Resilience and Depressive Symptomatology in Adolescents: The Moderator Effect of Psychosocial Functioning

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Abstract

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Depression is a serious health problem, especially in adolescence. Several variables can arise as risk or protective factors in different contexts, promoting a good or bad adjustment. The main goal is to identify if variables like resilience and psychosocial functioning are related to depression in adolescence. Additionally, gender differences in these variables are explored. This study aims to analyze the predictive effect of Resilience and Psychosocial Functioning on Depressive Symptoms, and verify the moderating effects of Psychosocial Functioning, and its areas, on Resilience in the same prediction. The sample consists of 406 adolescents. Two questionnaires were used: the Children's Depression Inventory (CDI, Kovacs, 1985; Portuguese version: Marujo, 1994), and the Resilience Scale-13 (Pinheiro & Matos, 2013), Portuguese version of the RS-14 (Wagnild & Young, 2009). The interview Adolescent Longitudinal Interval Follow-Up Evaluation (A-LIFE, Keller *et al.*, 1993; Portuguese version: Matos & Costa, 2011) was also applied. Results revealed that both Resilience and Psychosocial Functioning were predictors of Depressive Symptomatology.

Thus, adolescents with higher levels of Resilience showed less Depressive Symptomatology, as did adolescents with better Psychosocial Functioning. Global Psychosocial Functioning was a moderator of Resilience only in males, although some of its areas showed moderating effects for the whole sample or just for females. These results emphasized the relevance of Psychosocial Functioning and Resilience in the adolescents' Depressive Symptomatology and suggested the importance of developing depression prevention programs specifically focused on improving Resilience and Psychosocial Functioning.

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1. Introduction

Depression is a mood disorder (APA, 2013) that presents itself with symptoms that impact the emotional, cognitive, motivational, behavioral, vegetative, and relational areas of the individual. It's characterized by feelings of sadness and/or loss of pleasure in all or almost all activities, presenting a cognitive-emotional imbalance that affects the whole psychic life of the individual, associated with alterations in energy, sleep, appetite, concentration, and in adults, libido (Marujo, 2000).

Major Depression is the leading cause of disability in people aged 5 or higher, and the second main source of health costs, exceeding cardiovascular diseases, dementia, lung cancer and diabetes. However, despite the great impact that mood disorders have, few people get a proper monitoring (Merikangas & Knight, 2012).

For many, adolescence is a period of much stress, since it corresponds to a transition to adulthood, in which they are subject to a number of changes to their physical, emotional and cognitive level. Adolescents have to face difficult challenges when dealing with complex issues such as the construction of identity, self-concept, independence and intimacy. Although this transition is peaceful and relatively smooth for most, some young people go through great difficulties, either at the emotional or behavioral level (Alloy, Zhu & Abramson, 2003). One of the most prevalent issues among teenagers is depression. Contrary to the belief that it could not arise in childhood or adolescence, researchers found that depression is a significant mental health problem at this stage of life (Kessler, Avenevoli, & Ries Merikangas., 2001; Weissman *et al.*, 1999). Many of the problems that were seen as normative distress expressions in adolescence, such as sadness, moodiness, self-critical thoughts and insecurity or social isolation, began to be looked at in another way, when it became clear that this condition may actually be a serious disturbance in this phase, often having a chronic or recurring course throughout adult life (Rudolph, Hammen & Daley, 2008; Mueller *et al.*, 1999; Solomon *et al.*, 2000). Concerning the chronic course of the condition, studies in clinical samples have revealed that about 40% of adults relapse into depression within two years, and more than 80% within 5 to 7 years (e.g. Solomon *et al.*, 2000). Other studies with clinical samples of depressed adolescents, have very similar percentages (e.g. Birmaher *et al.*, 1996). Additionally, an increasing number of studies conclude that in this age group, depression often occurs simultaneously with other psychiatric conditions (e.g. Angold, Costello, & Erkanli, 1999; Brady & Kendall, 1992; Kendall, 2000).

It is also important to note that other consequences arise when this condition emerges in adolescence. For example, the resolution of the depressive episode may be a lot more complicated due to the fact that teenagers don't have the same skills as adults, particularly concerning how to deal with this kind of suffering, nor do they have the same control over their own lives (Marujo, 2000). Besides, adolescents generally do not seek treatment on their own. Usually, it's the parents who seek an assessment by realizing some impairment in their children's functioning (Emslie & Mayes, 1999; Wagner, 2003). Furthermore, this disorder can affect a youngster's development, since, while being in a challenging period, depressed teenagers may not be able to master the typical key tasks of their age, and, being unable to master these tasks at this stage, they may not have another opportunity to develop these skills (Kendall, 2000).

To be diagnosed with Major Depressive Disorder, according to DSM-V (APA, 2013), the individual must present not only depressive symptoms but also impairment in psychosocial functioning. This impairment is described by some authors as a poor functioning in some of the following areas: academic performance, interpersonal relationships, recreational activities, work, family relationships, friendships outside of the family, sexual functioning, satisfaction and overall social adjustment (Bird *et al.*, 2005; Keller *et al.*, 1987). In adolescents, depression often causes significant damage in these areas.

In a study, psychosocial functioning was evaluated globally and through assessments of specific areas such as work/employment and relationship with spouse or partner. The results showed that with a significant increase in the degree of severity of depressive symptomatology, also occurred a significant increase in psychosocial impairment. This result was found for both the overall functioning and its specific areas (Judd *et al.*, 2000). Solomon *et al.* (2008) found that the presence of psychosocial impairment was also associated with a greater severity of depressive symptomatology, and a lower likelihood of recovery from the depressed state. They also found that an increase of a standard deviation in the psychosocial impairment was associated with a decrease of 22% in the probability of recovering from an episode of depression. In another study, researchers identified the reduction of depressive symptomatology as a potential mediator in improving psychosocial functioning, since the reductions in the severity of symptoms were responsible for many, if not all, concomitant improvement in psychosocial functioning (Hirschfeld *et al.*, 2002; Vittengl, Clark, & Jarrett, 2004).

In similar circumstances, different people respond in different ways, and some end up succumbing to the depressive state as others exceed difficulties adaptively. In the latter case, we consider the presence of a personal trait, *Resilience*. This concept is defined as a dynamic psychological process that protects the individual from negative life events (Rutter, 1987), and through which a positive adaptation is achieved in the context of adversity (Luthar, Cicchetti, & Becker, 2000). It connotes strength of will, competence, optimism, flexibility and the ability to deal positively and recover when confronted with adversity and challenges (Wagnild & Collins, 2009). Rather than being viewed as an invariable trait that a person has or has not, resilience can be thought of as a part of normal healthy development that can be improved over time (Jackson, Born & Jacob, 1997). This capability is specific to each stage of development, is influenced by risk factors and protective factors in the person and the environment, and also contributes to the maintenance and improvement of health (Tusaie, Puskar & Sereika, 2007). In recent decades, interest in protective factors and the resilience construct has increased substantially. This increase has been driven by the possibility of identifying protective factors and mechanisms to prevent the development of psychiatric disorders such as depression (Hjmendal, Aune, Reinfjell, Stiles, & Friborg, 2007). There have been many protective factors identified as potential modulators of individual resilience, like cognitive factors such as reframing skills, problem solving skills, optimism, good intellectual abilities, good resourcefulness in seeking social support, and others; and environmental factors such as fewer negative life events, successful background, positive linking between parents and children, participation in school activities or expansion of the support system beyond the family environment (Werner & Smith, 1992

cit in Tusaie *et al.*, 2007, Rutter, 1993 *cit in* Tusaie *et al.*, 2007, Geanellos, 2005; Scheir & Carver, 1987).

2. Problem Statement, research question and purpose of the current study

The identification of risk factors for depression is essential to determine who should be a target for intervention. Also, there is a great need to understand the impact of depression and its treatment in functioning, given the evidence of the profound effect that ties them. Being known that even moderate depressive symptoms and subclinical depressions result in functional impairment and reduced quality of life (Gotlib, Lewinsohn, & Seeley, 1995; Judd, Akiskal, & Paulus., 1997; Judd et al., 2000; Judd Paulus, Wells, & Rapaport, 1996), and that residual depressive symptomatology untreated may result in a higher likelihood of relapse in Major Depression (Solomon et al., 2008), both clinicians and researchers need to broaden the focus of treatment, to equally include the specific symptoms of depression, and the consequences of functional impairment (Greer et al., 2010).

Taking into account the magnitude of the consequences and repercussions of the above mentioned variables, with regard to psychological well-being and quality of life, the following objectives for this study are established: 1) assess Resilience and its relationship with Depressive Symptomatology; 2) study the relation between Psychosocial Functioning, and each of its areas, with Depressive Symptomatology; and 3) explore the moderating effect of the Psychosocial Functioning, and each of its areas, in the relationship between Resilience and that Symptomatology.

3. Research Methods

3.1. Participants

The sample of this study comes from the project "Prevention of Depression in Portuguese Adolescents: Effectiveness Study of Intervention with Adolescents and Parents" (PTDC / MHC -PC L / 4824/2012) in which this investigation is inserted, and consists of 406 adolescents aged between 13 and 17 years (M = 14:59, SD = .81), 137 of them being male (33.7%) and 269 female (66.3%). The subjects attend to public and private schools in Coimbra, Viseu and Aveiro districts, although most of them belong to the first.

3.2. Instruments

The **Children's Depression Inventory** (CDI; Kovacs, 1985; Portuguese version: Marujo, 1994) corresponds to a self-assessment inventory that evaluates depressive symptoms in children and adolescents aged 7 to 17 years old. It consists of 27 items, each with three possible answers, where the subject should select the one that best describes how they have been feeling over the last two weeks. The items are sorted from 0 to 2, where higher values mean more severe symptoms. The total score is obtained by summing the score of each item, and ranges from 0 to 54 points (Days & Gonçalves, 1999; Kovacs, 1985). In the original version of the scale, Kovacs (1985) showed good psychometric qualities

of the instrument in terms of internal consistency with Cronbach alphas (α) between .83 to .94 and test-retest reliability. In the Portuguese version, Marujo (1994) and later Dias & Gonçalves (1999), found a one-factor structure with a Cronbach's alpha of .80. In this research, an alpha of .90 in total CDI score was obtained, revealing good internal consistency.

The **Resilience Scale-13** (Pinheiro & Matos, 2013), Portuguese version of RS-14 Wagnild & Young (2009), which in turn corresponds to a reduced version of the original Resilience Scale, published in 1993 by the same authors was also used. This scale was developed to identify individual resilience. The RS-13 consists of 13 items, in which the subject responds using a Likert scale of 7 points, in which the higher the score, means the higher the level of resilience. An analysis revealed a one-dimensional structure responsible for 53.23% of the total variance. It was also found a good reliability (α = .93) (Oliveira, Matos, Pinheiro, & Oliveira, 2014). In this study, an alpha of .91 in the total score of the Resilience Scale was obtained, revealing good internal consistency.

The **Adolescent - Longitudinal Interval Follow-up Evaluation** (A-LIFE, Keller M. B. *et al.*, 1993; Portuguese version by Matos, Costa & Martins, 2015.), developed based on LIFE (Keller *et al.*, 1987), the original adult version, was also used. It consists of a semi-structured clinical follow-up interview, providing information about the psychopathological course of an individual over an extended period of time (Keller *et al.*, 1987). As for its structure, it is divided into three general sections: Psychopathology, Psychosocial Functioning and General Disease Severity. For the present investigation, the Psychosocial Functioning factor will be the only one used. The Psychosocial Functioning (PF) is evaluated in four areas: School Performance (SP), Family Relationships (FR), Relationships with Friends (RF) and Recreational Activities (RA). Furthermore, it also assesses overall Satisfaction (S) with life. Each of these areas is rated from 1 (very good) to 5 (very poor, serious invalidation), and the classification used in this study corresponds to the average of each of the areas of functioning during the follow-up period. Thus, the Psychosocial Functioning was determined by adding the average of the four dimensions (SP, FR, RF and RA) and dividing by 4.

3.3. Procedure

National entities that regulate scientific research authorized this study for students who have agreed to participate in the investigation. Confidentiality was assured and subjects were asked to sign an informed consent. The students were evaluated and interviewed at school.

3.4. Analytical Strategy

The statistical analysis was performed using the SPSS (Statistical Package for Social Sciences. - version 22.0 for Windows, IBM Corp., 2013).

Student *t*-tests for independent samples were used to assess gender differences in Depressive Symptomatology (CDI), in Resilience, in Psychosocial Functioning total score, in each of the areas of Functioning (School Performance, Family Relationships, Relationships with Friends and Recreational Activities) and in Satisfaction, testing if the averages of the two groups were significantly different. Differences between means in which the test significance value was equal to or less than .05 were considered statistically significant (Marôco & Bishop, 2003). To study the relationship between the

variables, Pearson correlation coefficients (r) were used –the convention of Pestana and Gageiro (2008) was adopted, which states that a value of $r < .20$ indicates a very low correlation; $.20 < r < .39$ is low; $.40 < r < .69$ is moderate; $.70 < r < 0.89$ is high; and $> .90$ is very high.

For the study of Resilience as a predictor of Depressive Symptomatology, multiple hierarchical regressions were performed. According to Baron and Kenny (1986), there is a moderation effect when the nature of the relationship between a dependent variable and an independent variable is affected in the direction or strength, in the presence of a third moderating variable. Using multiple hierarchical regressions, six analyzes of moderation were carried out, to test the moderating effect that Psychosocial Functioning, each of its areas, and Satisfaction, had on the relationship between Resilience (total Resilience Scale as a predictor variable) and Depressive Symptomatology (total CDI as criterion variable). For this, the values of the Resilience, PF (total), SP, FR, RF, RA and S variables were standardized, to reduce possible multicollinearity problems and simplify the interpretation of the model intercept. Then, six interaction terms were created between Resilience and each of the variables that would be used as moderators. Next, multiple hierarchical regressions were performed in which the predictor was placed in the first block, the moderating variable was placed on the second, and finally, the interaction term between the two in the third block. The gender, when controlled, proved to be a significant variable, therefore, analyzes were made for each gender separately. When the regression coefficient of the interaction term (Predictor x Moderator) is statistically significant, there is a moderating effect (Hayes, 2013).

4. Findings

4.1. Preliminary analyses of the data

Assumption of normality of variables was analyzed using the *Kolmogorov-Smirnov* test, which suggests that the sample does not have a normal distribution ((K-S, $p \leq .018$). However, when analyzing the bias relative to the mean through the values of asymmetry (*sk* $< |3|$) and flattening (*ku* $< |10|$), it was possible to conclude that there was no serious bias that compromises normal distribution of the data (Kline, 2011). The adequacy of the data to the realization of the hierarchical multiple regression was confirmed.

Table 1. Means and Standard Deviations for the total sample (n=406) and genders (males: n=137; females: n=269), with Student's *t*-test for gender differences.

Variables	Total Sample	Males	Females		
	M (SD)	**M (SD)**	**M (SD)**	**T**	**p**
Depressive Symptoms (CDI)	9.79 (7.01)	7.26 (.44)	11.08 (.46)	-6.03	.000
Resilience (ER)	68.74 (12.19)	70.98 (.93)	67.60 (.77)	2.66	.008
Total Psychosocial Functioning (A-LIFE)	1.68 (.47)	1.65 (.03)	1.69 (.03)	-0.79	.433
School performance	1.58 (.65)	1.67 (.06)	1.53 (.04)	1.96	.050
Family relationships	1.63 (.60)	1.60 (.04)	1.64 (.04)	-0.68	.494
Relationships with friends	1.54 (.71)	1.39 (.05)	1.61 (.05)	-3.10	.002
Recreational activities	1.93 (1.07)	1.92 (.10)	1.94 (.06)	-0.11	.909
Satisfaction (A-LIFE)	2.03 (.73)	1.87 (.06)	2.12 (.05)	-3.28	.001
Age	14.59 (.81)	14.61 (.08)	14.58 (.05)	0.43	.665

Note. M = Mean; SD = Standard Deviation; CDI = Children's Depression Inventory; A-LIFE = Adolescent – Longitudinal Interval Follow-up Evaluation; ER = Resilience Scale; In the dimensions of psychosocial functioning, lower scores correspond to a better functioning.

4.2. Gender differences in Depressive Symptomatology, in Resilience and in Psychosocial Functioning

To find out whether there were gender differences, Student *t*-tests for independent samples were computed (cf. Table 1). Regarding the Resilience Scale results, there were statistically significant differences between genders, as males tended to exhibit higher results. Depressive Symptomatology was also significantly different between the two, with girls scoring higher. As for the total PF, no statistically significant differences were encountered between the two genders. In the RF and S variables, girls showed significantly higher values. In the remaining variables (SP, FR and RA), the significance level was not reached, which indicates no significant gender differences.

4.3. Study of the relations between Resilience, Psychosocial Functioning and Depressive Symptomatology

Pearson correlations were performed to study the relationship between the variables. The CDI score correlated with all areas evaluated from PF including S, and with Resilience, which was also correlated with most of the other variables, only excluding RA and SP (cf. Table 2).

Table 2. Pearson correlations (r) between depressive symptoms, adolescent psychosocial functioning and resilience (N = 406).

Variables	1.	2.	3.	4.	5.	6.	7.	8.
1. *Depressive Symptoms (CDI)*	1							
2. *Resilience (ER)*	-.67**	1						
3. *Total Psychosocial Functioning (A-LIFE)*	.28**	-.20**	1					
4. School Performance (A-LIFE)	.13*	-.09	.46**	1				
5. *Family Relationships (A-LIFE)*	.27**	-.19**	.56**	.11*	1			
6. Relationships with Friends (A-LIFE)	.23**	-.15**	.60**	.10*	.27**	1		
7. *Recreational Activities (A-LIFE)*	.12*	-.09	.71**	.09	.18**	.17**	1	
8. Satisfaction (A-LIFE)	.40**	-.30**	.32**	.28**	.21**	.25**	.12*	1

*Nota. * p ≤ .05, ** p ≤ .01; CDI = Children's Depression Inventory; A-LIFE = Adolescent - Longitudinal Interval Follow-up Evaluation; ER = Resilience Scale*

4.4. Analyses of the moderation effects

Hierarchical multiple regression analyses were made to ascertain if PF has a moderating effect in the relationship between Resilience and Depressive Symptomatology. Since gender, when controlled, proved to be a significant variable, separate analyses were made for each sex.

4.4.1. Total Psychosocial Functioning as moderator

In boys, as can be seen in Table 3, there was a significant interaction between PF and Resilience (β = .137, p = .050), although the former does not prove, in itself, significant (β = -. 001, p = .993). Resilience revealed to be significant (β = -. 596, p <.001). In girls, both the predictor variable (β = -. 636, p <.001) and the moderator (β = .176, p <.001) proved to be significant, but the interaction between the two did not reach statistical significance (β = -. 061, p = .170).

Table 3. Moderator effect of Total Psychosocial Functioning in the relationship between Resilience and Depressive Symptoms.

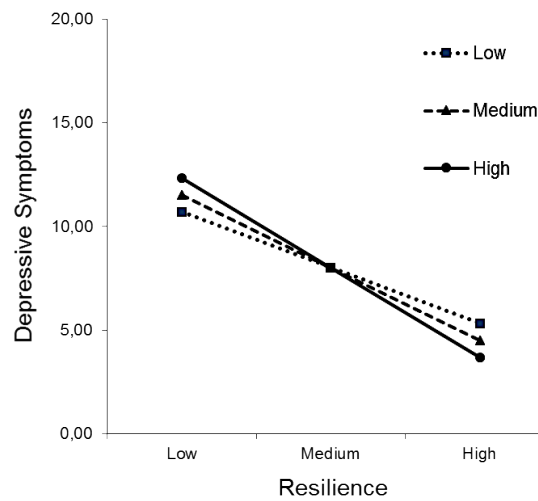| Model	Predictors	Males				Females			
		β	*T*	*p*	*ΔR²*	*β*	*T*	*p*	*ΔR²*
1	*Resilience*	-.604	-8.806	.000	.365	-.682	-15.253	.000	.466
2	*Resilience*	-.601	-8.656	.000	.001	-.641	-14.391	.000	.033
	TPF	.023	.337	.737		.187	4.207	.000	
3	*Resilience*	-.596	-8.668	.000	.018	-.636	-14.282	.000	.004
	TPF	-.001	-.008	.993		.176	3.905	.000	
	*Resilience * TPF*	.137	1.982	.049		-.061	-1.375	.170	

Note. TPF = Total Psychosocial Functioning

Fig. 1. Graphic of the moderating effect of total PF on the relationship between resilience and depressive symptoms, in boys.

Figure 1 graphically represents the moderation found. The negative slope of the regression lines for the different levels of PF can be observed, which reveals one of the main effects. Thus, the more resilient adolescents are, the less depressive symptomatology they report. The moderating effect occurs for the various levels of PF, but is more significant at the highest level (as can be seen by the steeper slope line at that level). This means that a good PF potentiates the effect of the Resilience in the reduction of Depressive Symptomatology. Since PF revealed to be not significant (β = -.001, p = .993), the differences observed in this variable, at the lower levels of resilience, are not relevant.

4.4.2. School Performance as moderator

In boys, there was no significant interaction between SP and Resilience (β = .037, p = .618). SP has also not proven itself significant (β = -. 014, p =. 851). Resilience appeared to be significant (β = -. 607, p <.001). In females, both the predictor variable (β = -. 670, p <.001) and the moderator (β = .100, p = .029) proved to be significant, and the same happened to the interaction between the two (β = -. 099, p = .029). We can see the described results in Table 4.

Table 4. Moderator effect of School Performance in the relationship between Resilience and Depressive Symptoms

Model	Predictors	Males				Females			
		β	T	p	ΔR²	β	T	p	ΔR²
1	Resilience	-.604	-8.806	.000	.365	-.682	-15.253	.000	.466
2	Resilience	-.604	-8.762	.000	.000	-.660	-14.658	.000	.014
	SP	-.001	-.012	.991		.121	2.681	.008	
3	Resilience	-.607	-8.748	.000	.001	-.670	-14.908	.000	.009
	SP	-.014	-.188	.851		.100	2.200	.029	
	Resilience * SP	.037	.499	.618		-.099	-2.197	.029	

Note. SP= School Performance

4.4.3. Family Relationships as moderator

As can be seen in Table 5, in boys, there was no significant interaction between FR and Resilience (β = -. 072, p = .298). Similarly the variable FR has not revealed itself statistically significant (β = .125, p = .077). Resilience shown to be significant (β = -. 587, p <.001). In girls, both the predictor variable, Resilience (β = -. 657, p <.001), as the moderator, FR (β = .131, p = .005), proved to be significant, as well as the interaction between the two (β = -. 095, p = .039).

Table 5. Moderator effect of Family Relationships in the link between Resilience and Depressive Symptoms

Model	Predictors	Males				Females			
		β	T	p	ΔR²	β	T	p	ΔR²
1	Resilience	-.604	-8.806	.000	.365	-.682	-15.253	.000	.466
2	Resilience	-.587	-8.513	.000	.012	-.651	-14.583	.000	.025
	FR	.112	1.625	.106		.161	3.597	.000	
3	Resilience	-.587	-8.517	.000	.005	-.657	-14.776	.000	.008
	FR	.125	1.785	.077		.131	2.805	.005	
	Resilience * FR	-.072	-1.045	.298		-.095	-2.076	.039	

Note. FR= Family Relationships

4.4.4. Relationships with Friends as moderator

As can be seen in table 6, there was no significant interaction between RF and Resilience (β = .113, p = .133) in boys. The variable RF was also not proven itself significant (β = -. 024, p = .724), but Resilience was, once more (β = -. 562, p <.001). In girls, both the predictor variable, Resilience (β = -. 661, p <.001), and the moderator, RF (β = .148, p = .001), proved to be significant, but the interaction between the two did not reach statistical significance (β = .003, p = .941).

Table 6. Moderator effect of Relationships with Friends in the link between Resilience and Depressive Symptoms

Model	Predictors	Males				Females			
		β	T	p	ΔR²	β	T	p	ΔR²
1	Resilience	-.604	-8.806	.000	.365	-.682	-15.253	.000	.466
2	Resilience	-.605	-8.762	.000	.000	-.660	-14.848	.000	.021
	RF	-.012	-.179	.858		.148	3.326	.001	
3	Resilience	-.562	-7.570	.000	.011	-.661	-14.527	.000	.000
	RF	-.024	-.354	.724		.148	3.286	.001	
	Resilience * RF	.113	1.513	.133		.003	.074	.941	

Note. RF=Relationships with Friends

4.4.5. Recreational Activities as moderator

In males, a significant interaction was not found between RA and Resilience (β = .122, p = .079). Moreover, the variable RA was not found significant by itself (β = .007, p = .921). Resilience proved again to be significant (β = -. 599, p <.001). In females, similarly to males, no significant interaction was found between RA and Resilience (β = -. 011, p = .810), nor was significant the effect of RA as an independent variable (β =. 079, p = .083). Resilience continued to prove to be significant (β = -. 673, p <.001). We can see the described results in Table 7.

Table 7. Moderator effect of Recreational Activities in the connection between Resilience and Depressive Symptoms

Model	Predictors	Males				Females			
		β	T	p	ΔR^2	β	T	p	ΔR^2
1	Resilience	-.604	-8.806	.000	.365	-.682	-15.253	.000	.466
2	Resilience	-.603	-8.747	.000	.000	-.674	-15.043	.000	.006
	RA	.018	.263	.793		.080	1.784	.076	
3	Resilience	-.599	-8.759	.000	.015	-.673	-14.985	.000	.000
	RA	.007	.099	.921		.079	1.739	.083	
	Resilience * RA	.122	1.771	.079		-.011	-.240	.810	

Note. RA=Recreational Activities

4.4.6. Satisfaction as moderator

In boys, a significant interaction was found between S and Resilience (β = -. 203, p = .005). In addition, both the Resilience (β = -. 609, p <.001) and S variables (β = .239, p = .001) were statistically significant. In girls, it was also found a significant interaction between S and Resilience (β = -. 129, p = .004). Furthermore, and just as found in male subjects, both the Resilience (β = -. 597, p <.001) and S variables (β = .183, p <.001) were found to be statistically significant. These results are shown in Table 8.

Table 8. Moderator effect of Satisfaction on the relationship between Resilience and Depressive Symptoms

Model	Predictors	Males				Females			
		β	T	p	ΔR^2	β	T	p	ΔR^2
1	Resilience	-.604	-8.806	.000	.365	-.682	-15.253	.000	.466
2	Resilience	-.574	-8.426	.000	.031	-.617	-13.452	.000	.035
	S	.178	2.618	.010		.197	4.299	.000	
3	Resilience	-.609	-9.033	.000		-.597	-13.039	.000	
	S	.239	3.431	.001	.036	.183	4.018	.000	.016
	Resilience * S	-.203	-2.883	.005		-.129	-2.932	.004	

Note. S=Satisfaction

5. Conclusions

In literature, studies that include Resilience and Depressive Symptomatology variables, appear to be consensual regarding the effect of the former over the latter. Resilience and Depressive Symptomatology are negatively correlated, that is, more Resilience means less Depressive

Symptomatology (e.g. Wagnild & Young, 1993; Wagnild 2008 *cit in* Wagnild & Collins, 2009). In this study, Resilience also proved to be a strong predictor of Depressive Symptomatology, in the negative direction.

Regarding Psychosocial Functioning (PF), most studies that connect it to Depressive Symptomatology refer to the impact of that symptomatology on functioning, referring that the first negatively affects the second, that is, higher levels of Depressive Symptomatology are associated with a worse PF (e.g. Weissman *et al*., 1999; Judd *et al*., 2000; Field *et al*., 2001; Hirschfeld *et al*., 2002; Judd *et al.*, 2008;. Lewinsohn *et al.,* 2003; Vitiello *et al.*, 2011). However, knowing that PF similarly influences depressive symptomatology, there are already studies evaluating this relationship, which demonstrate that a poor PF is also a significant predictor of depressive symptomatology (e.g. Goldstein *et al*., 2009; Lewinsohn *et al*., 1998; Solomon *et al*., 2008). These studies consider PF as a whole, but others consider its specific areas. For example, Chen & Li (2000) and Fröjd *et al*. (2008) studied community samples of adolescents and found that depression was associated with difficulties in school performance. As for family relationships, a study of an adolescents' sample revealed that there is a significant negative relationship between depression and satisfactory relations with their mother, father, and family unity (Mueller, Bridges & Goddard, 2011). Greca & Harrisson (2005) studied the association between relationships with peers and Depressive Symptomatology also during adolescence, in a community sample, and concluded that poor relationships with peers predict depressive symptomatology. As for recreational activities, a longitudinal study of a sample of adolescents revealed that leisure activities, including physical activity, and depressed mood co-vary inversely during adolescence (Birkeland, Torsheim & Wold, 2009). A study by Rissanen *et al*. (2011), which examined the relationship between satisfaction with life and depressive symptoms in a sample of the general population, concluded that the two variables are significantly related, and that poor satisfaction predicts worse depressive symptomatology and worse mental health.

In the present study, we considered the effect of PF as a whole, as well as each of its areas. The PF total score proved to be a significant predictor of Depressive Symptomatology, which is consistent with previously reported findings (e.g. Goldstein *et al*., 2009; Lewinsohn *et al*., 1998; Solomon *et al*., 2008). Family Relations (FR) and Satisfaction (S) with life also proved significant in predicting Depressive Symptomatology. These data are in line with the results obtained in other studies (e.g. Mueller, Bridges & Goddard, 2011; Rissanen *et al*., 2011). As described by Fröjd *et al*. (2008) and Chen and Li (2000), a significant relationship between School Performance (SP) and Depressive Symptomatology was found. Similarly, significant relationships between Relationships with Friends (RF) and Depressive Symptomatology and between the Recreational Activities (RA) and Depressive Symptomatology were found, replicating the results found by Greca & Harrison (2005) and Birkeland, Torsheim & Wold (2009). There were also found significant differences between genders, for some variables investigated in this study. With regard to Resilience, boys showed higher scores, replicating Tusaie *et al*. (2007) results. As for Depressive Symptomatology, girls exhibited higher values, in accordance with previous studies (Essau *et al*., 2010; Galambos *et al*., 2004; Saluja *et al*., 2004). In the RF and S variables, girls had also higher values. However, it should be noted that in variables measured by A-LIFE, higher scores are equivalent to a worse functioning. In the other variables, no significant differences between

genders were found.

Regarding the interactions analyses, several significant results were found, revealing the presence of moderating effects of PF, or its areas, on Resilience, in the prediction of Depressive Symptomatology. There were some interesting results concerning gender differences, as certain variables had a moderating effect on Resilience in just one gender. One of these cases was the total PF, which only revealed to be a significant moderator of Resilience in males. In this case, a good PF acted as an enhancer of Resilience. So, having better scores on PF seems to function as a protective factor regarding Depressive Symptomatology. Correspondingly, poorer PF may be a risk factor for the development of Depressive Symptomatology. These results show that a good PF enhances the impact of Resilience in Depression, although in this study, this was only significant for males.

Contrarily to PF total score, SP significantly moderated Resilience for females only, potentiating the effect of Resilience, in the prediction of Depressive Symptomatology, especially in its lower levels. So, in lower levels of Resilience, better SP corresponds to lower Depressive Symptomatology; in higher levels of Resilience, this difference is no longer noticeable. Thus, a good SP arises as a possible protective factor from depression, although only for females.

The FR variable revealed also to be moderating Resilience, only in females. Its effect is similar to that of SP, acting as an enhancer of Resilience on Depressive Symptoms, especially at Resilience's lower levels. Thus, those with the lowest degree of Depressive Symptomatology are the female teenagers who are more resilient and simultaneously refer better family relationships. Good FR alone seems to also function as a protective factor regarding Depressive Symptomatology. These results relate only to females, and conclusions cannot be drawn for the male gender.

The S variable, which corresponds to the adolescent's overall satisfaction with life, proved to be a moderator of Resilience in both genders. The moderator variable has a potentiating effect on Resilience, which becomes quite evident in the lower levels of this variable, i.e., teens who are less resilient but have a high S, show significantly less Depressive Symptomatology than teenagers with poor resilience and low S. Thus, young people who have a lower degree of Depressive Symptomatology are those which exhibit a higher degree of resilience and simultaneously a good satisfaction with life. S arises, then, as another possible protective factor against Depression.

The RF and RA variables were not moderators of Resilience for any gender, and so, there appears to be no significant interaction between each of them and Resilience. However, they may still be possible protective factors regarding Depressive Symptomatology in adolescents, since the analysis of the correlations between the variables showed that both are associated with such symptoms in a statistically significant manner.

Considering that a good PF helps maintain improvements during the recovery of Depressive Symptomatology and, likewise, an improvement in the depressive state also helps improve functioning, it is important to develop not only strategies to prevent and recover from Depressive Symptomatology, but also specific strategies to improve and promote PF and its specific areas, as well as Resilience skills, such as self-compassion, acceptance or optimism.

This research, which studies the moderating effect of PF (and their areas) in the relationship between Resilience and Depressive Symptomatology of adolescents, is an important and completely

innovative contribution, since there are no other studies to consider these same variables. However, there are some limitations that should be referred and taken into account when interpreting its results. The sample, though not balanced in gender, is representative of what is found in Portuguese schools, where most students are females. However, it's concentrated in specific geographical areas of the country. Another limitation relates to the difficulty in controlling variables that can influence responses of subjects and consequently the results, namely, social desirability, fatigue or lack of motivation. These variables may have influenced subjects' responses, as it was asked of them to fill out an extensive battery of questionnaires, part of the research project in which this study was integrated. Also the fact that is was applied in a group setting may have been counterproductive, because it naturally causes greater inhibition or distraction. Finally, being a study of transversal nature, we cannot arrive at conclusions regarding the causal relationship between these variables.

It would be important, in the future, to replicate this study in clinical samples and wider community samples, more representative of the population. Furthermore, longitudinal studies would allow to verify variations of Depressive Symptomatology over time, and experimental studies would facilitate the understanding of the causal relationships between these variables.

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