

THROUGH THE LOOKING GLASS: EMOTIONAL ABUSE, SELF-BLAME AND THEIR RELATIONSHIP
WITH TEMPERAMENT AND DEPRESSION IN ADOLESCENTS

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Abstract

Background: Temperament plays an important role in the development and maintenance of adolescent psychopathology, particularly in depression. The temperament dimensions of negative or positive emotionality are associated with depression in childhood, adolescence, and in adult life. Early traumatic experiences, such as emotional abuse, constitute risk factors for the development of negative cognitive styles and depressive symptoms. The use of dysfunctional regulation strategies (e.g., self-blame) seems to be a significant factor in the onset and exacerbation of depressive symptoms in multiple samples. Nevertheless, the contribution of these variables for the maintenance of depression remains inadequately studied. Objectives: The present study explored the mediator role of early emotional traumatic experiences and self-blame in the relationship between negative emotionality trait and depressive symptoms in an adolescent sample. Method: A sample of 2318 adolescents from a general community population completed several self-report questionnaires measuring depressive symptomatology (CDI), adolescent temperament (EATQ-R Short Form), early emotional traumatic experiences (CTQ-SF), and emotional regulation strategies (CERQ). Results: Results revealed that early emotional traumatic experiences and self-blame mediated the relationship between negative emotionality and depressive symptoms. Nevertheless, the negative emotionality trait is still directly associated with depressive symptoms. These data seem to suggest that adolescents with negative emotionality trait that recall early traumatic experiences and tend to self-blame are more vulnerable to depression. Conclusions: Some important clinical implications should be addressed. Treatment should include therapeutic strategies focused on self-blame and early traumatic experiences (emotional abuse) in order to diminish negative affect. Cognitive contextual approaches seem appropriate.

Keywords: negative emotionality, emotional abuse, self-blame, depressive symptoms, adolescence

THROUGH THE LOOKING GLASS: EMOTIONAL ABUSE, SELF-BLAME AND THEIR RELATIONSHIP WITH TEMPERAMENT AND DEPRESSION IN ADOLESCENTS

Introduction

Depression in adolescence

Depression is a common, debilitating and chronic mental health problem. Recent data regarding prevalence, severity, and comorbidity of adolescent clinical depression are provided by the National Comorbidity Study Adolescent Supplement (NCS-A; Avenevoli, Swendsen, He, Burstein, & Merikangas, 2015). Based on interview data with adolescents aged 13–18, lifetime and 1-year prevalence of Major Depressive Disorder (MDD) were 11.0% and 7.5%, respectively; for severe MDD, rates were 3.0% and 2.3%. MDD becomes increasingly more prevalent across adolescence and is one of the most potent risk factors for suicidality (Lewinsohn, Rohde, & Seeley, 1994), and approximately 5-10% of depressed adolescents commit suicide within 15 years of their first MDD episode (Weissman et al., 1999).

In fact, the transition into adolescence is often accompanied by increases in negative affect and depressive symptoms (Cole et al., 2002; Hyde, Mezulis, & Abramson, 2008; Nolen-Hoeksema & Girgus, 1994). Depressive disorder during adolescence modifies the normal development and impairs several life domains of teens. Data from longitudinal studies demonstrate that depressed adolescents still report the impairment in social, family and academic functioning in adulthood (Reinherz et al., 2012).

The onset of depression occurs early in life, between 13-15 years of age (Arnarson & Craighead, 2009; Seeley, Rohde, Lewinsohn, & Clarke, 2002), and has high rates of comorbidity with other psychiatric disorders, such as anxiety disorders (Garber, 2006). Although there are no differences in the gender ratio of depression during childhood, a gender difference begins to emerge during mid-adolescence (Hankin et al., 1998; Hilt & Nolen-Hoeksema, 2014). Beginning in adolescence, girls experience an increase in depression-related symptoms (e.g., rumination, feelings of hopelessness) relative to their male counterparts; after 15, girls are twice as likely as boys to have experienced an episode of clinical depression (Cyranowski, Frank, Young, & Shear, 2000). Nolen-Hoeksema and Girgus (1994) and this gender difference continues into adulthood (Rohde et al., 2013). Thus, for girls, the transition into adolescence is a vulnerable period for the development of depression.

Nolen-Hoeksema and Hilt (2009) propose an integrated biopsychosocial model suggesting that adolescents at greater risk of developing depression have risk factors including genetic, neurobiological and psychosocial vulnerabilities. Empirical research has highlighted several risk factors for development of depression in adolescence, such as previous depressive episodes, anxiety disorders, loss of a parent, trauma, and parental depression (Dobson & Dozois, 2008). Self-consciousness and self-critical thinking increase during the transition into adolescence, and they are related to depression (Rudolph, Hammen, & Daly, 2006). Indeed, individuals who share a specific emotional disposition characterized by harsh self-criticism and a negative attributional style may be most susceptible to develop depressive symptoms in adolescence.

Temperament

According to Rothbart and Bates (2006) temperament consists in emotional reactivity patterns, with a biological basis, characterized by stability, and it can be influenced by environmental experiences and heredity. Temperament has been conceptualized according to two domains: positive emotionality and negative emotionality. Positive emotionality refers to sensitivity to reward cues, involvement, adventurousness, behavioral activation, and sociability. Negative emotionality is characterized by sensitivity to negative stimuli, anxiety, sadness, anger, irritability, and negative mood reactivity (Dougherty, Klein, Durbin, Hayden, & Olino, 2010; Garber, 2006). The majority of studies based on the relationship between temperament and depression have exclusively focused on the reactive aspects of temperament. Some of these studies refer to the tripartite model of anxiety and depression (Clark & Watson, 1991), in which anxiety and depression are associated with high levels of negative affectivity.

Predominant temperament models have proposed that negative emotionality constitutes a potent affective temperamental risk to depression. Davies and Windle (2001) characterized difficult temperament as a pattern of inflexibility, low positive mood, withdrawal, and poor concentration; several studies stressed the association between this temperament pattern and depressive symptoms (Dougherty et al., 2010). Moreover, Clark, Watson, and Mineka (1994) have developed the tripartite model which posits that lower positive emotionality specifically predisposes to depression, although negative emotionality non-specifically predisposes to a variety of forms of

psychopathology. In this sense, several studies reported the relationship of depression with low levels of positive emotionality and high levels of negative emotionality. Also, they emphasized the prospective character of positive and negative emotionality in the development of depression in adults (Durbin & Shafir, 2008).

Trauma

Approximately two-thirds of children and adolescents will experience at least one traumatic event, creating a critical need to identify effective child trauma interventions. Research has shown that the exposure to traumatic experiences, such as physical, sexual, emotional abuse or neglect in childhood is associated with the development of psychological problems in adolescents and adults (Bernstein et al., 2003). In line with MacMillan et al. (2001) individuals who experienced abuse in childhood are three to four times more likely to develop depression over their lifespan.

Unlike physical or sexual abuse, diverse studies have suggested that emotional abuse makes a specific contribution for the development of a cognitive vulnerability to depression because the abuser has an impact for the development of child's negative cognition (Courtney, Kushwaha, & Johnson, 2008; Rose & Abramson, 1992). Courtney et al. (2008) conducted a longitudinal study that corroborated the finding that traumatic experiences are a significant predictor of depressive symptoms, and over time adolescents who report emotional abuse are more likely to experience hopelessness and depressive symptoms. Children that experienced severe and chronic abuse tend to create negative self-images and interpret the abuse directed toward the self, doing self-blame attributions (Alloy, Zhu, & Abramson, 2003; Harter, 2012; Klein, Torpey, & Bufferd, 2008).

The growing body of evidence has studied emotional abuse as a direct predictor of depressive symptomatology and not as a mediator. Nevertheless, the processes by which trauma experiences lead to depression remain unclear (Paredes & Calvete, 2014).

Emotion regulation skills

Adolescence is an important period for the development of increasingly complex emotion regulation skills. The adolescents' incapacity to solve their developmental tasks leads to the assimilation of maladaptive strategies and psychopathology in the future. Thus, the development of adaptive coping strategies is crucial to future adjustment in adulthood (Nolen-Hoeksema, 2012; Öngen, 2010). Impaired emotion regulation leads to mental illnesses often expressed in adolescence (Pitskel, Bolling, Kaiser, Crowley, & Pelphrey, 2011).

Emotion regulation is assumed as an important factor in determining well-being or successful functioning (Cicchetti, Ackerman, & Izard, 1995). Thompson (1994) postulates emotion regulation as extrinsic and intrinsic processes to monitor, evaluate, and modify emotional reactions to accomplish certain individual goals. On the other hand, Gross (1998), defines emotion regulation as the "processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions" (p. 275). Despite multiple definitions, all recognize the ability of adaptive human functioning to coordinate the action of emotional systems with the environment (Durbin & Shafir, 2008). Each emotion regulation strategy adopted by the adolescent brings a different implication for well-being, and some regulation strategies are more adaptive than others (Gross & John, 2003).

Several studies have emphasized gender differences in the use of coping emotion regulation strategies (Öngen, 2010). Although the divergence of empirical evidence for the use of some emotion regulation strategies regarding gender, studies have consistently found that adolescent girls tend to report more rumination than boys (Nolen-Hoeksema, 2012; Zimmermann & Iwanski, 2014). Studies have found that the use of emotional and thought suppression, rumination, self-blame and catastrophizing could lead to depression, whereas willingness to self-disclose negative emotions and positive reappraisal are associated with no history of depression (Garnefski & Kraaij, 2006; Öngen, 2010; Rude & McCarthy, 2003). Crow, Cross, Powers and Bradley (2014) suggested that emotion regulation problems are possible mediator between emotional abuse and later depression. It is assumed that when young individuals are exposed to emotional abuse, they become emotionally dysregulated and consequently become more predisposed to psychopathology (Compas, Jaser, & Benson, 2008; Hilt & Nolen-Hoeksema, 2009; Silk, Steinberg, & Morris, 2003).

Depression has been consistently related to rumination, self-blaming and catastrophizing (maladaptive strategies) and inversely related to positive reappraisal (adaptive strategy) (Garnefski, Boon, & Kraaij, 2003; Garnefski & Kraaij, 2006; Garnefski, Kraaij, & Spinhoven, 2001).

Aims

This study with adolescents aimed to explore how negative emotionality, memories of emotional abuse, and self-blame are linked to depression. Given that negative emotionality can be linked to depressive symptoms, we sought to examine the indirect effects of temperament on depression, through emotional abuse and self-blame. It was expected that higher levels of negative emotionality would be associated with higher levels of depressive symptoms, which would be associated with high emotional abuse, which, in turn, would be associated with cognitions of self-blame.

Thus, the three investigated hypotheses were (Figure 1): a) the effect of the negative emotionality on depressive symptomatology is mediated by emotional abuse experience; b) the effect of the negative emotionality on depressive symptomatology is mediated by self-blame; c) emotional abuse and self-blame as mediators in the relationship between negative emotionality and depressive symptomatology.

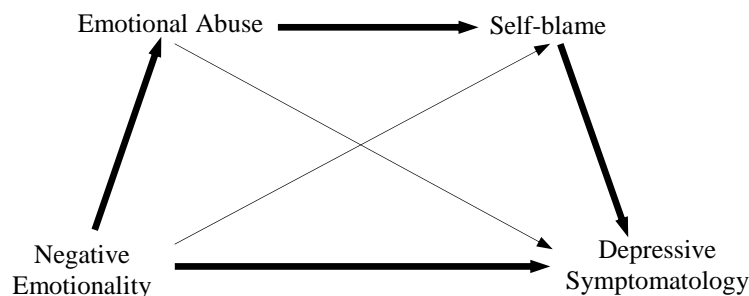


Figure 1. Hypothesized model for serial mediation effects

Method

Participants

The participants of this study were recruited as a part of a Portuguese Project: “Prevention of depression in Portuguese adolescents: Study of the efficacy of an intervention with adolescents and parents”. The sample included 2318 adolescents from the general population, in which 880 were boys (38%) and 1438 were girls (62%), ranged from 13 and 15 years of age ($M = 13.90$; $SD = 1.32$), and attending the 8th and 9th grades in public schools. We did not find significant differences between genders on age ($t_{(2302)} = .689$, $p = .491$).

Procedure

Permission to conduct the study was obtained from national entities that regulate scientific research. Schools were contacted in order to request their participation. After their approval, authorization was also obtained from students and their parents. Anonymity was ensured to the participants as well as confidentiality of the data. After obtaining all permission required, the research protocol was applied in classrooms before any psychological intervention.

Subjects that did not complete the entire assessment protocol were excluded from the study. The project from which this investigation was taken aims to prevent the first major depressive episode that usually happens at 15 years old. Therefore only subjects between 13 and 15 years old were targeted.

Measures

Temperament

Early Adolescent Temperament Questionnaire-Revised Short Form (EATQ-R Short Form, Ellis & Rothbart, 2001; Portuguese Version: Matos & Paiva, 2009). The EATQ-R Short Form is a revised version of the Early Adolescent Temperament Questionnaire (Capaldi & Rothbart, 1992). It comprises 65 items that assess 12 aspects of children temperament (activation control, affiliation, attention, fear, frustration, high-intensity pleasure, inhibitory control, perceptual sensitivity, pleasure sensitivity, shyness, aggression and depressive mood). Participants rated items on 1 (almost always untrue about you) to 5 (almost always true about you). To illustrate, some questions of this questionnaire: “If I’m mad at somebody, I tend to say things that I know will hurt their feelings”, “It often takes very little to make me feel like crying”, “I get frightened riding with a person who likes to speed”, “I get sad when a lot of things are going wrong”. Ellis e Rothbart (2001) reported a Cronbach’s coefficient alpha ranging from .65 to .82 for the 12 temperament scales.

Trauma

Childhood Trauma Questionnaire-Short Form (CTQ-SF, Bernstein et al., 2003; Portuguese version: Matos & Pereira, 2012). The CTQ-SF is a 28-item questionnaire that assesses emotional physical and sexual abuse and emotional and physical neglect IN childhood. Item responses are scored in a 5-point Likert scale, with higher scores indicating higher levels of childhood abuse/neglect. To illustrate, some questions of this questionnaire: “People in my family called me things like “stupid”, “lazy”, or ugly””, “I thought that my parents wished I had never been born”, “People in my family said hurtful or insulting things to me”. Bernstein et al. (2003) reported good internal consistency reliability for each of the CTQ-SF scales: Emotional Abuse = .87, Physical Abuse = .83, Sexual Abuse = .92; Physical Neglect = .61, and Emotional Neglect = .91.

Emotion Regulation

Cognitive Emotion Regulation Questionnaire (CERQ, Garnefski, et al., 2001; Portuguese version: Matos & Serra, 2009). The CERQ is a self-report questionnaire that assesses specific cognitive emotional regulation strategies experienced by the adolescents when facing negative life events. Participants rated 36-statements on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always). To illustrate, some questions of this questionnaire: “I feel that I am the one to blame for it”, “I feel that I am the one who is responsible for what has happened”, “I think about the mistakes I have made in this matter”. The CERQ has 9 subscales that match 9 cognitive emotional regulation strategies: self-blame, rumination, catastrophizing, other-blame, acceptance, positive reappraisal, refocus on planning, putting into perspective, positive refocusing. Garnefski et. al (2001) obtained alpha coefficients ranging from .68 to .83.

Depressive Symptomatology

Children’s Depression Inventory (CDI, Kovacs, 1985; Portuguese version: Marujo, 1994). The CDI is a 27-item self-report measure that assesses 2-week of depressive symptoms in 7 to 17 year-old children. It has three answering options that range from 0 (no problem) to 2 (severe problem) and the total score can reach 54 points. Kovacs (1985) found good psychometric qualities in this inventory, with excellent internal consistency (Cronbach’s alpha coefficients ranging .83 to .94). In the Portuguese version (Marujo, 1994) a unifactorial structure was found, with an alpha coefficient of .80 for the total scale.

Results

Data analysis

All analyses were conducted using PASW (Predictive Analytics Software), version 18 (SPSS Inc., Chicago, IL, USA) for PCs. Gender differences were tested using independent t-test. Pearson correlation coefficients were performed to explore the relationship between predictor variables, outcome variables, and the mediators (Cohen, Cohen, West, & Aiken, 2003; Tabachnick & Fidell, 2007). Cohen’s guidelines (1988) were used for describing the effect sizes of reported correlations (i.e. small for correlations around .10, medium for those near .30, and large for correlations at .50 or higher). Significance was set at the .05 level. Mediation models were tested through PROCESS

(Hayes, 2013), a computational tool for path analysis-based moderation and mediation analysis. Using this SPSS macro, serial multiple mediation models (“model 6” in Hayes, 2013) with two mediator variables were estimated. A bootstrapping procedure, using 5000 resamples, was used to assess unconditional indirect effects. Bootstrapping is a nonparametric resampling procedure that is recommended for testing indirect effects, as it does not require the assumption of normality of the sampling distribution (Hayes, 2013). This procedure creates 95% bias-corrected and accelerated confidence intervals (BCa CIs) of the indirect effects, with an indirect effect considered to be significantly different from zero if zero is not contained within the lower and upper CIs.

Preliminary Data Analyses

Preliminary data analyses were conducted to examine the violation of tests’ assumptions. An inspection of the values of skewness and kurtosis did not reveal serious biases (Skewness values < 3 and Kurtosis values < 10 ; Kline, 2005). The analysis of the outliers was conducted through the graphic representation of the results (box plot). Furthermore, a series of tests were conducted to examine the suitability of the current data for regression analyses. Analysis of residuals scatter plots showed that the residuals were normally distributed, had linearity and homoscedasticity. Also, the independence of the errors was analyzed and validated through graphic analysis and the value of Durbin–Watson (values ranged between 1.756 and 2.006). Regarding multicollinearity or singularity amongst the variables, Variance Inflation Factor (VIF) values indicated the absence of β estimation problems (VIF < 5). Overall, these results suggest that these data are adequate for regression analyses.

Descriptives

The means, standard deviations and Cronbach’s alphas for all variables used are presented on Table 1. All scales showed reasonable to good internal consistencies (Pestana & Gageiro, 2005). The internal consistencies obtained in this study were in line with original versions of scales (Bernstein et al., 2003; Garnefski et al., 2001; Kovacs, 1985).

Table 1.
Means, standard deviations and Cronbach’s Alpha for EATQ-R, CTQ-SF, CERQ and CDI

	<i>M</i>	<i>SD</i>	<i>α</i>
EATQ-R-Short Form			
Negative Emotionality	14.34	2.10	.77
CTQ-SF			
Emotional Abuse	6.83	2.92	.76
CERQ			
Self-blame	2.46	0.83	.78
CDI	11.38	7.11	.90

Note: EATQ-R Short Form: Early Adolescent Temperament Questionnaire-Revised Short Form; CTQ-SF: Childhood Trauma Questionnaire-Short Form; CERQ: Cognitive Emotion Regulation Questionnaire; CDI: Children’s Depression Inventory.

Gender differences were tested and significant differences were found in all variables, with girls scoring significantly higher than boys (Table 2). Adolescent girls, compared to adolescent boys, showed higher mean scores in temperament, recall of emotional abuse, self-blame, and depressive symptoms.

Table 2.
Student's *t*-test differences between males and females for EATQ-R, CTQ-SF, CERQ and CDI

	Males (<i>n</i> = 880)		Females (<i>n</i> = 1438)		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Negative Emotionality (EATQ-R Short Form)	76.68	15.02	83.35	15.34	-10.25	.000
Emotional Abuse (CTQ-SF)	6.58	2.51	6.95	3.08	-3.22	.001
Self-blame (CERQ)	2.29	0.78	2.50	0.88	-6.09	.000
Depressive Symptomatology (CDI)	9.24	6.14	12.39	7.85	-10.79	.000

Note: EATQ-R = Early Adolescent Temperament Questionnaire-Revised Short Form; CTQ-SF = Childhood Trauma Questionnaire-Short Form; CERQ = Cognitive Emotion Regulation Questionnaire; CDI = Children's Depression Inventory.

Correlational analyses

Pearson correlation coefficients were performed to explore the association between temperament, memories of emotional abuse, self-blame, and depressive symptomatology (Table 3).

Positive and low to moderate correlations were obtained. It was found that negative emotionality is associated with traumatic experiences of emotional abuse, self-blame and depression. Memories of emotional abuse were related to self-blame and depression and, finally, self-blame was also correlated with depression.

Table 3.
Pearson correlation coefficients between EATQ-R, CTQ-SF, CERQ and CDI

	1	2	3	4
1. Negative Emotionality (EATQ-R Short Form)	–			
2. Emotional Abuse (CTQ-SF)	.38**	–		
3. Self-blame (CERQ)	.49**	.33**	–	
4. Depressive Symptomatology (CDI)	.57**	.47**	.53**	–

Note: EATQ-R = Early Adolescent Temperament Questionnaire-Revised Short Form; CTQ-SF = Childhood Trauma Questionnaire-Short Form; CERQ = Cognitive Emotion Regulation Questionnaire; CDI = Children's Depression Inventory.

** *p* < .01

Mediation Analysis

To test the indirect effect of negative emotionality on depressive symptomatology through traumatic experiences of emotional abuse and self-blame, serial multiple mediation models were estimated. The effects of the IV on the proposed Ms (paths a1 and a2), the effects of M1 and M2 on the DV partialling out the effect of IV and the other M variable (paths b1 and b2), the direct effect of IV on DV after controlling for M1 and M2 (path c'), and the total effect of IV on DV (path c) are presented in Figure 2. Gender was entered as covariate.

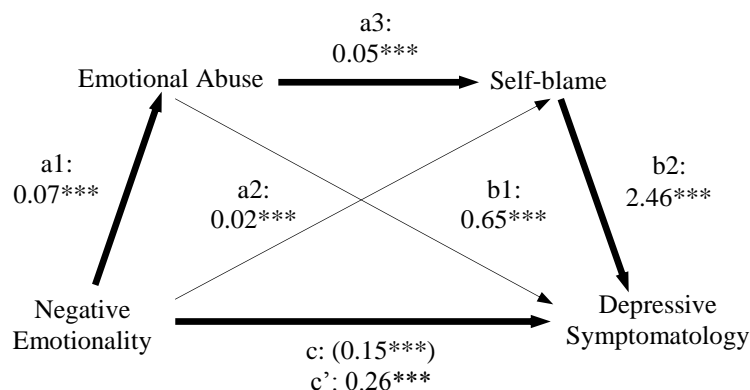


Figure 2. Mediator effect of emotional abuse and self-blame in the relationship between temperament and depressive symptomatology.

*** $p < .001$

The model accounted for 47% of the explained variance in depression. A significant specific indirect effect of negative emotionality on depression through traumatic experiences of emotional abuse and self-blame was found ($a_1a_3b_2 = .11$, LLCI = .09, ULCI = .13), which means that adolescents who have a tendency to react with negative emotionality to events show more depressive symptoms as a result of experiences of being abused by their family, which in turn are associated with self-blame cognitions. A significant indirect effect was also found concerning to the association of negative emotionality and depression through traumatic experiences of emotional abuse ($a_2b_2 = .05$, LLCI = .04, ULCI = .06). The results show that self-blame cognitions mediate the relation between negative emotionality and depression ($a_1b_1 = .01$, LLCI = .01, ULCI = .012). Additionally, a significant direct effect of negative emotionality on depression was observed, after partialling out both traumatic experiences of emotional abuse and self-blame ($c' = .15$, $p < .001$). Finally, the mediation showed that being a girl is a risk factor.

Discussion

Adolescence is a developmental period of change, significantly marked by emotional and relational difficulties, in which depression and anxiety play a prominent role (Angold & Rutter, 1992; Cole et al., 2002; Fleming, Offord, & Boyle, 1989; Kashany & Orvaschel, 1990).

The vulnerability felt by adolescents for emotional problems may be related to the variety of physiological, psychological, relational and environmental changes that characterize this transitional period. Adolescence involves the development and strengthening of the self-concept, the accumulation of life experiences and the learning of social problem solving skills (Conway & Haque, 1999; Habermas & Bluck, 2000). Multivariate empirical approaches to the assessment of adolescent psychopathology, including depression in particular, have shown that aspects of depression are associated with many other problems. Depression stands out among the psychological problems of adolescence, both for its impact on adjustment during the adolescent years and its long-term effects on adult psychological functioning. Individual differences in temperament are potential factors of vulnerability to mood disorders. Despite temperament being a risk factor for general psychopathology, it may function in any of several specific ways having a direct or indirect effect on psychopathology.

Notwithstanding the various empirical and theoretical arguments and studies, in diverse samples (mostly in adults), the exploration and evaluation of certain psychological processes for depression in adolescence remains inadequately studied. Therefore, the present study aimed at investigating the relation between negative emotionality, memories of emotional abuse, self-blame and depressive symptoms. We hypothesized that emotional abuse and self-blame would mediate the relationship between negative emotionality and depression, in a sample of Portuguese adolescents.

Consistent with prior research (Courtney et al., 2008; Garnefski & Kraaij, 2006), correlation analyses showed that negative emotionality, emotional abuse experiences with family and self-blame were associated with

depression. Thus, adolescents who are more prone to react to events in a negative way (e.g., discomfort, fear, anger, sadness, and low soothability) revealed more memories of being emotionally abused by their family, more self-blame, and more depressive symptoms. These findings are in line with prior research demonstrating that temperamental trait of negative emotionality is positively related with depressive symptoms, increasing the risk for depression, along with the risk for other emotional and behavioral problems (Anthony, Lonigan, Hooe, & Phillips, 2002; Chorpita, 2002; Masi et al., 2003; Phillips, Lonigan, Driscoll, & Hooe, 2002). The literature also suggests that traumatic experiences of emotional abuse constitute risk factor for the development of cognitive styles and depressive symptoms in adolescence (Alloy et al., 2003; Harter, 2012; Klein et al., 2008).

The propensity to experience high levels of negative affect, and concomitantly low levels of positive emotion, map directly onto the dysphoric and anhedonic symptoms of depression (Compas, Connor-Smith, & Jaser, 2004). Moreover, there is also evidence that the effects of temperament on depression may be mediated by other factors, including cognitive and contextual variables. Rudolph et al. (2006) suggested that self-consciousness and self-critical thinking increase during the transition into adolescence, and are related to depression. Individuals who share a specific emotional disposition characterized by harsh self-criticism and self-blame and a negative attributional style may be most susceptible to developing depressive symptoms in adolescence. In addition, the effect of specific parenting behaviors on depression depends on the temperament and gender of the child (Oldehinkel et al., 2006). Children with high negative affectivity may have greater difficulty modulating emotional arousal in an adaptive fashion.

As expected, analyses revealed that girls reported higher values in the variables under study than boys. Thus, girls showed higher levels in negative emotionality, emotional abuse experiences, self-blame and depressive symptoms than boys. These findings corroborate previously empirical results suggesting that girls are more vulnerable to depression, have a tendency to feel discomfort, fear, anger, sadness, and low soothability and are more self-critical (Cunha, M., Matos, M., Faria, D., & Zagalo, S., 2012; Hankin, 2008; Hankin & Abramson, 2002; Lang, Ferdinand, & Verhulst, 2007; MacPhee & Andrews, 2006; Nolen-Hoeksema & Girgus, 1994; Reimer, 1996; Rubeis & Hollenstein, 2009; Skrove, Romundstad, & Indredavik, 2013).

Nevertheless, there remains the question of the role of memories of emotional abuse and self-blame on the relationship between negative emotionality and depressive symptoms. This study tested a mediator model in which we examined whether temperament had impact in depression through their effect upon emotional abuse and self-blame cognitions. Consistent with our prediction, results indicated that the impact of the temperamental tendency to react with negative emotionality in depression is operated through emotional abuse and self-blame (when the gender effect is controlled). It seems that adolescents with negative emotionality present depressive symptoms as a result of higher levels of emotional abuse experiences, which, in turn, are associated with high self-blame cognitions. In other words, to experience emotional abuse (with a critical tone) and to cope with negative affect associated with self-attributions of blame can increase the risk for adolescents with negative emotionality of having depressive symptoms. Finally, being an adolescent girl appears to be a risk factor.

Despite the interesting results in this study, this was a limited exploration of the relationships between temperament, emotional abuse, self-blame and depression, in adolescence. The study is cross-sectional and correlational, so causal conclusions cannot be reached. Methods for the measurement of temperament (and the other variables) also need to be expanded beyond paper-and-pencil inventories. In fact, these findings warrant replication and further testing using more rigorous multi-informant, prospective longitudinal research designs. In this sense, it would have been important the use and application of structured diagnostic interviews to assess current or lifetime history of depressive disorders.

Clinical implications

The study does provide some potential clinical implications. Intervention protocols for adolescents in risk for depression might focus on softening negative self-blame as a strategy of dysfunctional emotional regulation (maintenance factor of depressive humor), and promoting the use of other functional strategies. These findings are consistent with the notion that endorsing a more adaptive strategy, may buffer against the potential long-term negative outcomes associated with emotional abuse. An approach focused on acceptance and compassion (e.g. Compassion Focused Therapy) can be useful to diminish self-blame and depression.

In sum, the results of this study are encouraging and indicate that this is a valuable direction for future research on the emotional life of adolescents and the emergence of depressive symptoms.

Understanding the ways in which mediators interact with each other and with depression is crucial to identify causal relationships. This can be done with longitudinal designs.

These findings emphasize the importance of early identification of children and adolescents having elevated risk for future depression and promote the development and greater availability of prevention strategies.

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