psicopatológicos.

Em síntese, estas experiências emocionais com a família e com o grupo de pares parecem abranger três problemas: (i) a natureza ameaçadora e hostil (e.g., a atitude hostil e o tom de voz crítico da figura parental ou do agressor); (ii) a ameaça da perda de atratividade aos olhos dos outros e o receio da derrota social (e.g., perder o estatuto ou a posição social no grupo); (iii) e a ameaça da desconexão social e perda da segurança (e.g., perder a afiliação aos outros, perder o vínculo emocional). Estas ameaças vão, então, bloquear o afeto positivo e de tranquilização (i.e., sistema de afiliação, calor e *soothing*) e vão acionar o sistema focado na ameaça-defesa e autoproteção, diminuindo assim a possibilidade de adotar comportamentos de exploração e aproximação aos outros (Gilbert & Irons, 2005; Gilbert & Procter, 2006). Estes bloqueios parecem ser especialmente nefastos na adolescência, porque uma das tarefas desenvolvimentais importantes da transição da adolescência para a idade adulta é a aproximação ao grupo de pares e o estabelecimento de papéis sociais adaptativos (e.g., como amigo, colega, parceiro amoroso). O autocriticismo poderá surgir quando o adolescente se sente ridicularizado ou rejeitado, e perceciona que está a falhar na autoapresentação de características valorizadas pelo grupo e que, por isso, será rejeitado ou excluído. Os sentimentos autocríticos, hostis e de derrota social estão associados aos sintomas depressivos e, em conjunto, aumentam a vulnerabilidade para o adolescente se envolver em comportamentos autolesivos. Os comportamentos autolesivos podem, assim, surgir com a função de regular as cognições e emoções dolorosas decorrentes destas situações *stressantes* entre pares.

Com base nos resultados destes estudos empíricos e no referencial teórico das Mentalidades Sociais (Gilbert, 1992, 1997, 1998b, 2000a, 2003, 2007; cf. Capítulo 1), o **Estudo Empírico VII** analisou o efeito das variáveis disposicionais inscritas na mentalidade de

competição social (i.e., vergonha, autocriticismo e medo da autocompaixão) e das variáveis contextual (i.e., problemas diários com o grupo de pares) e intrapessoal (i.e., sintomatologia depressiva) no envolvimento em comportamentos autolesivos. Mais especificamente, este estudo sugere que os adolescentes que acreditam existir negativamente na mente dos outros (i.e., vergonha externa), que se envolvem em atitudes autocríticas e hostis (i.e., autocriticismo), e que manifestam dificuldades em expressar sentimentos compassivos em relação a si próprios (i.e., medo da autocompaixão), tendem a envolver-se em comportamentos autolesivos, particularmente na presença de problemas diários com o grupo de pares e sintomas depressivos. Isto sugere que estas predisposições emocionais focadas na ameaça vulnerabilizam os adolescentes para a ativação do processamento cognitivo e emocional de ameaça-defesa. Este processamento caracteriza-se, por um lado, pela perceção de ameaça e de perda de atratividade na relação com o grupo de pares; por outro lado, pela presença de cognições de ataque e hostilidade interna; e ainda, pela ativação de sentimentos de derrota e sintomas depressivos. Associado a esta ativação do sistema de ameaça-defesa encontra-se também o medo e evitamento de experienciar e dirigir sentimentos compassivos em relação ao próprio, o que origina dificuldades no desenvolvimento da autotranquilização e autocompaixão, sendo estas competências importantes na regulação do sistema de ameaça (redução do *stress*). Neste estudo destaca-se ainda o efeito expressivo e direto do Eu detestado na explicação dos comportamentos autolesivos, mesmo na ausência de sintomas depressivos. Este resultado sugere que os sentimentos de raiva, aversão e ódio dirigidos ao eu, e o desejo de perseguir ou excluir os aspetos negativos do eu são uma razão para atacar fisicamente o eu, mesmo na ausência de sintomatologia depressiva. Este resultado apresenta implicações clínicas de cariz relevante.

Em suma, os resultados deste estudo indicam que a forma como os adolescentes lidam com os contextos sociais (e.g., problemas diários com o grupo de pares) depende de uma série de fatores, entre os quais as predisposições emocionais e psicológicas. Quando estas predisposições estão orientadas para a ameaça e autoproteção, uma das respostas defensivas que poderá surgir é o comportamento autolesivo com a função de regular os estados de afeto negativos (e.g., sentimentos de raiva, aversão, ódio, derrota) e as cognições negativas (e.g., sentido do eu experienciado como indesejado, defeituoso, sem valor, inferior, mau, detestável).

Os resultados dos estudos anteriormente referidos são igualmente importantes ao demonstrar que os adolescentes podem ter crenças negativas acerca de experienciar sentimentos positivos, particularmente sentimentos compassivos para com eles próprios. Uma vez que a literatura empírica mostra, em populações de adultos, o efeito bloqueador dos medos da compaixão no desenvolvimento do sistema de afiliação, calor e *soothing*, sistema este que pode ser estimulado pela autocompaixão (e.g., Gilbert, 2009a; Gilbert et al., 2014a, 2014b, 2012), os

nossos estudos acrescentam ao estado da arte o impacto destes medos da compaixão na população adolescente. Os medos da autocompaixão podem constituir entraves a este processo de aprendizagem de competências compassivas, porque podem também conter crenças positivas sobre a função do autocriticismo (e.g., "*se eu deixar de ser autocrítico posso tornar-me preguiçoso*."; "*na vida tenho de ser duro e não compassivo para atingir os meus objetivos*."). Torna-se, assim, importante considerar a interação entre as funções do autocriticismo (sobretudo, quando o autocriticismo está focado no medo do fracasso, na vergonha, e no desejo de punir ou condenar o eu) e os medos da compaixão, quando pretendemos ajudar terapeuticamente os adolescentes a aprender a regular as suas emoções através do desenvolvimento de um atitude de empatia, compaixão, e tranquilização com uma tonalidade emocional de bondade, quietude e tranquilidade.

De um modo geral, as conclusões anteriores evidenciam a importância dos problemas com o grupo de pares e da sintomatologia depressiva para a ocorrência de comportamentos autolesivos nos adolescentes. A literatura empírica mostra que o desenvolvimento de uma relação interna caracterizada pela empatia, tranquilização e compaixão parece ser adaptativa e eficaz para a regulação dos estados de afeto negativos e para a resiliência perante circunstâncias difíceis de vida (Gilbert, 2005, 2009a, 2009b; Neff, 2003a, 2003b, 2004, 2009, 2016). Assim, tendo em conta quer os resultados dos Estudos Empíricos por nós conduzidos, quer a revisão do estado da arte (cf. Capítulo 1), o **Estudo Empírico VIII** investigou o efeito moderador da autocompaixão na relação entre os problemas diários com o grupo de pares, a sintomatologia depressiva e os comportamentos autolesivos. Os resultados mostraram que o impacto da sintomatologia depressiva nos comportamentos autolesivos foi atenuado pela autocompaixão. Com efeito, a autocompaixão, ao ajudar os adolescentes a experienciarem sentimentos de calor, tranquilização e compaixão para consigo próprios, poderá funcionar como um processo de regulação do afeto negativo e como um antídoto para o envolvimento em comportamentos autodestrutivos, como é o caso dos comportamentos autolesivos. Contudo, este efeito moderador da autocompaixão não se verificou relativamente à ação dos problemas com os pares sobre os comportamentos autolesivos. Ou seja, os resultados mostraram que os adolescentes que percecionam elevados problemas diários com os seus pares tendem a envolver-se em comportamentos autolesivos, não sendo esta relação atenuada pela autocompaixão. Este resultado pode ser entendido pelo facto de a autocompaixão dizer respeito a uma atitude saudável da relação interna (i.e., eu com o eu) e não de relação do eu com os outros. Ser autocompassivo significa cultivar uma atmosfera emocional de compreensão, empatia, calor e compaixão e expressar estas qualidades para com o próprio eu. A autocompaixão, ao estimular o sistema de afiliação, calor e *soothing*, pode ajudar a regular o sistema de ameaça (e as emoções negativas associadas) e a aumentar os sentimentos de afeto positivo, ligação social e bem-estar (Gilbert, 2005, 2009a, 2009b, 2015). Estas competências

compassivas podem ser desenvolvidas e treinadas para diferentes alvos, ou seja, receber dos outros, dirigido ao eu e aos outros. Provavelmente, a inclusão de uma medida de avaliação do fluxo ou da direção da compaixão (e.g., para os outros, ou receber dos outros) poderia ter dado um contributo significativo.

Em síntese, a autocompaixão também parece ter um efeito benéfico nesta fase desenvolvimental, uma vez que pode ajudar os adolescentes a lidar eficazmente com os constantes desafios emocionais com os quais se confrontam, assim como facilitar o seu crescimento como adultos saudáveis e compassivos.

Tendo em conta o papel nocivo dos problemas diários com o grupo de pares no envolvimento em comportamentos autolesivos, o **Estudo Empírico IX** testou os possíveis processos psicológicos através dos quais os problemas com os pares afetam os comportamentos autolesivos. Em particular, os resultados deste estudo mostraram que a forma como os adolescentes lidam com problemas diários com o grupo de pares, através do uso de estratégias de regulação emocional focadas no evitamento, vai conduzir ao aumento dos sintomas depressivos e, por sua vez, ao envolvimento em comportamentos autolesivos. Parece que a associação entre os problemas diários com os pares, a sintomatologia depressiva e os comportamentos autolesivos é explicada pela tendência dos adolescentes para usar estratégias de regulação emocional ineficazes e disfuncionais, nomeadamente, a ruminação, o evitamento experiencial e a dissociação, quando confrontados com tais experiências *stressantes*.

Estes dados estão de acordo com a literatura que mostra que os principais fatores de vulnerabilidade para os comportamentos autolesivos são a elevada ativação fisiológica perante situações *stressantes* de vida e as dificuldades na regulação das emoções (e.g., Nock, 2010; Nock, & Mendes, 2008). Também existe suporte empírico de que os adolescentes com comportamentos autolesivos tendem a apresentar vulnerabilidades cognitivas (e.g., ruminação, dissociação, supressão do pensamento, evitamento e fusão cognitiva) que aumentam o risco para a manutenção dos referidos comportamentos (e.g., Howe-Martin et al., 2012; Hilt et al., 2008a; Rallis et al., 2012). Contudo, os resultados do nosso estudo vão além destes dados, ao demonstrar que, quando confrontados com problemas diários com os pares, os adolescentes tendem a: (i) envolver-se em pensamentos persistentes centrados nas consequências dos estados de afeto negativos e nos obstáculos à resolução dos problemas (i.e., componente cismar da ruminação); (ii) evitar ou escapar das experiências internas e a alterar a forma ou frequência dessas experiências que são avaliadas como indesejadas ou intoleráveis (i.e., evitamento experiencial); (iii) e a experienciar formas mais extremas de evitamento, traduzidas nos estados dissociativos, como forma de escapar dos estados emocionais negativos. Embora o uso destas estratégias de regulação emocional seja com a intenção de tentar solucionar os problemas ou dificuldades encontradas e diminuir os

estados emocionais indesejados, tais estratégias quando empregues de uma forma crónica, rígida e inflexível tendem paradoxalmente a conduzir ao aumento (da frequência, intensidade e duração) da sintomatologia depressiva. Os comportamentos autolesivos podem surgir, assim, neste contexto de eventos *stressantes* (neste caso, com o grupo de pares) e de ativação emocional, onde as estratégias de regulação das emoções são ineficazes e disfuncionais. Assim, é possível que as estratégias usadas para reduzir ou evitar os eventos privados externos e internos (e.g., emoções, pensamentos, sensações), ao permitirem um alívio emocional imediato, vão sendo negativamente reforçadas. Mas, será o seu uso crónico que poderá paradoxalmente conduzir a um aumento da intensidade emocional e ser responsável pelo uso de métodos mais extremos da regulação emocional, como é o caso dos comportamentos autolesivos, cuja função é a regulação das emoções (avaliadas como intensas, negativas, intoleráveis, indesejáveis).

Estes resultados estão alinhados com o Modelo do Evitamento Experiencial proposto por Chapman, Gratz e Brown (2006), que conceptualizam os comportamentos autolesivos como fazendo parte da ampla classe dos comportamentos de evitamento experiencial (cf. Capítulo 1). Adicionalmente, os nossos resultados também acrescentam a variável contextual e proximal dos problemas *stressantes* com o grupo de pares e, ainda, outras estratégias de regulação emocional focadas no evitamento, que, em conjunto, vulnerabilizam os adolescentes para os comportamentos autolesivos. Isto pode ser igualmente entendido à luz do modelo teórico integrativo de desenvolvimento e manutenção dos comportamentos autolesivos proposto por Nock (2009, 2010; cf. Capítulo 1). Porém, os nossos dados integram no mesmo modelo as experiências *stressantes* com os pares e a influência dos processos de regulação emocional focados no evitamento para a compreensão dos sintomas depressivos e dos comportamentos autolesivos em adolescentes.

Acrescente-se ainda que o modelo de mediação proposto e testado no referido estudo empírico não se mostrou invariante em relação ao género. Embora a literatura empírica aponte diferenças de género durante a adolescência e a adultez em relação a estratégias de regulação das emoções (e.g., ruminação, evitamento experiencial particularmente no sexo feminino), sintomas psicopatológicos (e.g., depressão no caso do sexo feminino) e comportamentos disfuncionais (e.g., abuso de substâncias, comportamentos externalizantes e agressivos, particularmente no sexo masculino), a maioria destas conclusões deriva da análise de comparações de médias nos constructos em análise (e.g., Biglan et al., 2015; Nolen-Hoeksema, 2001, 2012). Os nossos resultados mostram que, comparativamente ao sexo masculino, o sexo feminino reporta níveis mais elevados de experiências *stressantes*, de estratégias de regulação emocional focadas no evitamento e sintomas psicopatológicos, mas os nossos resultados vão para além disso. Curiosamente, os nossos dados indicam que, comparativamente às raparigas, os rapazes tendem a ser mais afetados pelos problemas diários com os seus pares, o que resulta no seu envolvimento

em processos cognitivos e emocionais de ruminação e de evitamento experiencial. Por sua vez, as raparigas tendem a reagir ao *stress* com sintomas internalizantes (neste caso, sintomas depressivos) e subsequentemente a envolverem-se em comportamentos autolesivos.

Em suma, os nossos resultados apontam diferenças de género de cariz relevante para a compreensão das dificuldades psicológicas na adolescência. Enquanto os rapazes tendem a envolver-se na ruminação e no evitamento experiencial em resposta ao *stress* externo (i.e., problemas diários com os pares), as raparigas tendem a envolver-se em comportamentos autolesivos em resposta ao stress interno (i.e., sintomas depressivos). Estes dados têm, na nossa opinião, importantes implicações clínicas.

Por último, dado que os estudos transversais anteriormente referidos mostraram o papel expressivo do autocriticismo e da sintomatologia depressiva nos comportamentos autolesivos (em particular os Estudos Empíricos VI e VII) e as conceptualizações teóricas salientam a importância destes fatores intrapessoais (e.g., Klonsky et al., 2011; Nock, 2010), o **Estudo Empírico X** testou longitudinalmente um modelo de mediação do autocriticismo (em particular, o Eu detestado) e da sintomatologia depressiva na predição dos comportamentos autolesivos numa amostra de adolescentes com história passada destes comportamentos. Os resultados do **Estudo Empírico X** mostraram que a história passada de comportamentos autolesivos prediz o subsequente envolvimento em comportamentos autolesivos, avaliados num período temporal de seis meses. Este resultado está em concordância com a literatura que indica que a história de comportamentos autolesivos revela-se o preditor mais robusto de comportamentos autolesivos no futuro, mesmo na presença de outros fatores de risco (por exemplo, desregulação emocional, perturbações de personalidade do *cluster* b, depressão; Fox et al., 2015). Porém, os resultados do nosso estudo acrescentam que a manutenção dos comportamentos autolesivos, ao longo de um período de seis meses, é explicada através da presença de autocriticismo, na sua forma mais tóxica e severa (i.e., Eu detestado) e de sintomas depressivos. Este resultado sugere que os adolescentes com história de comportamentos autolesivos, que apresentam uma atitude autocrítica focada em sentimentos de aversão e ódio autodirigidos e no desejo de perseguir, excluir ou agredir o eu, em conjunto com a sintomatologia depressiva, tendem a envolver-se em comportamentos autolesivos ao longo do tempo. Estes resultados são relevantes porque, por um lado, demonstram as ligações longitudinais entre os constructos em análise e, por outro lado, reforçam a importância do autocriticismo (particularmente, o Eu detestado) na ativação dos sintomas depressivos e na manifestação dos comportamentos autolesivos em adolescentes.

Em conjunto, os resultados dos nossos estudos sugerem que as experiências emocionais de ameaça, subordinação e desvalorização, assim como a ausência de experiências de afeto, segurança e suporte com a família formam a base para um sentido do eu focado na ameaça e

orientado para o uso de estratégias defensivas e de proteção contra possíveis ameaças externas (dos outros como hostis e poderosos) e para a internalização de um sentido do eu vulnerável, inferior, desvalorizado e indesejado (i.e., propensão para a vergonha e estilo autocrítico). Também as experiências de *bullying* com o grupo de pares, pela sua natureza ameaçadora e envergonhadora, podem ativar o sistema de ameaça-defesa e os sentimentos de medo da rejeição social e de isolamento. A mentalidade de competição social e o sistema de ameaça-defesa são sensíveis e respondem a ameaças quer externas quer internas. Assim, num percurso desenvolvimental onde há a preocupação para ser valorizado, aceite e integrado no grupo de pares para construir papéis sociais importantes (e.g., como amigo/a, colega, namorado/a), o adolescente com um sentido do eu experienciado como inferior aos outros, com defeitos e outras características negativas, vai sentir-se um agente social não atrativo e indesejado para os outros. A experiência do outro como ameaçador à autoidentidade (i.e., que estigmatiza, ridiculariza, rejeita), mas sobretudo a experiência de um eu indesejado (que vai perder o lugar social) vão ativar a vergonha e os comportamentos defensivos (e.g., evitamento, apaziguamento). A vergonha torna-se acentuada quando envolve autodesvalorização e autoataque (Gilbert & Irons, 2009). Com efeito, o autocriticismo ao funcionar como um processo de assédio interno, ativa cognições autorreferentes negativas (e.g., "*sou mau, não presto, ninguém gosta de mim*.") e estimula emoções e comportamentos defensivos e de submissão. É, sobretudo, a associação entre esta relação interna de dominância-subordinação e as emoções autodirigidas, como a raiva, o desprezo, o ódio ou a aversão, que confere o caráter patológico do autocriticismo (Castilho, 2011; Gilbert & Irons, 2005; Gilbert et al., 2004). Esta vivência emocional hostil do autocriticismo associada à incapacidade para a autotranquilização, conduz a emoções negativas que são difíceis de regular e, portanto, aumenta a probabilidade de envolvimento em comportamentos autolesivos (Gilbert et al., 2010). Percebe-se, então, que os adolescentes que apresentem uma visão negativa de si próprios (e.g., "*como inferiores, defeituosos, maus*"), que manifestem uma alternância entre a tentativa de aproximação aos outros e o medo de serem rejeitados pelos outros, e que apresentem dificuldades na regulação dos afetos, estão em maior risco de dificuldades psicológicas e emocionais, particularmente de envolvimento em comportamentos autolesivos. Adicionalmente, parece que, para os adolescentes com um estilo marcado de autocriticismo, o envolvimento em comportamentos autolesivos é, de algum modo, congruente com essa visão negativa de si próprios (e.g., "*como maus, profundamente não amados*") e por isso merecedores de punição.

O autocriticismo envolve vários componentes: (i) o poder dos autoataques, cujas cognições autocríticas e autopersecutórias são fácil e automaticamente ativadas perante a perceção de inadequações pessoais, e são congruentes com a visão internalizada do eu; (ii) a textura emocional dos autoataques, especialmente quando envolve emoções intensas negativas, como a raiva, a aversão e o ódio pelo eu; e (iii) os comportamentos defensivos de derrota,

submissão e apaziguamento em resposta aos autoataques (Gilbert & Irons, 2005; Whelton & Greenberg, 2005). Desta forma, estabelece-se um círculo vicioso entre a ativação de sentimentos depressivos e a ativação de autocriticismo e a consequente reativação e reforço de sentimentos depressivos e de derrota. Os comportamentos autolesivos podem surgir para regular as cognições críticas e hostis (e.g., autoataques e autocondenações), assim como as emoções de ameaça do eu (e.g., raiva, ódio, sentimentos depressivos e de derrota) e como forma de punir o eu e dirigir a raiva ao eu. Assim, os comportamentos autolesivos, ao proporcionarem um alívio emocional temporário, vão sendo reforçados negativamente, reforçando a manutenção da sua função de autopunição e sua ocorrência. Os nossos resultados dão, assim, suporte à hipótese de função de autopunição dos comportamentos autolesivos, recentemente estudada na literatura em jovens adultos (Nock, 2010; Franklin et al., 2013), que não tinha ainda sido testada em adolescentes. Mais especificamente, os nossos resultados salientam que o autocriticismo, especialmente na sua forma mais severa e patogénica, é um mecanismo psicoemocional perpetuador dos comportamentos autolesivos na adolescência.

Em síntese, o conjunto dos resultados dos Estudos Empíricos apresentados nesta dissertação mostram como as experiências emocionais com a família e com o grupo de pares podem influenciar a representação dos outros e do eu, e o modo como diferentes processos de regulação das emoções vão ser recrutados. Particularmente, as memórias de ameaça, subordinação e desvalorização e as poucas (ou ausentes) experiências de calor, afeto e segurança com a família podem contribuir para a acentuação de uma mentalidade focada na competição social e para a sobreativação do sistema de ameaça-defesa, com destaque para a resposta defensiva, o autocriticismo. Associado a este mecanismo defensivo, encontram-se outras vulnerabilidades disposicionais para experienciar o eu com características não atrativas e indesejadas 'aos olhos dos outros', e para ter medo de experienciar sentimentos positivos e compassivos, particularmente em relação ao eu. Estas predisposições psicológicas resultantes do temperamento e das experiências precoces vão também influenciar a forma como o adolescente vai lidar com os desafios emocionais e sociais durante esta fase do desenvolvimento. Dado o papel que o grupo de pares exerce na adolescência como fonte de suporte, validação e de exploração do mundo, as experiências *stressantes* diárias, de *bullying* e vitimização nesse grupo vão também ativar o autocriticismo e, por sua vez, aumentar a vulnerabilidade para os sintomas depressivos e para os comportamentos autolesivos. Adicionalmente, os adolescentes que se envolvem em processos de regulação emocional focados no evitamento para lidar com os problemas diários com os seus pares estão em maior risco de sintomas depressivos e de envolvimento em comportamentos autolesivos. Mas é sobretudo a forma como o adolescente se vê a si próprio e experiencia o seu sentido do eu, particularmente focado em sentimentos de raiva, aversão e ódio dirigidos ao eu e em desejos de punir, condenar e agredir o eu, que é central para a explicação do

desenvolvimento e da manutenção dos comportamentos autolesivos. Contudo, o desenvolvimento de uma relação interna caracterizada pela tranquilização e compaixão poderá ajudar os adolescentes a aprenderem uma resposta saudável e alternativa às atitudes de ataque e persecutórias dirigidas ao eu, assim como a regular eficazmente os estados de emocionais negativos. A ativação do sistema de calor e *soothing* através da autocompaixão poderá ajudar a desligar o sistema de ameaça-defesa, para assim o adolescente regular adaptativamente as emoções e não se envolver em comportamentos autolesivos, geradores de marcado sofrimento intra- e interpessoal.

4.2. LIMITAÇÕES

Os resultados desta dissertação devem ser interpretados tendo em conta algumas limitações metodológicas. Apesar de as limitações terem sido analisadas individualmente em cada Estudo Empírico, podemos sintetizar, de seguida, as principais limitações desta investigação e apontar sugestões para futuras investigações.

Em primeiro lugar, a natureza transversal da maioria dos estudos realizados, devido ao problema da circularidade, não permite estabelecer inferências sobre a causalidade das variáveis. A realização de estudos longitudinais com pelo menos dois ou três momentos de avaliação no tempo poderá ajudar o investigador a estabelecer a direção e a temporalidade da ocorrência das variáveis (Maxwell et al., 2011). Assim, realizámos um estudo longitudinal apresentado no Estudo Empírico X para colmatar esta limitação do desenho de investigação. No entanto, consideramos que a investigação futura deverá implementar estudos de natureza longitudinal e experimental para clarificar as relações causais entre as variáveis e a estabilidade temporal dos resultados.

Uma segunda limitação geral diz respeito ao caráter retrospetivo das respostas, que poderá ter aumentado a presença de enviesamentos típicos desse tipo de avaliação devido à possível influência do estado de humor na recordação de experiências prévias. A avaliação retrospetiva dos comportamentos autolesivos (dada a impossibilidade ética de induzir ou permitir a ocorrência estes comportamentos no momento da avaliação) também limita a validade e a confiança nas observações. No entanto, a investigação mostra que o relato retrospetivo é geralmente estável ao longo do tempo, preciso e confiável (Brewin, Andrews, & Gotlib, 1993). Adicionalmente, a natureza sensível das questões colocadas, nomeadamente ao nível das variáveis relativas aos comportamentos de risco e autolesivos, poderá ter incrementado a probabilidade de respostas socialmente desejáveis. Contudo, a informação acerca do caráter anónimo e da confidencialidade das respostas nos estudos de investigação poderá ter reduzido

aquela limitação. Para ultrapassar tais limitações, a investigação futura deverá usar outros métodos de avaliação em complementaridade aos questionários de autorrelato, como, por exemplo, entrevistas clínicas semiestruturadas (e.g., Matos, 2011a), métodos de avaliação ecológicos momentâneos (e.g., Aldao, 2013; Armey, Crowther, & Miller, 2011; Nock, Prinstein, Sterba, 2009), testes comportamentais e objetivos (e.g., Nock, Park, Finn, Deliberato, Dour, & Banaji, 2010). Estes complementos à avaliação psicológica representam novas direções de investigação para avaliar objetivamente em tempo real, por exemplo, acontecimentos diários de vida, experiências emocionais, pensamentos e comportamentos autolesivos. Com efeito, estas metodologias de avaliação poderão permitir a avaliação não apenas da frequência dos eventos internos e externos, mas também de outros aspetos qualitativos desses eventos (e.g., funções, natureza emocional).

Associada à limitação anterior encontra-se o facto de a avaliação se ter baseado apenas numa única fonte de informação, o autorrelato dos adolescentes, o que pode igualmente ter contribuído para que os resultados tenham sido contaminados com enviesamentos e/ou respostas socialmente desejáveis. Estudos futuros deverão usar multi-informadores, nomeadamente os relatos dos pais e/ou professores e/ou grupo de pares.

Em termos de procedimentos de recrutamento, as amostras recolhidas foram amostras de conveniência. Os participantes foram recrutados em várias escolas públicas e privadas do distrito de Coimbra, tendo em conta a facilidade e acessibilidade da investigadora. Com efeito, esta ausência de aleatorização questiona a representatividade e generalização dos resultados, sendo necessária a replicação dos estudos em amostras mais diversificadas do ponto de vista geográfico.

Finalmente, o facto de todos os estudos empíricos terem sido conduzidos em amostras da comunidade limita a generalização dos resultados para populações clínicas. A contrabalançar esta limitação, existe na literatura empírica a constatação de que a prevalência dos comportamentos autolesivos é elevada e preocupante em amostras de adolescentes da comunidade (e.g., Muehlenkamp et al., 2012). É importante ainda salientar que as experiências emocionais e os processos psicológicos avaliados na presente investigação estão presentes ao longo de um *continuum* de severidade e, portanto, em níveis não-clínicos e clínicos, e são processos transdiagnósticos presentes em vários problemas psicopatológicas (e.g., Aldao & Nolen-Hoeksema, 2010; Gilbert & Irons, 2005; Kring & Sloan, 2010). Ainda assim, consideramos que estudos futuros devem replicar as análises conduzidas em amostras clínicas de adolescentes.

4.3. RECOMENDAÇÕES PARA FUTURAS INVESTIGAÇÕES

Os resultados da presente dissertação sugerem algumas recomendações para futuras investigações, sendo que a maioria das quais foram sugeridas nos estudos empíricos. No entanto, neste ponto destacamos as áreas de investigação futura que nos parecem mais relevantes e potencialmente promissoras.

Uma vez que um dos contributos da presente investigação resultou na validação de um instrumento de medida que avalia os comportamentos de risco em adolescentes (RTSHIA), estudos futuros poderão estudar os comportamentos de risco nesta faixa etária. Embora alguns estudos conduzidos em amostras de adolescentes Portugueses encontrem uma elevada prevalência de comportamentos de risco nesta faixa etária (e.g., uso e abuso de álcool; Simões, Batista-Foguet, Matos, & Calmeiros, 2008) associada ao envolvimento em múltiplos comportamentos de risco (Vital, Oliveira, Machado, & Matos, 2011), investigações futuras poderão analisar os fatores associados à sua ocorrência (por exemplo, traços de personalidade, influência e pressão do grupo de pares, impulsividade, procura de sensações) com vista ao desenvolvimento de programas de prevenção precoce e intervenção no contexto escolar.

Outro importante avanço para futuras investigações será aumentar a complexidade dos modelos explicativos dos comportamentos autolesivos na adolescência (Nock, 2012). Como exposto ao longo da presente dissertação, a ocorrência destes comportamentos é multideterminada e resulta da interação complexa entre múltiplos fatores. Nós reconhecemos que os modelos testados e apresentados nesta dissertação foram intencionalmente restritos para analisar o efeito das variáveis de interesse. Contudo, acreditamos que os nossos resultados acrescentam informação relevante ao estado da arte acerca da compreensão das experiências emocionais, dos processos de regulação emocional e as suas implicações para a vulnerabilidade e manutenção dos comportamentos autolesivos na adolescência. Estudos futuros requerem investigações em larga-escala que examinem a acumulação ou interação entre múltiplos fatores de risco para os comportamentos autolesivos, como por exemplo, o impacto conjunto de fatores genéticos, ambientais, psicológicos e emocionais.

Uma outra direção para futuras linhas de investigação será a realização de estudos de natureza longitudinal com vários momentos de avaliação ao longo do tempo. A maioria dos estudos prospetivos na área dos comportamentos autolesivos apresenta em média um *follow-up* com um intervalo temporal de um ano (Fox et al., 2015). O facto de um determinado fator de risco não se revelar um preditor robusto dos comportamentos autolesivos após um ano, não significa necessariamente que não seja um fator de risco importante após um mês (Fox et al., 2015). Com efeito, futuras investigações deverão considerar diferentes intervalos de tempo para compreender quais as variáveis de risco que se mantêm ou que se extinguem ao longo do tempo.

Adicionalmente, outra questão de investigação relevante relaciona-se com os fatores de vulnerabilidade específicos dos comportamentos autolesivos. Estudos futuros deverão analisar e identificar os fatores específicos destes comportamentos em diversas amostras clínicas (e.g., Perturbações do Comportamento Alimentar, Perturbações do Humor, Perturbação *Borderline* de Personalidade), assim como em diferentes grupos de indivíduos com comportamentos autolesivos (por exemplo, comparar os que iniciam, com os que cessam, e com os mantêm os comportamentos). Por exemplo, tais estudos poderão analisar as variáveis intrapessoais nomeadamente, o autocriticismo, a impulsividade, a resistência à dor, os traços *Borderline* de Personalidade.

Relativamente ao estudo dos processos de regulação emocional, investigações futuras poderão implementar estudos intrassujeitos de natureza experimental, nas quais incluam instruções para usar estratégias de regulação emocional específicas (e.g., ruminação, autocriticismo, aceitação, autocompaixão) ou a avaliação da seleção espontânea dessas estratégias, face a contextos experimentais específicos (e.g., conflitos interpessoais, perceção de fracassos pessoais, proferir discursos improvisados), com o objetivo de avaliar o reportório de estratégias de regulação emocional (e.g., tipo, flexibilidade, perseveração, repetição) e os múltiplos domínios das emoções (e.g., subjetivo, fisiológico e comportamental). Também nesta área da regulação emocional, o uso de metodologias de avaliação ecológicos momentâneos (i.e., EMA; Aldao, 2013) poderá permitir aos investigadores avaliar naturalisticamente os contextos potencialmente indutores dos afetos (negativo *versus* positivo) e as estratégias de regulação das emoções utilizadas. Adicionalmente, o estudo destes processos de regulação emocional e a sua comparação em amostras diversificadas (e.g., amostras clínicas e não-clínicas) poderá ser uma linha futura de investigação para compreender se tais estratégias variam de acordo com grupos clínicos específicos (e.g., ansiedade social, perturbação alimentar de ingestão compulsiva), com implicações ao nível da intervenção psicológica.

De realçar ainda uma crucial direção futura na investigação será o desenvolvimento de programas de prevenção e intervenção, bem como a avaliação da sua eficácia. Especificamente, não existem programas de prevenção empiricamente validados para reduzir o envolvimento em comportamentos autolesivos na adolescência (Nock, 2009, 2010, 2012). Similarmente, os tratamentos psicológicos dirigidos a comportamentos suicidários e autolesivos em adolescentes são escassos ou são adaptados de intervenções desenvolvidas e aplicadas em adultos (e.g., Terapia Comportamental Dialética, do inglês, *Dialectical Behavior Therapy* – DBT; Linehan, 1993a, 1993b; Miller, Rathus, Linehan, Wetzler, & Leigh, 1997; Wagner, Rathus, & Miller, 2006). Com efeito, futuras investigações deverão desenvolver e testar a eficácia de programas de intervenção psicológica especificamente desenhados para adolescentes. Com base nos resultados apontados pelos nossos estudos, tais intervenções poderão incorporar processos de regulação emocional

adaptativos para lidar com os ambientes emocionais e sociais, nomeadamente capacidades de compaixão, aceitação e não julgamento. Assim, as intervenções poderão integrar estratégias e componentes da Terceira Geração das Terapias Comportamentais e Cognitivas, nomeadamente a Terapia focada na Compaixão (do inglês, *Compassion-focused Therapy*; Gilbert, 2009a, 2009b, 2010), a Terapia de Aceitação e Compromisso (do inglês, *Acceptance and Commitment Therapy – ACT*; Hayes, Strosahl, & Wilson, 1999), e abordagens baseadas no *Mindfulness* (e.g., Kabat-Zinn, 1990, 2003; Segal, Williams, & Teasdale, 2002; Biegel, Brown, Shapiro, & Schubert, 2009; Broderick & Metz, 2009). Várias destas intervenções têm sido testadas e validadas empiricamente em populações de adultos (e.g., Baer, 2003; Grossman, Neimann, Schmidt, & Walach, 2004; Hayes, 2004; Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Hayes, Masuda, Bissett, Luoma, & Guerreiro, 2004) e algumas delas encontram-se adaptadas para crianças e adolescentes (e.g., Burke, 2010; Ciarrochi, Hayes, & Bailey, 2012).

4.4. PONTOS FORTES

Apesar das limitações descritas, a presente investigação apresenta alguns pontos fortes.

Em primeiro lugar, consideramos que um contributo relevante dos estudos de investigação conduzidos e apresentados nesta dissertação foi a inclusão e análise de variáveis do Modelo Evolutivo Biopsicossocial proposto por Gilbert (1992, 1997, 1998b, 2000a, 2003, 2007) para a compreensão das dificuldades psicológicas, e que não tinham ainda sido estudadas em adolescentes. Adicionalmente, acreditamos que os nossos resultados dão um contributo importante, válido e inovador para o conhecimento integrador sobre as experiências emocionais, os processos de (des)regulação emocional e as suas implicações nos comportamentos autolesivos na adolescência.

Em segundo lugar, consideramos que a faixa etária estudada, a adolescência, é um dos pontos fortes da presente dissertação. A adolescência pelas suas características e tarefas desenvolvimentais enfrenta uma série de desafios emocionais e sociais que pode constituir como fatores de vulnerabilidade para várias dificuldades psicológicas. Assim, ao investigar e conhecer melhor esses fatores, poderão ser desenhadas e desenvolvidas estratégias de prevenção e de intervenção psicológicas com vista à melhoria do bem-estar emocional e ajustamento social dos jovens. Com efeito, esperamos que os resultados da presente dissertação possam motivar e inspirar investigações futuras para o desenvolvimento de programas preventivos e de intervenção para este grupo etário, bem como melhorar os programas existentes no tratamento da desregulação emocional e suicidabilidade (e.g., Terapia Comportamental Dialética).

Em terceiro lugar, consideramos que o tamanho da amostra em estudo apresenta vantagens. Especificamente, o tamanho amplo das amostras utilizadas permitiu realizar análises estatísticas mais complexas (através dos modelos de equações estruturais e das análises de invariância das medidas ou dos modelos para o género) e assim dar robustez aos resultados encontrados e conclusões apontadas.

Por último, mencionamos ainda como ponto forte a realização de um estudo de natureza longitudinal (cf. Estudo Empírico X) que permitiu analisar a relação temporal das variáveis. O facto de os resultados do estudo de natureza longitudinal corroborarem os resultados obtidos a partir dos estudos de natureza transversal dá apoio à consistência das conclusões relativas ao papel do Eu detestado e dos sintomas depressivos na explicação e manutenção dos comportamentos autolesivos nos adolescentes.

4.5. Implicações para Ações Preventivas e Intervenções Clínicas

O conjunto dos resultados da presente investigação apresenta importantes implicações preventivas e de intervenção clínica. Por um lado, o conhecimento facultado pela nossa investigação pode contribuir para o desenvolvimento e aperfeiçoamento de ações preventivas para a promoção da saúde mental da população adolescente. Por outro lado, os nossos resultados podem sugerir aspetos importantes para a avaliação psicológica na prática clínica, bem como para o desenvolvimento de protocolos de intervenção clínica desenhados especificamente para adolescentes. Nos pontos que se seguem, salientaremos sumariamente as principais implicações dos nossos resultados relativamente a estes dois níveis de atuação.

4.5.1. Ações de Prevenção para a Promoção da Saúde Mental da População Adolescente

Os nossos resultados salientam a importância de **desenvolver programas de prevenção** no contexto escolar. Em primeiro lugar, tais programas de prevenção poderão alertar os agentes educativos (e.g., pais, professores) para os potenciais efeitos negativos das relações interpessoais focadas na ameaça, criticismo, subordinação e desvalorização nos estados emocionais, na autoidentidade e na vida diária dos jovens. Esta psicoeducação parental poderá promover a deteção precoce das experiências de vergonha ou *bullying* no contexto familiar e/ou escolar. Também será importante ajudar os agentes educativos, em particular os pais, a compreenderem a

importância das relações de afeto com os seus filhos, pautadas pela compreensão empática, compaixão, tolerância e validação emocional, nas quais haja um equilíbrio entre a facilitação da autonomia dos filhos e a supervisão/negociação parental. Em segundo lugar, consideramos pertinente e útil o desenvolvimento de programas de prevenção dirigidos à população de adolescentes que ultrapassem a mera apresentação das consequências associadas aos comportamentos. Mais especificamente, os nossos resultados indicam que o efeito das experiências de vitimização pelo grupo de pares nas dificuldades psicológicas nos adolescentes é explicado pela ativação do autocriticismo. Assim, as ações preventivas não devem apenas focar-se na identificação do *bullying* ou da vitimização pelos pares e suas consequências, mas devem conduzir uma avaliação psicológica rigorosa das características intrapessoais associadas como o autocriticismo. Por exemplo, um programa de prevenção poderia incorporar o desenvolvimento de processos de regulação emocional adaptativos (e.g., competências compassivas, de aceitação, não julgamento) especialmente em jovens com elevados níveis de autocriticismo. Este exemplo de **prevenção seletiva** poderia promover o desenvolvimento de um sentido do eu focado nos aspetos positivos nestes adolescentes e fomentar as suas capacidades de aceitação, autocompaixão e autotranquilização, ajudando-os a lidar com os estados emocionais negativos resultantes das dificuldades interpessoais (e.g., problemas e conflitos com os amigos, *bullying*) e evitar o seu impacto negativo na autoidentidade e no ajustamento psicológico.

O desenvolvimento e implementação de programas de prevenção devem ser também dirigidos a todos os adolescentes e não apenas àqueles com dificuldades emocionais e comportamentais. Uma vez que as mudanças desenvolvimentais (cognitivas, emocionais e sociais) são normativas, tornando este período de desenvolvimento muito sensível e particularmente reativo aos ambientes emocionais e sociais, os adolescentes poderão beneficiar de **programas de prevenção universais** que ensinem estratégias de regulação emocional eficazes. As abordagens baseadas na aceitação e no *mindfulness* parecem ser adequadas a este propósito (e.g., Broderick & Jennings, 2012; Burke, 2010). Assim, os programas de prevenção universais que ensinem aos adolescentes competências de *mindfulness*, aceitação, tolerância emocional, e que promovam uma atmosfera escolar de aceitação e validação emocional podem ser profícuos na promoção de competências emocionais e psicológicas eficazes para lidar com os desafios académicos e sociais ao longo da vida.

Por último, consideramos pertinente não só o desenvolvimento de programas de prevenção, mas também a avaliação da viabilidade e eficácia dos mesmos. Em Portugal, pelo nosso contacto com as escolas que participaram nos estudos da presente dissertação, foi possível constatar que a comunidade escolar está disponível e interessada em criar oportunidades de intervenção psicológica especializada para promover um clima académico de sucesso, não pela

coerção e punição, mas sim pela apreciação e aceitação. Ao nível da prevenção, os nossos estudos poderão fornecer dois contributos importantes: (i) a divulgação dos nossos resultados no contexto escolar, com o objetivo de desmistificar preconceitos e estigmas associados aos comportamentos autolesivos em particular e aos problemas de saúde mental em geral, que podem constituir barreiras à procura e ao acesso a cuidados de saúde mental; e (ii) o incentivo para o desenvolvimento e aplicação de ações preventivas para a promoção da saúde mental da população adolescente em particular, e comunidade educativa em geral.

4.5.2. AVALIAÇÃO PSICOLÓGICA E INTERVENÇÃO CLÍNICA COM ADOLESCENTES

O conjunto dos nossos resultados sugere igualmente importantes implicações clínicas. Em termos de avaliação funcional das dificuldades, será importante avaliar a origem dos processos de internalização focados na vergonha e no autocriticismo. Mais especificamente, torna-se importante explorar a textura emocional das memórias precoces com figuras significativas, avaliar quais as emoções que ficaram associadas a tais experiências precoces (e.g., experiências de vergonha, ameaça, subordinação, desvalorização) e que são reativadas quando as memórias são desencadeadas, e de que forma tais emoções podem estar associadas à experiência e ao sentido do eu (e.g., autoaversão, raiva autodirigida, autodesprezo) e se traduzem em sintomas psicopatológicos (e.g., comportamentos autolesivos). Tais experiências formam a base para as memórias emocionais que ficam condicionadas a emoções difíceis e a medos (Gilbert, 2014; Gilbert & Irons, 2005; Gilbert & Procter, 2006). Associado às memórias emocionais, ou a uma situação de perceção de fracasso ou inadequação pessoal, importa avaliar os pensamentos e os sentimentos de vergonha interna e externa, e como estes medos focados interna ou externamente podem predominar nos rótulos verbais acerca do eu e na autoidentidade. Na avaliação do autocriticismo parece ser importante ter em consideração vários aspetos: (i) a relação interna de dominância-subordinação e os *outputs* emocionais e comportamentais de defesa (e.g., submissão e apaziguamento dos autoataques, posturas de derrota e vergonha); (ii) as formas e funções do autocriticismo e a natureza das emoções associadas (e.g., Eu detestado associado a emoções de raiva, ódio e desprezo pelo eu); e (iii) a interação entre as funções do autocriticismo e os medos da compaixão. As crenças positivas acerca do autocriticismo (e.g., "*se eu deixar de ser duro comigo próprio torno-me preguiçoso*") e as crenças negativas acerca da autocompaixão (e.g., "*se eu for caloroso comigo próprio os outros vão achar que sou fraco*") podem constituir entraves no processo de aprendizagem de uma atitude calorosa, empática e compassiva para com o próprio, bem como dificultar o acesso ao sistema de afiliação, calor e *soothing* tão eficaz na desativação e regulação das emoções associadas ao sistema de ameaça (e.g., ansiedade, raiva, aversão) e à

interrupção do sistema de procura de recursos/incentivos (e.g., frustração, desapontamento quando não se alcança um objetivo valorizado).

De realçar ainda, em nosso entender, a importância de avaliar as relações que os adolescentes estabelecem com o grupo de pares e a forma como lidam com aborrecimentos ou conflitos com os pares. Quer os traços disposicionais de vergonha, autocriticismo e medos de sentimentos positivos, quer as estratégias de *coping* usadas (e.g., estratégias de evitamento) podem dificultar a coconstrução de papéis sociais importantes e vantajosos nesta faixa etária e para a transição para a idade adulta. Também a forma como os adolescentes vão lidar com a experiência emocional resultante de experiências interpessoais ameaçadoras (e.g., ridicularização, vitimização e estigmatização pelos pares), nomeadamente através de estratégias de regulação emocional mal-adaptativas (e.g., autocriticismo, ruminação, evitamento e fusão cognitiva, dissociação) devem ser avaliadas e trabalhadas terapeuticamente. Importa explorar e ajudar o adolescente a identificar a ameaça típica subjacente ao autocriticismo que é a ameaça da vergonha, ou seja, a experiência do eu sentida como incompetente, incapaz, indesejado, e a experiência de que estas características são visíveis aos olhos dos outros, e paralelamente a ameaça da crítica social, ou seja, ser alvo de marginalização, rejeição por parte dos outros e perder a ligação emocional (Gilbert, 2007, 2014; Gilbert & Irons, 2005). É crucial os adolescentes perceberem que é o autocriticismo (como uma estratégia defensiva para lidar com a perceção de fracasso) que gera as emoções difíceis (e.g., vergonha, ansiedade, raiva e ódio autodirigidos) e não apenas as experiências adversas com os seus pares.

A Terapia focada na Compaixão (do inglês *Compassion-focused Therapy*), desenvolvida por Gilbert (2009a, 2009b, 2010), poderá ser uma intervenção terapêutica adequada para ajudar os adolescentes, com dificuldades na saúde mental, sobretudo associadas aos elevados níveis de vergonha e autocriticismo. Esta terapia permite, num primeiro momento, desenvolver uma compreensão de que as mentes humanas são produto da evolução e são moldadas pelo contexto e pelas interações sociais, e que o nosso cérebro embora priorize a autoproteção e autopreservação, também nos cria 'armadilhas' que nos aprisiona ao sofrimento. Esta validação e normalização da experiência emocional pode ser útil para os adolescentes. O desenvolvimento de uma perspetiva despersonalizada de que todos os seres humanas têm o mesmo cérebro com as mesmas motivações, emoções e cognições (i.e., sob a premissa de que 'não é culpa nossa') poderá ajudar a reduzir as características sócio-cognitivas de egocentrismo, autofocus, pensamento autocrítico e comparação social típicas desta fase desenvolvimental. Num segundo momento, a Terapia focada na Compaixão ajuda a desenvolver autocompaixão e autotranquilização através da estimulação do sistema de afiliação, calor e *soothing*, ajudando os indivíduos a regular os seus estados emocionais negativos e ameaçadores, e as suas atitudes autocríticas. Assim, os processos

de regulação emocional mal-adaptativos (e.g., autocriticismo, ruminação, evitamento) são amortecidos pela aprendizagem de processos de regulação emocional adaptativos (e.g., aceitação, autocompaixão, competências de *mindfulness*). São assim desenvolvidas competências compassivas e sentimentos afiliativos dirigidos ao eu e aos outros, podendo também promover os comportamentos pró-sociais e os sentimentos de conexão social (Gilbert, 2014, 2015).

Com efeito, os adolescentes, em particular com comportamentos autolesivos, podem beneficiar desta terapia porque possibilita a aprendizagem de estratégias de regulação emocional alternativas e eficazes para lidar com o sofrimento emocional. Assim, a prática de exercícios de *mindfulness* poderá ajudar os adolescentes com comportamentos autolesivos a terem consciência momento-a-momento das suas emoções e a aprenderem a tolerar o sofrimento, permitindo assim reduzir a impulsividade e reatividade associada à ocorrência dos comportamentos autolesivos. Adicionalmente, a prática de exercícios focados na compaixão poderá ajudar estes adolescentes a: (i) estimularem o sistema de calor e *soothing* para contra-atacar o autojulgamento e as atitudes hostis e persecutórias autodirigidas; (ii) regular as emoções negativas e de ameaça; (iii) ter coragem para enfrentar as emoções difíceis com uma atitude de cuidado, empatia e compaixão, e para manifestar comportamentos adaptativos sem se envolverem em comportamentos autolesivos.

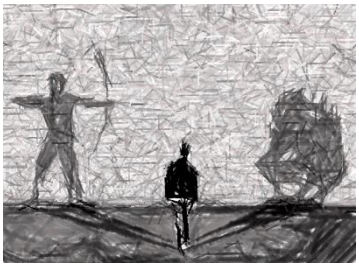
Importa salientar, ainda que sumariamente, algumas considerações densenvolvimentais que requerem atenção na terapia com adolescentes, nomeadamente a necessidade de adaptação dos exercícios terapêuticos adequada à idade, e a integração das componentes pais-filho e contexto escolar.

Por último, esperamos que os nossos resultados, conclusões e sugestões práticas apontadas possam estimular o interesse em desenvolver e aplicar programas de prevenção e de intervenção psicológica especificamente desenhados para adolescentes que incluam a compaixão. Na literatura assiste-se a uma crescente aplicação de abordagens baseadas na aceitação e *mindfulness* em crianças e adolescentes no contexto escolar e clínico, com benefícios psicológicos, emocionais e comportamentais (e.g., Biegel et al., 2009; Broderick, & Metz, 2009; para uma revisão mais detalhada cf. Burke, 2010). Recentemente, existe uma progressiva inclusão da compaixão e autocompaixão nas intervenções para estas faixas etárias (e.g., Bluth, Gaylord, Campo, Mullarkey, & Hobbs, 2016). Assiste-se assim a direções futuras para a investigação, prevenção e intervenção psicológica para promover o bem-estar nestas faixa etárias, podendo também ser extremamente útil para o contexto nacional.

4.6. CONCLUSÃO FINAL

As experiências emocionais com figuras significativas (e.g., pais, amigos, pares) são cruciais ao longo do ciclo de vida, particularmente na adolescência. Os adolescentes com memórias emocionais de ameaça, subordinação e desvalorização, e com escassas experiências de calor, suporte e segurança nas interações precoces com a sua família tendem a manifestar uma maior propensão para processos de regulação emocional focados na ameaça e no evitamento. Perante os desafios emocionais e sociais normativos da adolescência, os jovens com estas predisposições psicológicas orientadas para a competição social (das quais se destacam a propensão para a vergonha, o autocriticismo, a ruminação, e o medo de experienciar sentimentos compassivos) apresentam uma maior vulnerabilidade para dificuldades emocionais e comportamentos autolesivos. O desenvolvimento e aprendizagem de processos de regulação emocional com uma orientação para o cuidado e a compaixão parecem ser especialmente benéficos para ajudar os adolescentes a lidarem e a regularem eficazmente os estados emocionais intensos e difíceis, sem se envolverem em comportamentos autolesivos.

Esperamos que os resultados da presente dissertação tenham contribuído para uma melhor compreensão acerca das memórias emocionais e dos processos de regulação emocional e seus possíveis efeitos na adolescência. Face aos resultados encontrados, acreditamos ainda que possam suscitar a curiosidade de investigadores e clínicos para o prosseguimento da investigação sobre estes processos psicológicos e emocionais, e, principalmente, que permitam mobilizar esforços preventivos e melhorar intervenções clínicas, que ajudem os adolescentes a aprenderem a lidar eficazmente com os desafios emocionais e sociais com os quais se confrontam, sem se envolverem em comportamentos autodestrutivos como os comportamentos autolesivos.



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