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**EFEITO MODERADOR DOS ESTILOS PARENTAIS NA RELAÇÃO ENTRE ANSIEDADE SOCIAL E SINTOMATOLOGIA DEPRESSIVA NOS ADOLESCENTES**

**THE MODERATING EFFECT OF PARENTING STYLES ON THE RELATIONSHIP BETWEEN SOCIAL ANXIETY AND DEPRESSIVE SYMPTOMATOLOGY IN ADOLESCENTS**

**EFFECTO MODERADOR DE LOS ESTILOS PARENTALES EN LA RELACIÓN ENTRE ANSIEDAD SOCIAL Y DEPRESIÓN EN ADOLESCENTES**

*Eliana Silva<sup>1</sup>*  
*Ana Paula Matos<sup>2</sup>*  
*José Joaquim Costa<sup>3</sup>*  
*Vanessa Ramos<sup>4</sup>*  
*Joana Lopes<sup>5</sup>*

<sup>1,3,4,5</sup>*Universidade de Coimbra, Faculdade de Psicologia e Ciências da Educação, Coimbra, Portugal*

<sup>2</sup>*Universidade de Coimbra, Faculdade de Psicologia e Ciências da Educação da Universidade de Coimbra, Centro de Investigação do Núcleo de Estudos e Intervenção Cognitivo-Comportamental, FPCEUC, Coimbra, Portugal*

Eliana Silva - eliana92silva@gmail.com | Ana Paula Matos - apmatos@fpce.uc.pt | José Joaquim Costa - jcosta@fpce.uc.pt |  
Vanessa Ramos - v.ramos760@gmail.com | Joana Lopes - joanarcunhalopes@gmail.com

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**Autor Correspondente**

*Eliana Silva*

Universidade de Coimbra, Faculdade de Psicologia e Ciências da Educação, R. Colégio Novo 10A, 3001-802 Coimbra, Portugal.  
eliana92silva@gmail.com

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## RESUMO

**Introdução:** A comorbidade entre ansiedade social e depressão é elevada na adolescência. Os estilos parentais de socialização emocional têm-se mostrado associados ao desenvolvimento de competências sociais e de sintomatologia depressiva.

**Objetivos:** Este estudo pretende explorar o efeito moderador dos estilos parentais na relação entre ansiedade social e depressão na adolescência, as associações existentes entre estas últimas variáveis, e a relação entre estilos parentais e sintomatologia ansiosa e depressiva nos filhos.

**Métodos:** A amostra é constituída por 121 pais e respetivos filhos. A natureza do presente estudo é correlacional e transversal. Recorreu-se a instrumentos de autorresposta para avaliar a ansiedade social (MASQ, March, et al. 1997; versão Portuguesa: Salvador et al., 2015), a sintomatologia depressiva (CDI, Kovacs, 1985; versão Portuguesa: Marújo, 1994) e os estilos parentais (PSST, Gottman & Declaire, 1997; versão Portuguesa: Matos, Costa, Pinheiro, Silva, & Marques, 2016).

**Resultados:** Verificou-se que a ansiedade social se associou significativamente com depressão e que apresentou um efeito preditor sobre a mesma. Os estilos parentais não revelaram associações significativas quer com sintomatologia depressiva, quer com ansiedade social. Porém, encontrou-se um efeito moderador do estilo parental explorador na relação entre ansiedade de desempenho público e sintomatologia depressiva.

**Conclusões:** A presente investigação confirmou a existência de uma associação significativa entre ansiedade social e sintomatologia depressiva na adolescência e sugere um efeito das práticas parentais de socialização emocional nesta relação, que, no entanto, deverá ser replicado em investigações futuras. Será ainda importante estudar o efeito dos estilos parentais nas competências de regulação emocional dos filhos e o possível efeito mediador destas na relação entre ansiedade social e depressão.

**Palavras-chave:** Ansiedade social; Depressão; Estilos parentais; Moderação; Adolescência

## ABSTRACT

**Introduction:** The comorbidity between depression and social anxiety is high in adolescence. Parental emotion socialization behaviors have been associated with the development of social skills and depressive symptomatology.

**Objectives:** This study aims to explore the moderating effect of parenting styles on the relationship between social anxiety and depression, to study the associations between them, and to analyze the relationship between parenting styles, social anxiety and depressive symptomatology in adolescents.

**Methods:** The sample consisted of 121 parents and their children. The nature of the present study is correlational and cross-sectional. Self-report instruments were used to assess social anxiety (MASQ, March, et al. 1997; Portuguese version: Salvador et al., 2015), depressive symptomatology (CDI, Kovacs, 1985; Portuguese version: Marújo, 1994) and parenting styles (PSST, Gottman & Declaire, 1997; Portuguese version: Matos, Costa, Pinheiro, Silva, & Marques, 2016).

**Results:** It was found that social anxiety is significantly associated to depression and that the former has a predictive effect on the latter. The parenting styles revealed no significant associations with either depressive symptomatology or with social anxiety, but a moderating effect of explorer parenting style was found in the relationship between social anxiety (public performance) and depressive symptomatology.

**Conclusions:** The present investigation confirmed the existence of a significant association between social anxiety and depressive symptomatology in adolescence and suggests an effect of parental practices of emotional socialization in this relation, which, however, should be replicated in future research. It will also be important to study the effect of parenting styles on children's emotional regulation skills and their possible mediating effect on the relationship between social anxiety and depression.

**Keywords:** Social Anxiety; Depression; Parenting Styles; Moderation; Adolescence

## RESUMEN

**Introducción:** La comorbilidad entre la ansiedad social y depresión es alta en la adolescencia. Los estilos parentales de socialización emocional han demostrado estar asociados con el desarrollo de competencias sociales y síntomas depresivos.

**Objetivos:** Este estudio tiene como objetivo explorar el efecto moderador de los estilos parentales sobre la relación entre ansiedad social y depresión en la adolescencia, las asociaciones entre estas variables y la relación entre estilos parentales y síntomas ansiosos y depresivos en los niños.

**Métodos:** La muestra consistió en 121 padres y sus hijos. La naturaleza de este estudio es correlacional y transversal. Se han utilizado instrumentos de auto-respuesta para evaluar la ansiedad social (MASQ, March, et al., 1997; versión Portugués: Salvador et al., 2015), los síntomas depresivos (CDI, Kovacs, 1985; versión Portugués: Marújo, 1994) y los estilos parentales (PSST, Gottman & Declaire, 1997; versión Portugués: Matos, Costa, Pinheiro, Silva, & Marques, 2016).

**Resultados:** Se encontró que la ansiedad social se asoció significativamente con la depresión y presentó un efecto predictor sobre la misma. Los estilos parentales no revelaron estar significativamente asociados con síntomas depresivos o ansiedad social y no mostraron ser predictores de depresión. No obstante, se encontró un efecto moderador del estilo parental explorador en la relación entre la ansiedad por el desempeño público y los síntomas depresivos.

**Conclusiones:** Esta investigación confirmó la existencia de una asociación significativa entre la ansiedad social y los síntomas depresivos en la adolescencia y sugiere un efecto de las prácticas parentales de socialización emocional en esta relación, lo cual debe, sin embargo, ser replicado en futuras investigaciones. También será importante estudiar el efecto de los estilos parentales en las competencias de regulación emocional de los hijos y el posible efecto de mediación de estas en la relación entre la ansiedad social y depresión.

**Palabras clave:** Ansiedad social; Depresión; Estilos parentales; Moderación; Adolescencia

## INTRODUCTION

While in childhood the prevalence of depression varies between 0.4% and 2.5%, during adolescence these percentages increase considerably, reaching values between 4% and 24%, (Cummings & Fristad, 2008). According to Abela e Hankin (2008), by the age of 14, 9% of adolescents would have already experienced at least one major depressive episode.

Social anxiety is considered the most frequent anxiety disorder in patients with depression (Belzer & Schneier, 2004), arising both disorders often as comorbid in adolescence (Beidel et al., 2007; Chavira, Stein, Bailey, & Stein, 2004; Ranta, Kaltiala, Rantanen, & Marttunen, 2009).

Some studies begin to show that the meta-emotional philosophies of parents also relate to the emotional experience of adolescents, both as regards to internalizing symptomatology and the development of social competences (Buckholdt, Kitzmann, & Cohen, 2014a; Buckholdt, Parra, & Jobe-Shields, 2014b; Stocker, Richmond, & Rhoades, 2007; Yap, Schwartz, Byrne, Simmons, & Allen, 2010).

The present research aims to study the relationship between depression, social anxiety and parenting styles, as well as the possible moderating effect of parental styles in the relationship between the former.

## 1. THEORETICAL FRAMEWORK

### 1.1 Depression in adolescence

Depression disorder is characterized by the presence of depressed humor and anhedonia, although humor, in children and adolescents, could be mainly characterized by irritability (American Psychiatric Association, 2013). In this age group, depressive symptomatology also includes loss of energy, hypersomnia, weight gain, feelings of hopelessness and suicidal ideation (Yorbik, Birmaher, Axelson, Williamson, & Ryan, 2004).

Among the impairments most commonly associated with depression in adolescence there are poor school performance, increased conflicts with the family, increased substance use, increased behavioral problems and high risk of suicide (Arnarson & Craighead, 2009; Rao & Cohen, 2009).

According to Essau et al. (2010), the likelihood of new depressive episodes occurring is greater as earlier the onset of depression occurs, thus it becomes urgent to understand the risk factors that predispose its development in adolescence.

### 1.2 Social Anxiety and Depression

Social Anxiety Disorder is characterized by severe fear or anxiety in social situations in which the individual is subject to scrutiny from others (APA, 2013). This disorder has a serious impact in the daily functioning of adolescents, particularly at the psychological, social and scholar level, tending to persist throughout their development (APA, 2013; Rao et al., 2007).

Epidemiological studies have found that the percentage of adolescents who have social anxiety in comorbidity with depressive disorders varies between 28% and 41% (Chavira et al., 2004; Essau, Conradt, & Petermann, 1999; Ranta et al., 2009; Wittchen, Stein & Kessler, 1999).

In addition, with regard to the temporal relationship between the two disorders, social anxiety usually precedes the development of depression in adolescence (Aune & Stiles, 2009; Beesdo et al., 2007; Chavira et al., 2004; Dalrymple & Zimmerman, 2011; Stein et al., 2001), suggesting that it is a predictor of depression.

Some studies (Drost, Van den Does, Van Hemert, Pennix, & Spinhoven, 2014; Grant et al., 2014) have been exploring the role of regulation in the comorbidity between social anxiety and depression, having found that emotional regulation mediates the relationship between these disorders.

It should be noted that the high comorbidity between depression and social anxiety is associated with a severe impairment in functioning, a high probability of relapse and, generally, a poor prognosis (Dalrymple, & Zimmerman, 2007, 2011; Ruscio et al., 2008; Stein et al., 2001).

### 1.3 Parenting Styles of Emotional Socialization

Meta-emotional philosophy is a concept that concerns the "organized set of feelings and thoughts that parents have about their emotions and those of their children" (Gottman, 1996, p. 243). According to Gottman, the meta-emotional philosophy of parents determines the expression and regulation of their emotions, and is also the basis for the attitudes (e. g., validation, discussion, criticism or rejection) that parents will adopt towards their children's emotional experience.

Gottman and Declaire (1997) propose four parenting styles of emotional socialization. Two of them, emotion-coaching and laissez-faire, are characterized by the acceptance and validation of the negative emotional experience. Nonetheless, while emotion-coaching parents empathize, validate, teach to identify, to regulate and to express emotions appropriately, laissez-faire parents do not set limits to emotional expression and do not teach emotional regulation skills. On the other hand, dismissing and disapproving emotional socialization styles do not accept the negative emotions of the children. Namely, parents trivialize and ignore negative emotional experience, or reject, criticize and reprimand children when they manifest it.

Emotional socialization models (Gottman & Declaire, 1997; Morris, Silk, Steinberg, Myers, & Robinson, 2007), based on meta-emotional philosophies and children, propose that the emotional competence of children mediate the relationship between parental practices. Thus, the theoretical model of meta-emotional philosophy suggests that these have influence on three fundamental aspects of children's emotional competencies: emotional awareness, emotional expression and emotional regulation. These emotional competencies seem to be associated with the relationship with peers and children's psychosocial adjustment (Katz, et al., 2012). Several studies (Gottman et al., 1996; Fivush, 2007; Lunkenheimer, Shields, & Cortina, 2007; Ramsden & Hubbard, 2002) have shown that children of parents who accept and guide the experience of negative emotions exhibited more emotional regulation skills and greater emotional awareness. Similarly, children whose parents are emotion-coaching had more social skills and close relationships with peers than parents who are more punitive and dismissing (Fabes, Leonard, Kupanoff, & Martin, 2001; Gottman et al., 1996; Katz & Windecker-Nelson, 2004; Katz, Hunter, & Klowden, 2008).

### 1.4 Parenting Styles of Emotional Socialization, Social Anxiety, and Depression

In a sample of adolescents with depressive symptomatology, the children of mothers that accept their own emotions presented lower depressive symptomatology (Katz & Hunter, 2007). In a similar sample, Hunter et al. (2010) have also shown that children of mothers who present more emotion-coaching and emotionally awareness display more adaptive and proactive meta-emotional philosophies regarding negative emotional experience. With regard to social skills, studies (Buckholdt, Kitzmann, & Cohen, 2014a; Buckholdt, Parra, & Jobe-Shields, 2014b) have found that a parenting style of emotion-coaching adopted by mothers is associated with greater sociability and respect between peers as well as with an optimistic view of friendships and less loneliness in adolescents. Buckholdt et al. (2014b) also found that a parenting style of emotion-coaching has a protective effect on children's perception of their social skills when poor relationships occur with peers. Studies have shown in

adolescent samples that the invalidation or reprimand of negative emotional expression relates to an increase of internalizing symptomatology (namely, depression) through emotional regulation strategies (Buckholdt et al., 2014; Stocker et al., 2007; Yap et al., 2010).

Since meta-emotional philosophies relate to negative emotionality and emotional regulation, as well as influencing the development of social skills, it is important to study their role in the well-established relationship between social anxiety and depression. Thus, the present research aims to: i) study the associations between social anxiety and depressive symptoms in adolescents; ii) analyze the relationship between parenting styles and anxious symptomatology in children; iii) test the moderating effect of parenting styles on the relationship between social anxiety and depressive symptomatology.

## 2. METHODS

A correlational and cross-sectional study was developed.

### 2.1 Participants

The present study sample comprised of 121 students and respective parents who participated voluntarily and anonymously. In the children' group, 94 (77.9%) were female and 27 (22.1%) were male, with ages ranging between 12 and 18 years old ( $M=14.08$ ;  $SD=0.96$ ). Concerning parents, 107 were female (88.4%) and 14 were males (11.6%), with ages ranging from 34 to 67 years ( $M=43.54$ ,  $SD=5.78$ ). Regarding the distribution of parenting styles, according to PSST, 95% of the parents were explorers, 3% were accepting and 2% were disapproving.

### 2.2 Measures

#### ***Children's Depression Inventory***

CDI (Kovacs, 1985; Portuguese version: Marújo, 1994) is a self-response instrument, composed of 27 items, which evaluates depressive symptomatology in children/adolescents (Dias & Gonçalves, 1999). It is a Likert-type scale classified between 0 ("absence of symptom") and 2 ("definitive symptom").

The instrument showed good internal consistency values (Cronbach's alpha between .83 and .94) for the total scale (Kovacs, 1985). The scale in the Portuguese population presented an *alpha* of .80 (Dias & Gonçalves, 1999; Marújo, 1994) and in the present study of .83.

#### ***Multidimensional Anxiety Scale for Children***

MASC (March et al., 1997; Salvador et al., 2015) evaluates symptoms of anxiety in children/adolescents. It consists of 39 items divided into 4 factors. The social anxiety factor has as sub factors humiliation/rejection and public performance. It is scored with a Likert-type scale, ranging from 0 ("never true") to 3 ("often true").

Alpha coefficient obtained in the original scale for the total scale and sub factors ranged from .84 to .90 (March et al., 1997). In the Portuguese version (Salvador et al., 2015) the Alpha coefficient obtained for the total scale was .89, .85 for the social anxiety factor, with .86 and .69 for the humiliation/rejection and public performance sub factors, respectively. In the present study, only social anxiety factor and the sub-factors humiliation/rejection and public performance were used, obtaining respectively an alpha of .85, .87 and .70.

#### ***Parenting Styles Self-Test***

PSST (Parenting Styles Self-Test, Gottman & Declaire, 1997; Portuguese version: Matos, Costa, Pinheiro, Silva, & Marques, 2016) is a self-report instrument that aims to evaluate parenting styles of emotional socialization of sadness and anger (Gottman, 1997). The instrument is composed of 48 items divided into 3 factors: disapproving, explorer, and accepting parenting style. Response format is dichotomous (True/False).

The Portuguese version of PSST showed good values of *Alpha* (disapproving= .87, explorer= .85). Only the accepting style did not present such high internal consistency ( $\alpha= .71$ ). In the present study, the *Alpha* coefficients obtained for the disapproving, explorer and accepting parenting style were, respectively, .82, .72 and .67.

## 2.4 Procedure

The National Data Protection Commission and the ethics committee of the Faculty of Psychology and Educational Sciences of the University of Coimbra approved this study.

Confidentiality was assured and the participants were asked to sign an informed consent. The parental assessment protocol was sent to be completed at home while the students completed the instruments at school.

Associations between variables were analyzed by Pearson's test, using Pestana and Gageiro's (2005) criteria to interpret the correlation coefficients. Thus, a correlation coefficient less than .20 indicates as a very low association between the variables; a value between .21 and .39 a low association; between .40 and .69 moderate; between .70 and .89 high; and more than .90 very high.

In order to explore the predictive effect of social anxiety and parenting styles on depressive symptomatology, a multiple linear regression was performed.

The moderating effect of parenting styles on the relationship between social anxiety and depressive symptomatology was tested through multiple hierarchical regression models, where the depressive symptomatology (CDI) was established as a criterion variable. The independent and moderating variables were standardized, allowing a reduction of possible multicollinearity issues (Marôco, 2010). The interaction term was created by multiplying the predictor variable (MASQ) and the moderating variable (PSST). In regressions, the predictor variable was first introduced, followed by the moderating variable and, finally, the interaction between the two, as suggested by Baron e Kenny (1986).

All statistical procedures were performed using SPSS program (Statistical Package for the Social Sciences - version 22) for Windows.

## 3. RESULTS

### 3.1 Preliminary Data Analysis

The normality of the data was evaluated by using the *Kolmogorov-Smirnov test*, which showed a normal distribution for depressive symptomatology (K-S,  $p > .05$ ) and a non-normal distribution for the remaining variables K-S,  $p < .05$ ). However, when analyzing the bias in relation to the mean, acceptable values of asymmetry  $< | 3 |$  and kurtosis  $< | 10 |$  were obtained (Kline, 2011). The adequacy of the data to perform a multiple hierarchical regression was confirmed.

### 3.2 Study of the associations between social anxiety, parenting styles and depressive symptomatology

Pearson's correlation coefficients revealed that social anxiety ( $r = .40$ ,  $p = .000$ ), humiliation/rejection anxiety ( $r = .34$ ,  $p = .000$ ), and public performance anxiety ( $r = .37$ ,  $p = .000$ ) were positively and significantly correlated with depressive symptomatology (Table 1). Thus, high values of social anxiety WERE associated with higher levels of depressive symptomatology. The association between social anxiety and depressive symptomatology was of moderate magnitude, while the association between humiliation/rejection and public performance anxiety was low.

Regarding parenting styles, it was found that none of them obtained associations that were significant, either with social anxiety, and their dimensions, or with depressive symptoms.

**Table 1.** Pearson correlations ( $r$ ) between depressive symptomatology, social anxiety and parenting styles. ( $N = 121$ )

Variable	1.	2.	3.	4.	5.	6.
1. Depressive Symptomatology (CDI)	1					
2. Social Anxiety (MASQ)	.40**	1				
3. Humiliation/Rejection (MASQ)	.34**	.92**	1			
4. Public Performance Anxiety (MASQ)	.37**	.82**	.52**	1		
5. Disapproving Style(PSST)	.12	.07	.03	.11	1	
6. Explorer Style(PSST)	-.03	-.04	-.05	-.02	.07	1
7. Accepting Style (PSST)	.10	.02	.03	-.01	.14	.17

\*\*  $p \leq .01$ ; CDI = *Children's Depression Inventory*; MASQ = *Multidimensional Anxiety Scale for Children*; MASQ = *Multidimensional Anxiety Scale for Children*; PSST = *Parenting Scale Self-Test*.

We also analyzed the associations between the variables under study only for the group of mothers, due to the great disparity in the number of mothers and fathers that constitute the sample. It was possible to verify that all correlations of social anxiety and its dimensions with depressive symptomatology were very similar to those obtained in the sample that included mothers and fathers.

**3.3 Study of the predictive effects of social anxiety and parenting styles on depressive symptomatology**

The results of the multiple regression analyzes showed that humiliation/rejection anxiety and public performance anxiety produced a significant model (R2= .166; F(2, 119)= 11.871, p= .000), which accounts for 16.6% of the variance in depressive symptomatology. Public performance anxiety appeared as the best predictor of depressive symptomatology (β= .264, p<.008), followed by humiliation/rejection anxiety (β= .203, p<.041). It should be noted that the effects were positive, so higher social anxiety was associated with higher levels of depressive symptomatology.

Regarding the analysis of parenting styles, it did not produce a significant model in the prediction of depressive symptomatology (R2= .024; F(3, 118)= .961, p=.414), explaining only 2.4% of the variance. It was found, therefore, that the disapproving (β= .112, p= .226), explorer (β= -.051, p= .581) and accepting (β= .090, p= .336) parenting styles of emotions did not emerge as predictors of depression.

The study of the predictive effects of the dimensions of social anxiety and parenting styles was also analyzed for the group of mothers. It was found that prediction models produced with humiliation/rejection anxiety and public performance anxiety remained significant and that models produced with parenting styles continued to not predict depressive symptomatology.

**3.4 Analysis of the effects of moderation**

Through multiple linear regressions it was found that, regarding the three parenting styles, the only significant moderating effect in the relationship between social anxiety and depressive symptomatology was the interaction between explorer parenting style and public performance anxiety.

**3.5 Moderating effect of emotion explorer parenting style in the relation between social anxiety and depression**

There was a moderating effect between public performance anxiety and explorer parenting style (β= .182, p=.044). However, when analyzing the variables by themselves, it was found that public performance was a predictor of depressive symptomatology (β= .369, p=.000), but explorer parenting style did not present this effect on depressive symptomatology (β= -.021, p= .801) (see Table 2).

**Table 2.** Regression coefficients of the three steps of the hierarchical multiple regression between support/depth, school performance and the interaction term (N= 121)

Model	Predictors	β	t	p
1	Public Performance	.369	4.353	.000
2	Public Performance	.369	4.330	.000
	Explorer Style	-.021	-.252	.801
3	Public Performance	.308	3.457	.001
	Explorer Style	-.009	-.103	.918
	Public Performance * Explorer Style	.182	2.040	.044

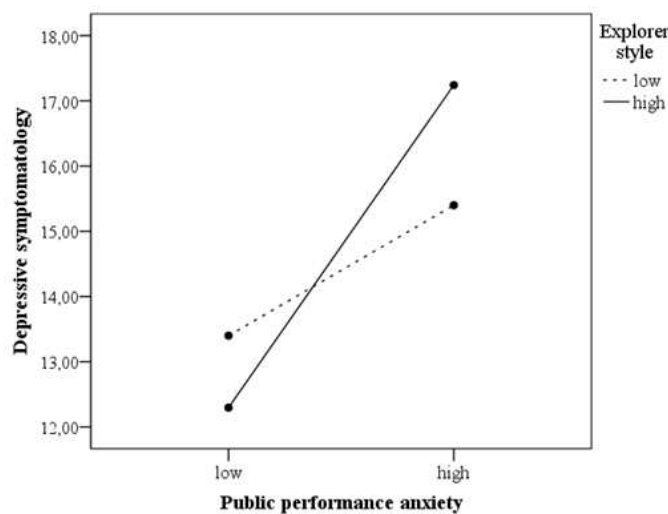
Public performance anxiety and explorer parenting style originated statistically significant models (see Table 3). When the interaction term was inserted in the third step, the model produced was also significant and there was an increase in the variability explained in relation to depressive symptomatology, which increased to 16.6%.

**Table 3.** Model of the three steps of the hierarchical multiple regression for support/depth, school performance and the interaction term (N= 121)

Model	R	R2	F	p
1	.369	.136	18.946	.000
2	.370	.137	9.431	.000
3	.408	.166	7.842	.000

The plot of the moderating effect obtained is shown below (Graph 1). Two levels (below and above average) were created for both the public performance anxiety variable and the explorer variable.

It is possible to observe that higher levels of public performance anxiety were related to higher depressive symptomatology when a higher explorer parenting style is present, compared to lower emotion explorer parenting style in the presence of a high level of anxiety of public performance (Graph 1).



**Graph 1:** Moderating effect of explorer parenting style in the relationship between public performance and depressive symptomatology

The analysis of this moderating effect was repeated for the group of mothers, however the interaction term was not significant.

#### 4. DISCUSSION

The relationship between social anxiety and depression has been repeatedly demonstrated in the literature (Beert et al., 2007; Chavira et al., 2004; Essau et al., 1999; Wittchen et al., 1999). On the other hand, several studies (Katz & Windecker-Nelson, 2004; Katz et al., 2001; Gottman et al., 2006) have shown that parenting styles of emotional socialization influence the development of social skills and relate to less negative emotionality in children.

In the line with the reviewed literature, the present study found that social anxiety and its dimensions were significantly associated with depressive symptoms, suggesting that higher levels of social anxiety, public performance anxiety and humiliation/rejection are associated with higher levels of depressive symptomatology. The results obtained with the regression analysis corroborated that both dimensions of social anxiety present are significant predictors of depressive symptomatology, which is in agreement with other studies (Aune & Stiles, 2009; Beesdo et al., 2007; Chavira et al., Dalrymple & Zimmerman, 2011, Stein et al., 2001). The anxiety symptomatology seems to make adolescents more vulnerable to development of depression later on and in higher levels, perhaps due to the impairment caused in their functioning, namely in school and peers context, and due to the use of maladaptive strategies of emotional regulation (Drost et al., 2014; Grant et al., 2014; Rao et al., 2007).

In the regression analysis, it was not found that none of the parenting styles was a predictor of depressive symptomatology, either for the total sample or when only the sample of mothers was considered. This result was not expected, considering previous investigations (Buckholdt et al., 2014b; Hunter et al., 2010; Katz & Hunter, 2007; Stocker et al., 2007; Yap et al., 2010) which showed that invalidation or reprimand of negative emotional expression is related to an increase in internalizing symptomatology (namely, depression) and the possible negative consequences of this type of parenting style (e.g., children learn that their emotions are inappropriate and invalid, believing that something is wrong with them because of the way they feel).

The only moderation that was found to be significant in the overall sample concerns the effect of explorer parenting style in the relationship between public performance anxiety and depressive symptomatology of the adolescent. Thus, the relationship between public performance anxiety and depressive symptomatology varies depending on whether parents are more or less



emotion explorers. It was found that when adolescents present high levels of public performance anxiety, having parents with an explorer style predicts more depressive symptomatology. Explorer parents seem to not assume a protective nature against depressive symptomatology when social anxiety (public performance) is high. This result was not expected, since the explorer parenting style is conceptualized as being adaptive. Nevertheless, these parents do not seem to adopt behaviors that teach strategies of emotional regulation in order to facilitate the experience of negative emotionality, exploring only what caused that experience. Since emotional regulation skills are known to mediate the relationship between these disorders, having parents who simply explore their children's emotions seems to affect the expression of depressive symptoms, perhaps because children talk about their difficulties and feelings, but parents don't show them how to deal with their emotions. Having a high level of performance anxiety, children may not be able to regulate what they are feeling, triggering negative emotionality in general and depressive symptomatology in particular.

However, it is noteworthy that when we repeated the moderation study for the group of mothers, excluding fathers from the sample, this interaction effect between public performance anxiety and explorer parenting style was not significant. It may be hypothesized that the moderation of the explorer parenting style in the relationship between public performance anxiety and depressive symptomatology in adolescents may be influenced by the gender of the parents, probably with a greater influence from male parents.

It should be noted that the results in the present study may be influenced by the fact that the sample is mostly composed by explorer parents, not being clear about the effect that other parenting styles, namely the disapproving one, may have on the relationship between social anxiety and depression. In addition, having a community sample whose average depressive symptomatology is below the threshold for diagnosis of depression may also have contributed to the reduced effect of parenting styles on depressive symptomatology. Studies with clinical samples have demonstrated the importance of parenting styles for the vulnerability of adolescents to depressive symptomatology (Hunter et al., 2010; Katz & Hunter, 2007).

This study, in accordance to previous investigations, showed the relationship between social anxiety and depression, and also produced information about the interference that parenting styles have or do not have in that relationship. Thus, this research contributes to the clarification of the role of parenting styles in the psychological functioning of the children and allows to point future directions of investigation, taking into account not only the different variables that may influence the development of depression in adolescence, but also the study of these variables in the interactions that are differentially established with the father and mother. According to the results of this study, the predictive effect of social anxiety and the effect of interaction between public performance anxiety and the explorer parenting style should be considered in the development of programs for prevention and treatment of depressive symptomatology in adolescents.

## CONCLUSIONS

In this study, the relationship between social anxiety and depressive symptomatology, the relationship between parenting styles and anxious and depressive symptomatology in adolescents, as well as the moderating effect of parenting styles on the relationship between social anxiety and depression were analyzed.

It was found that social anxiety is significantly associated to depression and that the former has a predictive effect on the latter. Social anxiety may precede the onset of depressive symptomatology and contribute to its worse prognosis. The parenting styles revealed no significant associations with either depressive symptomatology or with social anxiety, but a moderating effect of the explorer style was found, in the relationship between social anxiety (public performance) and depressive symptomatology. It was found that explorer style is not protective of depressive symptomatology when public performance is high. On the contrary it may even be harmful, aggravating the expression of depressive symptoms.

In the present study, the sample consists mainly of female subjects, both for the children and for the parents. In fact, the small number of male parents made it impossible to study this group separately. It is important that future studies analyze the relationship between the variables studied in this research for the fathers and compare the results obtained with those of the mothers'. Social desirability, which was not a controlled variable, may have influenced the responses obtained in self-response instruments. Considering these two aspects, it would be relevant to develop studies with more gender-balanced samples, in which the variable of social desirability is controlled. Likewise, a clinical sample could be used in order to understand if, in a sample of children with psychopathology, the influence of parenting styles shown is more expressive. Thus it would also be possible to assess whether the explorer parenting style remains as predominant or if other parenting style could be more relevant, namely parenting styles that criticize and suppress the negative emotional experience of the children, since they have been frequently associated to the development of internalizing symptomatology (Buckholdt et al., 2014b; Hunter et al., 2010;

Katz & Hunter, 2007; Stocker et al., 2007; Yap et al., 2010). With this being a cross-sectional study it would be equally important to develop longitudinal studies in a Portuguese sample, so as to draw a conclusion regarding the directionality of the relationship between social anxiety and depression.

Based on the literature review, it is clear that parenting styles used to deal with emotions contribute to the development of children's emotional regulation skills and that these, in turn, have an impact on their adjustment and psychosocial functioning.

Therefore it is stated, as an additional hypothesis, that the influence of parenting styles is expressed in the symptoms of social anxiety and depression through the emotional regulation strategies learned in the relationship with the parents, thus, this mediating effect should be investigated in future studies.

### CONFLICT OF INTERESTS

The authors have no conflicts of interest.

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