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Parental Resilience and Adolescence Depression: Moderating Effect of Children's Psychosocial Functioning

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Abstract

Studies have shown a high prevalence of depression in adolescents. Researchers also found that psychosocial impairment is associated with depressive symptomatology in adolescence. It is now well established that parental psychopathology, mainly maternal depression, may be associated with a variety of maladaptive outcomes for children. The topic of resilience in parents, however, has been neglected. It is important to study the resilience in parents as a protective factor against the development of depressive symptomatology in children, and the variables that moderate and mediate this relationship. The main aims of this study are to examine the potential protective role of parents' resilience regarding the development of children's depressive symptoms and the moderating effect of children psychosocial functioning. The sample was composed by 130 adolescents aged between 14 and 17 years. Psychosocial functioning was assessed with the Adolescent Longitudinal Interval Follow-up Evaluation (A-LIFE, Keller et al., 1993; Portuguese version: Matos & Costa, 2011). To evaluate parental resilience, the Resilience Scale (RS25, Wagnild, 2009; Wagnild & Young, 1993;

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Portuguese version: Pinheiro & Matos, 2013) was used. Depressive symptoms were assessed with Children's Depression Inventory (CDI, Kovacs, 1985, 1992; Portuguese version: Marujo, 1994). The results suggest that parents' resilience and children's psychosocial functioning are associated with depressive symptoms in adolescents and that academic performance and life satisfaction moderate the relationship between parents' resilience and adolescents' depressive symptoms. This study may have important implications for the development of prevention programs of adolescent depression in order to promote interpersonal skills and problem solving abilities.

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Keywords: Depression symptomatology; adolescent; psychosocial functioning; resilience; satisfaction; moderation.

1. Introduction

Adolescence is the period of life between 10 and 19 years old, and encompasses the transitional phase from childhood to adulthood (Pinto, Fraga & Ramos, 2010) where the individual develops clear conceptions of himself and others (Fernandes et al., 2008). This life cycle stage involves a rapid growth and various physical and psychosocial changes (Resende, Santos, Santos, & Ferrão, 2013). Mood swings may happen, which are part of normative adaptation to changes in the body and in relationships in adolescence (Pinto et al., 2010).

At this stage, the adolescent faces several challenges, as well as stress and anxiety provocative situations. Suffering and difficulties may arise not only for the adolescent, but also for the people around him, including family and friends (Arnett, 1999). The emotional instability characteristic of this developmental phase may increase the likelihood of developing mental disorders or symptoms, such as depressive symptomatology (Brito, 2011).

Among the most common disorders in adolescence we have schizophrenia, mood disorders (e.g. depression and bipolar disorders), eating disorders, substance abuse and even sexual problems (e.g. gender identity disorder) (McIntosh, Helms, Smyth, 2003; Pinto et al., 2010).

In the last two decades there has been an increase in the number of cases of depression beginning in childhood and adolescence (Coutinho, 2001). Depression in adolescence can have a lasting nature and can affect multiple individual functions, leading to psychosocial damages (Bahls, 2002). For this reason, authors (Gladstone, Beadslee, & O'Connor, 2011; Kovacs, 2006) have carried out studies in order to understand this disturbance in this developmental phase.

In adolescence, according to the DSM-V (APA, 2002), the presence of depressive symptoms is manifested by irritability, depressed mood, loss of energy, demotivation and lack of interest in activities that were previously pleasurable. Individuals may present retardation or psychomotor agitation, low self-esteem, feelings of blame, isolation, concentration difficulties and sleep and food alterations. Depression leads to school performance losses and difficulties in interaction with colleagues and relatives. Risk behaviors, self-harm and suicidal ideas or attempts can also be present (Brooks, Harris, Trahls, & Woods, 2002). In the presence of depressive symptoms, the adolescent could also express an increase in behavioral problems (Saluja et al., 2004) and substance abuse (Kubik, Lytle, Birnbaum, Murray, & Perry, 2003) that cause vulnerabilities and may compromise the adolescent's future (Arnarson & Craighead, 2009; Rao & Cohen, 2009).

Depression can be understood through the interaction between genetic, psychological and social factors (Correia & Linhares, 2007). Sheeber, Hops, and Davis (2001) suggest that family and social relationships are relevant factors in understanding depressive symptoms in adolescents, because of the relation between problematic family relationships, presence of parental psychopathology, low socio-economic level, interpersonal conflicts, low academic achievement and low satisfaction with

life and a high risk for the adolescent to develop depressive symptomatology (Bahls, 2002; Gladstone, & Beardslee, 2009; Pérez & Urquijo, 2001).

Literature has found that children of depressed parents are more likely to develop psychological diseases during childhood and adolescence and to have a compromised psychosocial functioning in a number of areas, compared with children of parents without depression (Beardslee, Versage, & Glandstone, 1998; Jaser et al., 2007; Lewinsohn, 2003).

In the presence of depressive symptomatology, adolescents' psychosocial functioning is compromised (Claudino, Cordeiro, & Arriaga, 2006; Goldstein et al., 2009; Greer, Kurian, & Trivedi, 2010; McCabe, 2011), preventing him from achieving successfully developmental tasks that would be expected for his age and context (Lewinsohn, Rohde, Sealey, Klein, & Gotlib, 2003). In adolescents, it is common to observe social problems, such as greater isolation in relation to peers, low academic achievement, less involvement in recreational activities, adult dependency and difficulties in problem solving (Claudino et al., 2006; Dunn & Weintraub, 2008; Gledhil, 2010; Nilsen et al., 2013).

Torgalsbøen (2012), in a study on schizophrenia found that subjects with better psychosocial functioning or in other words with better interpersonal relationships and social skills, recovered fully after a few years, compared with subjects with weak psychosocial functioning. This data proved to be useful in the development of more effective interventions.

Costa (2011) evaluated the psychosocial functioning of adolescents through a semi-structured interview, A-LIFE. Results showed that adolescents with psychopathology present higher values of invalidation in psychosocial functioning. In this study, it was not possible to establish a relationship between parental psychopathology and psychosocial functioning of adolescents.

Goldstein et al. (2009), in a study with bipolar children and adolescents, aged between 7 and 17 years, using A-LIFE to assess psychosocial functioning, found that higher levels of depressive symptomatology led to greater psychosocial invalidation and less satisfaction in these young individuals, compared to young people who were in partial remission or recovery.

Studies have established that the suffering of parents, such as depression, especially in mothers, can be associated with a variety of results related to poor adaptation in their children (Bahls, 2002; Barker, Copeland, Maughan, Jeffer, & Uther, 2012; Bercker et al., 2012; Biederman et al., 2008). On the other hand, studies have found that parents with more suitable parental characteristics, more resilient and more involved in the lives of their children, promote a more adequate psychosocial functioning (Gladstone, Boydell, & McKeever, 2006; Wong, 2008).

However, the topic of parental resilience has been neglected and, in literature, few studies explore the relationship between parents' resilience and depressive symptomatology in children. Resilience is the ability for an individual to overcome, with success, adverse conditions or situations involving risk to his/her well-being, development and mental health; moreover, resilience levels may increase throughout the life cycle of the individual (Bauman, Adams, & Waldo, 2001; Reppold, Mayer, Almeida, & Hutz, 2012).

The present study aims to investigate parental resilience as a possible protective factor regarding the development of depressive symptomatology in adolescents and to understand which variables moderate this relationship. Understanding this relationship may be important for the development of programs that prevent the onset of depressive symptomatology and that include parents and adolescents.

2. Material and methods

2.1. Participants

The sample was collected in public schools in the central area of the country. It consists of 131 adolescents and their parents who were enrolled in a research project about prevention of adolescent depression (PTDC/MHC-PCL/4824/2012).

Regarding the sample of adolescents, 89 were females (67.9%) and 42 were males (32.1%), between the ages of 13 and 17 years old ($M = 14.47$; $SD = .816$). Most students indicated good school performance ($n = 70$; 53.4%), 42% satisfactory ($n = 55$) and only a minority of 15.3% said they had already failed ($n = 20$).

With respect to parents, 85.5% were female ($n = 112$) and 14.5% were males ($n = 19$), aged between 28 and 66 ($M = 42.79$; $SD = 6.05$). In relation to the socio-economic level of the family of the adolescent, 42.7% presents a low socio-economic level, 46.6% a medium one and 9.9% a high level.

With regard to civil status, the majority of the parents were married ($n = 97$, 74%), 13% divorced, 4.6% were widowed, 3.8% separated, 3.1% were in a non-marital partnership and 1.5% indicated being single.

2.2. Instruments

Children's Depression Inventory - CDI (Kovacs, 1983; Portuguese version: Marujo, 1984): It is a self-report instrument used to assess the presence of depressive symptoms in children and adolescents, aged between 6 and 18 years. The CDI consists of 27 items, with three levels of response referring to the mood of the last two weeks. Total score can vary between 0 and 54 points (Kovacs, 1983). It includes the following dimensions: anhedonia, negative self-esteem, negative mood, ineffectiveness and interpersonal problems. The original version found great values of internal consistency, with Cronbach's alphas (α) between .83 and .94 (Kovacs, 1983). The Portuguese version, found a unifactorial structure with a Cronbach's alpha of .80 (Marujo, 1994). In this study, the Cronbach's alpha proved to be great ($\alpha = .907$).

Resilience Scale - RS23 (Wagnild & Young, 1993; Portuguese version: Pinheiro & Matos, 2013): This scale aims to evaluate the level of resilience of the individual as a positive feature of personality that promotes individual adaptation (Wagnild & Young, 1993). It is composed of an unifactorial structure composed by 23 items that refer to aspects related to self-resilience, independence, mastery, resourcefulness, perseverance, adaptability, balance, flexibility and balanced perspective of life (Wagnild & Young, 1993; Wagnild, 2009a, 2009b). Answers are rated on a 7-point Likert scale and total score can vary between 25 and 175 points (Wagnild & Young, 1993). The original version revealed good psychometric properties, with respect to internal and content validity. It also presented good internal consistency ($\alpha = .91$) and item-total correlations between .37 and .75 (Wagnild, 1993). In the Portuguese version, a very good internal consistency was found ($\alpha = .94$). In this study, the Cronbach's alpha value was .93.

Adolescent Longitudinal Interval Follow-up Evaluation - A-LIFE (Keller M. B. et al., 1993; translation and adaptation from Matos & Costa, 2011): It is considered a semi-structured interview which enables a longitudinal assessment of the course of psychiatric disorders in adolescents. It provides the evaluator with information that allows to calculate precisely the beginning of the disorder, the time and duration of the relapse, as well as recovery time. This interview integrates three general sections: 1) Psychopathology, 2) Psychosocial Functioning and 3) General Severity of Disease (GSD). The section directed to the evaluation of psychosocial functioning includes information concerning interpersonal relationships with family and friends, school performance and involvement in recreational tasks. Classification is made taking into account the worst week of each month for the last six months. Score ranges between 1 and 5, being 1) very good, 2) good, 3) fair/slightly impaired, 4) poor/moderately impaired and 5) very poor/severely impaired.

To obtain the total score of psychosocial functioning the mean was calculated, adding all of the domains and dividing by the number of domains. It should be noted that high scores indicate low levels of psychosocial functioning. The note in each domain resulted from the mean of the functioning in that area during the follow-up period that is the level of functioning in each month of follow-up, which goes from 1 to 5 and was divided by the number of months of follow-up. The same procedure was taken to assess adolescents' satisfaction with their functioning in the various areas of life. Keller et al. (1987) found a good inter-evaluator reliability for the interview.

2.3. Procedure

Initially, participants were informed about the objectives of the investigation as well as about the anonymity and confidentiality of the data, providing prior written consent about the participation in the investigation. The CDI was administered in a classroom context. The Resilience scale (RS23) was included in the evaluation protocol for parents and after completed was handed over to investigators. The Adolescent Interval Longitudinal Follow-up Evaluation (A-LIFE) was applied in a reserved place to every adolescent.

2.4. Analytic Strategy

Data was entered and analysed using the Statistical Package for Social Sciences (SPSS), version 22.0 for Windows.

Descriptive analyses were performed to calculate frequencies, means and standard deviations in order to characterize the sample (N = 131), taking into account sociodemographic variables. Analysis of gender differences was obtained through student's t-tests; p values less than or equal to .05 (Marôco, 2010) were considered to be statistically significant. Pearson correlations were performed to assess correlation between variables, using the reference values mentioned by Pestana and Gageiro (2008): $r < .20$ corresponds to a very low correlation; $.20 < r < .39$ to a low correlation; $.40 < r < .69$ to a moderate correlation; $.70 < r < .89$ to a high correlation; and $.90 < r < 1$ to a very high correlation.

In order to explore whether psychosocial functioning and satisfaction with life had a moderating effect on the relationship between parental resilience and depressive symptomatology of adolescents, hierarchical multiple linear regressions were computed, after checking for respective assumptions. For the moderation analyses, values from the predictor variable (RS23) and moderator variable (psychosocial functioning and satisfaction with life) were standardized, i.e., tailored to a mean of 0 and standard deviation 1, before the interaction term. This procedure of variables standardization reduces potential multicollinearity problems and facilitates the interpretation of the model intercepts. Then, a variable that corresponds to the multiplicative term between the predictor variable – resilience - and the moderator - psychosocial functioning - was created. Three key terms were reached: total of RS23; psychosocial functioning score and the multiplicative term (total resilience * psychosocial functioning). Later, hierarchical multiple regressions were conducted in which resiliency was entered at first as predictive, then the psychosocial functioning was inserted as a possible predictor and in a third step the term of interaction between resilience and psychosocial functioning was inserted for the prediction of depressive symptomatology.

Multiple hierarchical linear regressions were conducted having as a moderator variable the total score of psychosocial functioning and its domains (relationship with family, relationship with friends and recreational activities). However, no significant interactions were found for these variables and for which this data is not described in the results.

3. Results

3.1 Preliminary analysis

Based on the analysis of the Kolmogorov-Smirnov test, it was found that data of the variables under study did not follow a normal distribution (K-S, $p \leq 0.001$). However, values of skewness and kurtosis did not indicate severe violations to normal distribution, since values of skewness < 3 and of kurtosis < 10 were considered acceptable (Kline, 2005). The adequacy of the data to perform a hierarchical multiple regression was verified. Regarding multicollinearity, values of tolerance $> .10$ and values for the variance inflation factor (VIF) < 10 were found, which can be considered acceptable and as an indicator of absence of problems of β calculations for the variables under study (Pestana & Gageiro, 2005). When the presence of outliers was verified, the Cook's Distance values were lower than 1, thus it was concluded that assumptions for regression analysis were met.

3.2 Descriptive analysis

For descriptive analyses (cf. table 1) measures of central tendency (mean) and dispersion (standard deviation) were used. For the full sample ($N = 131$), the total note of the CDI varied between 0 and 36 points with a mean of 10.11 ($SD = 7.43$). The total scale of resilience obtained a mean equal to 126.84 ($SD = 18.77$). Regarding the total note of psychosocial functioning a mean of 1.74 ($SD = .47$) was found.

Gender differences were analyzed using Student's t-tests for independent samples (see table 1). From the data it was possible to observe that there are statistically significant differences for the total note of the CDI [$t(120.04) = -2.853$, $p < .005$], with girls showing higher results than boys. Regarding psychosocial functioning, it was found that there are statistically significant differences among gender in the relationship with the family [$t(121) = -.672$, $p < .005$] and in school performance [$t(61) = .157$, $p < .005$] (cf. table 1).

No statistically significant differences were found between genders for the variables satisfaction and parental resilience.

Table 1. Means and standard deviations for the total sample ($N=131$) and t-test differences between males ($n=42$) and females ($n=89$).

	Total ($N=131$)		Males ($n=42$)		Females ($n=89$)		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
CDI	10.11	7.43	7.87	4.95	11.16	8.16	-2.853	.005
Resilience	126.84	18.77	123.72	17.71	126.99	18.93	.718	.738
Total note of PF	1.74	.47	1.76	.438	1.73	.486	.335	.480
Family	1.71	.65	1.67	.434	1.73	.724	-.672	.011
Friends	1.65	.69	1.57	.703	1.69	.684	-.873	.520
Recreational activities	1.97	1.08	2.04	1.26	1.93	.995	.449	.154
School performance	1.53	.63	1.67	.767	1.46	.543	1.57	.008
Satisfaction	1.97	.794	1.74	.665	2.08	.829	-.233	.617

Note. PF = Psychosocial Functioning (Adolescent – Longitudinal Interval Follow-up Evaluation); *M* = Means, *SD* = Standard Deviations, $p < .005$.

3.3 Study of the relationships between resilience, psychosocial functioning and depressive symptomatology

Pearson correlation coefficients were made to analyse the relationships between the variables in study (cf. table 2). There was a negative relationship between parental resilience and depressive symptomatology of children ($r = -.307, p < .019$), i.e., higher values of resilience in parents correlate to minor depressive symptomatology in children.

Concerning the association of the variable psychosocial functioning with the CDI, a low positive relation with the total psychosocial functioning was found ($r = .346, p < .01$); a very low positive relation with school performance ($r = .125, p < .01$); a positive low relation with the variables relationship with family and friends and recreational activities ($r = .337, p < .01$; $r = .236, p < .01$ e $r = .207, p < 0.05$, respectively) and a positive moderate relationship for satisfaction ($r = .500, p < .01$).

Table 2. Pearson Correlation coefficients between Resilience, Psychosocial Functioning and Total Score of CDI.

Variables	1	2
1.CDI total	1	
2.Resilience	-.307**	1
Psychosocial Functioning	.346**	-.082
Family	.337**	-.088
Friends	.236**	-.158
Recreational activities	.207*	.104
School Performance	.125	.010
Satisfaction	.500**	-.035

Note. * $p \leq .05$, ** $p \leq .001$; CDI = Children's Depression Inventory; PF= Psychosocial Functioning (Adolescent – Longitudinal Interval Follow-up Evaluation)

3.4 Analyses of prediction effects

Taking into account the results obtained in the correlations, a multiple regression analysis (enther method) for the total sample was computed, in order to understand if resilience, PF and its domains that presented significant correlations with the total of CDI and with life satisfaction, had a significant predictor effect on depressive symptomatology. Results showed that resilience produces a significant model [$R^2 = .094, F(1) = 13.449, p < .001$], able to explain 9.4% of the variance in depressive symptomatology.

With regard to PF domains, results showed a significant model [$R^2 = .162; F(1) = 6.108, p < .001$], explaining 16.2% of the variance of depressive symptomatology. Family relationship ($\beta = .258, p < .01$) appears as a predictor of depressive symptomatology. The PF domain, relationship with family, contributes significantly and independently to the prediction of depressive symptomatology. This allows us to say that weak family relations are associated with higher levels of depressive symptomatology.

3.5 Analysis of Moderation effects

3.5.1 Study of the Moderating Effect of School Performance in the Relationship between Parental Resilience and Depressive Symptomatology of Adolescents

Hierarchical multiple linear regressions were conducted to verify the existence of a moderating effect of academic performance in the relationship between parental resilience and adolescents' depressive symptomatology. There was a significant interaction effect between resilience and

school performance ($\beta = -.239, p = .005$). Analysing the variables separately, it was verified that resilience is a predictor of depressive symptomatology ($\beta = -.307; p < .001$). However, school performance alone is not predictive of depressive symptomatology ($\beta = .128; p = .127$) (cf. table 3).

Table 3. Regression coefficients for the three steps of the hierarchical multiple regression with Parental Resilience as a predictor of Depressive Symptomatology of adolescents and School Performance as a moderator ($N = 131$).

Model	Predictors	β	t	p
1	Resilience	-.307	-3.667	.000
	Resilience	-.309	-3.702	.000
2	School Performance	.128	1.538	.127
	Resilience	-.264	-.264	.002
3	School Performance	.159	.159	.055
	Resilience*School Performance	-.239	-2.871	.005

In a first step, resilience was entered as a predictor and, later, school performance was entered. The variable resilience resulted in a statistically significant model, in the first step [$R^2 = .094, F(1) = 13.449, p < .001$]. The variable school performance originated, in step 2, a statistically significant model [$R^2 = .111, F(2) = 7.978, p < .001$]. In the third step of the regression, the interaction term was inserted, producing a statistically significant model, with a significant increase in R^2 [$R^2 = .165, F(3) = 8.367, p < .001$] and, therefore, observing an increase in the variability explained with regard to depressive symptomatology in adolescents. Thus, the analysis of the interaction term suggests the presence of a moderating effect of school performance on the relationship between depressive symptomatology and resilience. Thus, it was found that the interaction term is a significant predictor explaining 16.5% of the variance in depressive symptomatology (cf. Table 4).

Table 4. Model of the three-steps of the hierarchical multiple regression with Parental Resilience as a predictor of Depressive Symptomatology and School Performance as a moderator ($N = 131$)

Model	F	p	R	R^2
1	13.449	.000	.307	.094
2	7.978	.005	.333	.111
3	8.367	.005	.406	.165

In order to understand the moderating effect of school performance in the relationship between parental resilience and adolescents' depressive symptomatology, a graphic of the results was computed (cf. Figure 1). Two levels were considered for resilience and school performance (below and above the average).

Considering the main effects, it is possible to observe that higher levels of resilience in parents relate to minor depressive symptoms in adolescents, i.e., there is a negative relationship between resilience and depressive symptomatology. A main effect for the variable school performance was not observed, which indicates that this variable alone is not predictive of depressive symptomatology.

With regard to the interaction, it can be said that when parents' resilience is low, a high school performance leads to lower levels of depressive symptoms, compared to a low school performance. When parental resilience is high, the mean scores of depressive symptoms tend to be similar whether adolescents' school performance is high or low. This effect is visible in the approach of the graph lines of school performance levels high and low when parents' resilience is high. In fact, the data allows us to say that parents with high levels of resilience seem to function as a protective

factor for the development of depressive symptomatology when adolescents' school performance is low.

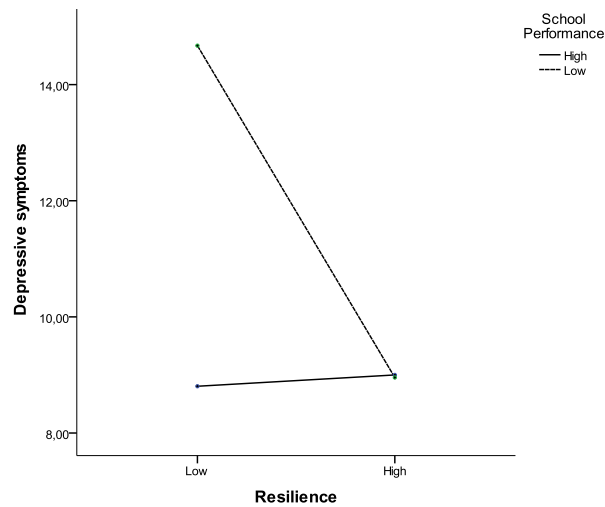


Fig. 1. Graphical representation of the moderation effect of school performance on the relationship between Resilience and depressive symptomatology.

3.5.2 Study of the Moderating effect of Satisfaction in the relationship between Parental Resilience and Adolescents' Depressive Symptomatology

Regression coefficients for parental resilience and satisfaction with life evaluated by teenagers were analysed and a significant interaction effect between them was observed ($\beta = -.193, p < .001$). Examining the variables separately, it was found that both variables are predictors of depressive symptomatology (Resilience: $\beta = -.307; p < .001$; Satisfaction: $\beta = .489; p < .001$) (cf. Table 5).

Table 5. Regression coefficients for the three steps of the hierarchical multiple regression with Parental Resilience as a predictor of Depressive Symptomatology of adolescents and Satisfaction as a moderator ($n = 131$).

Model	Predictors	B	t	p
1	Resilience	-.307	-3.667	.000
	Satisfaction	.489	6.780	.000
2	Resilience	-.290	-4.022	.000
	Satisfaction	.489	6.780	.000
3	Resilience	-.281	-3.98	.000
	Satisfaction	.462	6.481	.000
	Resilience*Satisfaction	-.193	2.71	.008

In a first step, resilience was entered as a predictor and, later, satisfaction was entered. The variable resilience resulted in a statistically significant model in step 1 [$R^2 = .094, F(1) = 13.449, p < .001$]. In step 2 the variable satisfaction was inserted, resulting in a statistically significant model [$R^2 = .334, F(2) = 32.055, p < .001$]. In the third step of the regression, the interaction term was inserted, producing a statistically significant model, with a significant increase in R^2 [$R^2 = .370, F(3) = 24.883, p < .001$]. Therefore, there was an increase of the variance explained in regard to depressive symptomatology in adolescents. Results obtained allow us to affirm that there is a moderating effect of satisfaction on the relationship between depressive symptomatology and

parental resilience. It was found that the interaction term is a significant predictor which together with the two predictors explains 37.0% of the variance in depressive symptoms (cf. Table 6).

Table 6. Model of the three-steps of the hierarchical multiple regression, with parental resilience as a predictor of depressive symptomatology and satisfaction as a moderator ($n = 131$).

Model	<i>F</i>	<i>p</i>	<i>R</i>	<i>R</i> ²
1	13.449	.000	.307	.094
2	32.055	.000	.578	.334
3	24.883	.008	.608	.370

In order to interpret the moderating effect of satisfaction in the relationship between resilience and depressive symptomatology, a graphic of the results was computed (cf. Figure 2). Two levels were considered for resilience and satisfaction (below and above the average). Taking into account the main effects, it is possible to observe that higher levels of parental resilience and adolescent's satisfaction with life, relate to less depressive symptoms.

Regarding the effect of the interaction we can say that when resilience is low, high levels of satisfaction with life lead to lower levels of depressive symptoms when comparing to low levels of satisfaction with life. When levels of satisfaction are high, low or high levels of resilience do not differentiate adolescents in terms of depressive symptomatology, since the mean scores are very similar in low or high resilience. In turn, when resilience is high, low satisfaction tends to differentiate from high satisfaction in terms of prediction of depressive symptomatology. Thus, parents with high levels of resilience seem to act as protective factors of depressive symptoms in adolescents, regardless of the level of satisfaction, since the two lines of satisfaction tend to approach when parental resilience is high.

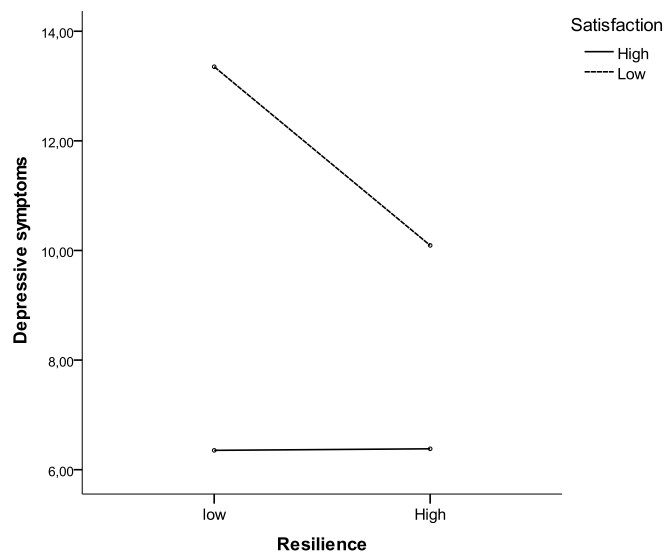


Fig. 2. Graphical representation of the moderating effect of satisfaction in the relationship between resilience and depressive symptomatology

4. Discussion

In the present study we attempted to verify if parental resilience would have a protective role in the development of depressive symptomatology in adolescents and whether psychosocial functioning would have a moderating effect on the relationship between parental resilience and depressive symptoms in adolescence. The study of this relationship can be useful to the extent that authors argue that environmental factors may emerge as vulnerabilities or protective factors in the development of anxiety disorders, depression and reaction to stress (Nobre, Castro, & Esteves, 2012). Moreover, regarding the development of depression in adolescents, within these environmental factors, we can consider that parental resilience can have an important role. The innovative contribution of our study is investigating this important adolescents' context variable (parental resilience) assuming that more resilient parents may be more competent at parenting and dealing with life situations, being able to promote more effective coping skills in children. We also studied the effect of one variable that can affect the relationship between parental resilience and depressive symptomatology of adolescents, which is adolescents' psychosocial functioning. The possible mechanisms of action of parental resilience should be investigated in future studies.

Although it was not the primary objective of the study we examined the relationship that gender might have with the variables investigated and in the future we intend to better explore its role in the relations established between parental resilience, psychosocial functioning and depressive symptomatology in adolescents. Results found statistically significant differences between genders with girls presenting more depressive symptoms than boy, which reinforces what has been found in literature (Azevedo & Matos, 2014; Costa, 2011; Resende, Santos, Santos, & Ferrão, 2013). Statistically significant differences between genders were also found for the psychosocial functioning domains, family relationship and school performance. It was found that girls report worse relations with the family and males worse school performance, corroborating studies where these differences were found (Costa, 2011; Gledhil, 2010; Goldstein et al., 2009).

However, we must be careful regarding the generalization of the results, since mostly female participants constitute the sample. It would be important for future research to replicate these data in a bigger sample representative of the two genders.

With regard to the gender of the parents, the results we obtained corroborate data found by Wagnild (2009) and indicate that there are no statistically significant differences between genders concerning resilience.

Results obtained in this research showed a negative association between parental resilience and the presence of depressive symptoms in their children, allowing us to affirm that parents' resilience acts as a protective factor of depressive symptoms in adolescents. Thus, children of parents with high levels of resilience tend to express less depressive symptoms when compared with children of less resilient parents (Gladstone, Boydell, & McKeever, 2006; Wong, 2008).

Regarding the relationship between psychosocial functioning and depressive symptomatology, a positive association was found allowing to conclude that when the adolescent presents a suitable psychosocial functioning, including stable relations with family and friends, recreational activities (e.g. theatre groups, sports, television, internet) and a satisfactory school performance, tends to present lower levels of depressive symptomatology. Thus, adaptive psychosocial functioning acts as a protective factor in the development of depressive symptomatology. Regarding the variable satisfaction that the adolescent has with the various areas of his/her life, it revealed a positive relationship with depressive symptomatology. A similar result was found by Costa (2011). These data corroborate results from other studies (Claudino et al., 2006; Goldstein et al., 2009; Greer et

al., 2010; McCabe, 2011) that showed that worse psychosocial functioning is associated with higher levels of depressive symptomatology.

In the present study it was found that a domain of psychosocial functioning (school performance) and the variable satisfaction with life have an interaction effect on the relationship between parental resilience and depressive symptomatology of adolescents.

With regard to the effect of the moderator variable school performance, it is possible to affirm that when parental resilience is low, a high performance leads to lower levels of depressive symptoms compared with a low school performance. That is, the adolescents' perception as effective seems to act in the prevention of depressive symptomatology. However, when there are high levels of resilience in parents, lower or higher levels of school performance reflect similar levels of depressive symptomatology. Thus, the results obtained in this study allow us to conclude that resilience acts as a protective factor for the development of depressive symptoms when adolescents indicate a low school performance. The results found here can be explained by previous studies (Gladstone, Boydell, & Mckeever, 2006; Wong, 2008), in which more resilient parents showed greater involvement in the life of the adolescent and provided greater support to the adolescent, promoting a more effective emotional self-regulation.

In relation to the results obtained for the variable satisfaction as a moderator of the relationship between resilience and depressive symptoms, it is possible to conclude that when parental resilience is low, high levels of satisfaction with life lead to lower levels of depressive symptomatology. When levels of satisfaction are high, regardless of the levels of parental resilience, levels of depressive symptoms tend to be similar. This fact can be explained considering that adolescents with high life satisfaction are more effective in solving problems and develop appropriate coping strategies, preventing the development of psychopathology. However, when adolescents' satisfaction with life is low, parents with high resilience act as a protective factor of depressive symptomatology, thus observing a clear diminution in levels of depressive symptomatology when compared with low levels of parental resilience.

The results obtained in this research lead to the conclusion that parents' resilience, more elevated school performance of the adolescent and their satisfaction with the various areas of life, are protective factors of the adolescent, preventing the development of depressive symptomatology.

It is considered pertinent the replication of data obtained in this study in other samples of the community clinical samples and institutionalized adolescents. In future research it would be interesting to also study the influence of gender on the relationship between resilience and depressive symptomatology.

The collection of information concerning parental resilience levels was conducted by a self-report questionnaire. In future studies, it would be important to conduct face-to-face interviews with the parents to improve the reliability of the information.

Regarding the application of the A-LIFE in the evaluation of adolescents' psychosocial functioning, it is considered that in future studies would be interesting to assess inter-evaluator reliability. Moreover, to carry out investigations with a longitudinal design could also be advantageous, adolescents at risk of developing depressive symptomatology.

To sum up, it is considered that this research represents a groundbreaking contribution that explores how psychological adaptive characteristics of parents, in particular resilience, may be protective factors in the development of depressive symptoms in adolescents. Understanding the relationship between parental resilience and depressive symptomatology in adolescents and the variables that moderate this relationship can help clinical professionals to intervene at an early stage, by applying depression prevention programs that include a parent component and which promote interpersonal skills and problem solving on the adolescent, to help him/her become autonomous and to grow healthily.

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