ORIGINAL ARTICLE

FAMILY PROCESS

The McMaster Family Assessment Device (FAD) dimensions involved in the prediction of adolescent depressive symptoms and their mediating role in regard to socioeconomic status

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Abstract

Family functioning plays an important role in explaining the high prevalence of depressive symptoms in adolescents and it is necessary to identify the family functioning characteristics responsible for this relationship. In turn, while socioeconomic status (SES) is associated with adolescent depressive symptoms, the mechanisms that explain this relationship are largely unknown. In this study, we used the McMaster Family Assessment Device (FAD) to obtain a picture of the family functioning dimensions that genuinely contribute to explaining the relationship between family functioning and adolescent depressive symptoms and analyzed the mediating effect of family functioning on the impact of SES on depressive symptoms. Regression-based conditional process analysis was used with a sample of 636 adolescents aged 12–17 years. Pratt's measures in regression analyses showed that 95% of the variance in depressive symptoms was accounted for by three of the six FAD dimensions: the ability to experience and express emotions appropriately—Affective Responsiveness—the ability to maintain adequate involvement among family members—Affective Involvement—and the ability to set and abide by rules and standards of behavior—Behavioral Control. Results also showed that the impact of SES on depressive symptoms was mediated by the existence of clear expectations about standards of behavior and behavioral patterns for handling family

tasks—Behavioral Control and Roles—and, for the boys, by experiencing and expressing emotions appropriately. The results emphasize the importance of affect and clear-cut family rules to prevent adolescent depressive symptoms and suggest that the existence of family rules and roles buffer the impact of SES on adolescent wellbeing.

Research shows that both family functioning and socioeconomic status (SES) contribute to depressive symptoms in adolescence. During this critical period of development, family functioning has been shown to play a major role in explaining the high prevalence of depressive symptoms, which are associated with an increased likelihood of clinical depression later in adulthood (Klein et al., 2009; Tang et al., 2020; Yap et al., 2014). However, the findings on family functioning come from studies conducted from different theoretical and methodological frameworks and use different labels for related family characteristics, making it difficult to discriminate what is genuinely different between these labels and what they share (Gorostiaga et al., 2019). A better understanding of the family variables involved in adolescent depressive symptoms is needed to reduce the high rates of depressive symptoms at these ages.

The McMaster Model of Family Functioning (MMFF) is a comprehensive and systematic multidimensional approach for the assessment and treatment of family functioning that builds on decades of research and clinical work with families conducted from a family systems perspective (Epstein et al., 1978; Miller et al., 2000). From this theoretical approach, the MMFF has identified a number of interrelated dimensions that explain the dynamics of family functioning, which have proved useful in distinguishing well-adjusted families from maladjusted ones and have constituted a basis for family therapy interventions (Ryan et al., 2005). The McMaster Family Assessment Device (FAD; Epstein et al., 1983; Mansfield et al., 2015) is the instrument developed by the authors to assess the six dimensions of MMFF: Problem Solving, Communication, Roles, Affective Responsiveness, Affective Involvement, and Behavioral Control. The FAD was originally used in the development of a successful clinical research program that focused on the family functioning of psychiatric patients, primarily with major depressive disorder (Keitner et al., 1987, 1995; Miller et al., 1992) and since its inception has proved useful for understanding the relationship of family functioning to a wide range of mental and physical health problems across different cultures (Leibach & Everhart, 2017; Keitner et al., 1991; MacPherson et al., 2018). In fact, the FAD is shown to be more sensitive than other measures of family functioning in identifying families with clinical problems and its use has been extended beyond the McMaster model for multiple research purposes in both clinical and nonclinical settings (Staccini et al., 2015). It has been found that the FAD general scores are related to depressive and internalizing symptoms in adolescents (Jager et al., 2012; Millikan et al., 2002). Furthermore, previous research has shown associations between all the dimensions of the FAD and depression in this age group (Tamplin et al., 1998). However, although all dimensions of the FAD have been found to be associated with depressive symptoms, studies on family cohesion and parental warmth suggest that affective dimensions could be of particular importance in adolescent depressive symptoms (Fosco & Lydon-Staley, 2019; Guassi Moreira & Telzer, 2015; Quach et al., 2015), which is consistent with the major role played by emotions within the family in the development of emotional regulation at early ages (Morris et al., 2007). From this background,

in this study, we provide a more fine-grained analysis of the FAD dimensions involved in the relationship between family functioning and depressive symptoms in adolescents.

In addition, there is little doubt that SES is associated with adjustment problems in adolescents, including depressive symptoms (Coley et al., 2019). In this context, the Family Stress Model has proposed a mediating mechanism whereby economic hardship would produce child and adolescent maladjustment through disrupted parenting (Conger et al., 2010; Conger & Conger, 2002). However, the likely synergistic effects between SES and family functioning variables that contribute to youth adjustment are largely unknown. In turn, research on family functioning has traditionally focused on the effects of maladaptive functioning on youth adjustment, with very few studies analyzing its mediating role in the effect of other socio-environmental factors on adjustment (Devenish et al., 2017; White et al., 2015). Given that families with low SES show poor family functioning (Botha et al., 2018; Li et al., 2014; Mansfield et al., 2013), we theorize that family functioning is one mechanism by which SES contributes to depressive symptoms, as suggested by the Family Stress Model (Conger et al., 2010). Identifying the mechanisms involved in this relationship would aid in the development of family interventions aimed at reducing the impact of SES, a generally more stable and persistent factor, on depressive symptoms in adolescents.

Within this theoretical framework, the purpose of this study is, first, to identify the family functioning dimensions that contribute to depressive symptoms in adolescents and, second, to elucidate the role that these dimensions may play in buffering the detrimental effect of low SES at these ages. To this end, we addressed family functioning through the six dimensions included in the FAD. Based on the findings described above, in our first hypothesis we expected that the FAD dimensions that best predicted adolescent depressive symptoms would be Affective Responsiveness and Affective Involvement. To test the FAD dimensions responsible for the effect on depressive symptoms, in this study, we sought to identify their unique contributions by controlling the shared variance among them. This is an important consideration because studies examining family functioning often focus on target variables without controlling for the effects of others, which can lead to misleading results by overestimating their effects. In our second hypothesis, we expected that family SES would predict adolescent depressive symptoms and that family functioning dimensions would mediate the relationship between SES and adolescent depressive symptoms. Additionally, we explored whether family functioning and SES are mutually dependent in predicting depressive symptoms in adolescents, in line with findings showing that SES moderates the effect of family psychopathology on depressive symptoms (Eley et al., 2004).

As is the rule in research on adolescent depression (Collishaw, 2015), we also included sex and age for exploratory and control purposes, although no relevant hypotheses about them were derived from our theoretical framework. Previous studies on sex-based differences in the relationship between family functioning and depressive symptoms have yielded mixed results (Lewis et al., 2015; Tang et al., 2020). Regarding age, research shows that the effects of family functioning on depressive symptoms are greater in younger adolescents than in older adolescents (Sijtsema et al., 2014; Tang et al., 2020). Therefore, throughout the analyses we explored the moderating effects of sex and age on the relationships among the variables. For the purposes of this study, we used regression-based conditional process analysis, which allows integrating mediation and moderation analysis, as well as testing parallel mediators using a single model (Hayes, 2022; Hayes & Rockwood, 2020).

METHOD

Participants

A total of 636 adolescents participated in the study, selected from an initial sample of 861. They were in the 7th to 11th grades of Compulsory and Higher Secondary Education in six public

and semi-private secondary schools that were randomly selected from all the districts in Malaga, a medium-sized city in southern Spain. Exclusion criteria for participation were the absence of parents'/guardians' consent ($n = 94$) or having missing data for one or more measures of interest ($n = 131$), resulting in a response rate of 73.9%. The final sample of 636 adolescents consisted of 327 girls and 309 boys, aged between 12 and 17 years ($M = 14.74$; SD = 1.68). Table 1 shows the sociodemographic characteristics of the sample. Of the participants, 34.1% scored above the cut-off point of the FAD to identify dysfunctional family functioning (Miller et al., 1985; General Functioning subscale), and the distribution of the participants according to the depression categories established by Beck et al. (1988) was as follows: 70.6% showed minimal depression, 17% mild depression, 9.3% moderate depression, and 3.1% were in the severe depression category.

Procedure

Participants in the study were recruited through the school they attended. First, the school principals were informed about the research objectives and procedures, and their permission was

TABLE 1 Sociodemographic characteristics of the participants' families (data collected from the participants).

Characteristic	*n*	*%*
Education		
University graduate	247	19
Secondary school graduate/Vocational training	308	24
Primary school graduate	463	36
Read and write easily	189	15
Hardly can read and write	33	3
Not reported	32	3
Occupation		
Professional/Managerial occupations	170	13
Vocational occupations	256	20
Occupations not needing formal training	497	39
Housework/Unemployed	295	23
Not reported	54	4
Family structure		
Living with both parents together	515	81
Living with one or both separated parents	97	15
Living with one single parent	11	2
Not living with any parent	8	1
Not reported	5	1
Country		
Spain	580	91
South American countries	34	5
Morocco	7	1
Eastern European countries	5	1
Western European countries	2	0.3
China	2	0.3
Not reported	6	1

sought to offer students participation in the study. A more general description of the study was given to the students, who also were informed that participation in the study was voluntary and their responses anonymous. Finally, students were required to take an informed consent form to their parents/guardians describing the nature of the research and data privacy policy. On the consent form, parents/guardians were asked to explicitly indicate whether they allowed their wards to participate in the study, and their responses were brought back to the school by the students. A total of 89.5% of the consent forms were returned, and none of the adolescents, but four of the parents/guardians who returned the consent form, declined to participate in the study. Administration of the questionnaires took place during regular school hours, and a research assistant was present. All the data were collected from the adolescents. The study utilized data collected in 2018 as part of a larger research project and followed the standards and norms of the University of Malaga Research Ethics Committee.

Instruments

Family functioning

The McMaster Family Assessment Device (FAD; Epstein et al., 1983; Mansfield et al., 2015) was used in this study. The FAD is a 60-item self-report measure of family functioning that includes seven subscales, six of them corresponding to the MMFF dimensions and one measuring general functioning. The questionnaire was back-translated from English to Spanish according to the back-translation procedure described by Brislin et al. (1973). In this study, we used the six subscales that measure the MMFF dimensions: Problem Solving (six items), which refers to the family's ability to solve both instrumental and affective problems; Communication (nine items), which refers to the ability to communicate clearly and directly with other family members; Roles (11 items), which refers to the ability to establish and maintain patterns of behavior for handling different family tasks; Affective Responsiveness (six items), which assesses the extent to which family members are able to experience and express the full range of human emotions in an appropriate and nonharmful way; Affective Involvement (seven items), which refers to the family's ability to be involved with each other in a way that is comfortable for its members; and Behavior Control (nine items), which refers to the ability of family members to set and abide by rules and standards of behavior. Participants are asked to rate each item on a four-option scale and, following the suggestion for its use with young people (Bihun et al., 2002), the anchors were reworded from the original strongly agree/disagree into the more obvious always/never, with higher scores indicating poorer family functioning. The FAD has demonstrated good psychometric properties in adolescent and adult populations (Bihun et al., 2002; Staccini et al., 2015), as well as the ability to discriminate help-seeking from nonhelp-seeking families (Mansfield et al., 2015). Using clinicians' ratings as criteria, Miller et al. (1985) established the following cut-off points to discriminate between healthy and unhealthy functioning on each subscale: Problem Solving (2.2), Communication (2.2), Roles (2.3), Affective Responsiveness (2.2), Affective Involvement (2.1), Behavioral Control (1.9), and General Functioning (2.0). Internal consistencies in our sample were similar or higher than those previously reported (see for a review Staccini et al., 2015), with alphas of 0.96 for the full scale and a mean of 0.77 for the subscales (Problem Solving: 0.65, Communication: 0.78, Roles: 0.73, Affective Responsiveness: 0.79, Affective Involvement: 0.77, Behavioral Control: 0.74, and General Functioning: 0.91). A confirmatory factor analysis showed an empirical factor structure compatible with the six-factor structure theorized by the authors of the FAD (χ^2/df = 3.34; RMSEA = 0.061; SRMR = 0.076).

Depressive symptoms

The Beck Depression Inventory (BDI; Beck et al., 1961) was used to measure depressive symptoms. It consists of 21 three-option items and ranges from 0 to 63. The instrument has demonstrated an alpha coefficient of 0.81, strong convergent and discriminant validity, and adequate factorial validity (Beck et al., 1988). We used the Spanish version in this study, which has also demonstrated good reliability and validity in adolescent and adult populations (Rodríguez-Naranjo & Caño, 2010; Sanz & Vázquez, 1998). It showed an internal consistency of 0.89 in our sample.

Socioeconomic status

A six-item scale was created based on the education level and occupation of the parents/guardians and on housing conditions to estimate the three components of SES: education, occupation, and family income (Saegert et al., 2006). Participants reported (a) two questions about the education level attained by each parent/guardian with ranges from 1 (*can hardly read or write*) to 5 (*university degree*); (b) two questions about the occupation of each parent/guardian, which were recorded from 1 (*unemployed for more than 1 year*) to 4 (*qualified professionals*); and (c) two questions addressing the number of rooms and people living in the household, from which a ratio was calculated such that higher scores represented better housing conditions. The people per room ratio is considered a proxy measure of income and SES (Grest et al., 2021; Myers et al., 1996). An average value from both parents'/guardians' scores was calculated for education level and occupation items. Finally, a single SES score was calculated by taking the mean value of the standardized parents'/guardians' education level, occupation, and housing conditions scores. An internal consistency analysis performed on five items (education and occupation of each parent/guardian and people per room measure) yielded a value of 0.71.

Data analysis

Differences in depressive symptoms and FAD dimensions as a function of the sociodemographic variables (sex, age, and SES) were studied performing MANOVA and ANOVA analyses. For this, three categories were created for age (12–13, 14–15, and 16–17 years) and SES (mean ± 1SD were used as cutoff values to create low, medium, and high SES categories). In the multivariate analysis, when Pillai's trace revealed significant effects, separate univariate analyses with Scheffe's post hoc comparisons were computed for each dependent variable. The role of the FAD in the prediction of BDI scores was studied through regression analyses. In these analyses, the demographic variables were introduced first, followed by the FAD scores in the second step, and the two-way interaction effects between the demographics and the entered FAD scores in the third step. Two-way and three-way interaction effects among the demographic variables were also explored, although, as no significant effect was found, these results are not reported. Additionally, unique contributions were studied and Pratt's relative importance measures were calculated for the different FAD dimensions (Pratt, 1987; Thomas et al., 2018). Since a characteristic of Pratt's measure is that their aggregation across the different predictors equals the overall explained variance (R^2), it allows distributing R^2 across the predictors avoiding any overlap among them. As a rule of thumb, predictors with Pratt's measures greater than the inverse of the number of predictors included in the regression equation are considered important (Wu et al., 2014). Moderation effects were studied through the cross-product interactions following Aiken and West's (1991) suggestions, and significant effects were more closely examined by plotting the regression equation of the BDI scores against the corresponding FAD dimension for specific values of the involved sociodemographic variable (0 and 1 for sex and mean ± 1*SD* for

age and SES). To plot these slope lines, two values of the FAD dimension were substituted into the equation (cut-off score $\pm$ 1SD was chosen for low and high FAD scores). Mediation analyses criteria and indirect effects were tested using conditional process analysis with 10,000-iteration bootstrapping through the Process v3.5 macro developed by Hayes (2018). The confirmatory factor analysis for the FAD was performed using IBM SPSS Amos v28.0 software. All other analyses were carried out with IBM SPSS Statistics v25.0.

RESULTS

Table 2 presents the mean values, standard deviations, and correlations among the study variables. First, mean differences in BDI and FAD scores were explored as a function of the sociodemographic variables. The ANOVA performed on the BDI scores showed a significant effect of SES [F (2, 618) = 3.61, $p < 0.05$, $\eta_p^2 = 0.01$], revealing an inverse relationship between SES and BDI scores, with Scheffe's comparisons showing significant differences between the medium and high SES categories on the BDI ($p < 0.05$) and approaching significance between the low and high SES categories ($p = 0.08$). The MANOVA performed on the six FAD dimensions revealed a significant effect of age [$V = 0.05$, F (12, 1228) = 2.78, $p < 0.01$, $\eta_p^2 = 0.03$] and SES [$V = 0.05$, F (12, 1228) = 2.57, $p < 0.01$, $\eta_p^2 = 0.03$]. Univariate follow-up tests by age showed differences in Roles [F (2, 618) = 4.96, $p < 0.01$, $\eta_p^2 = 0.02$], Affective Responsiveness [F (2, 618) = 5.01, $p < 0.01$, $\eta_p^2 = 0.02$], Affective Involvement [F (2, 618) = 4.57, $p < 0.05$, $\eta_p^2 = 0.02$], and Behavioral Control [F (2, 618) = 3.79, $p < 0.05$, $\eta_p^2 = 0.01$], with Scheffe's comparisons showing lower scores for the participants aged 12–13 years than for those aged 14–15 and 16–17 years (all ps < 0.05), between whom no differences were found. Univariate follow-up tests by SES showed differences in Communication [F (2, 618) = 4.89, $p < 0.01$, $\eta_p^2 = 0.02$], Roles [F (2, 618) = 5.25, $p < 0.01$, $\eta_p^2 = 0.02$], and Behavioral Control [F (2, 618) = 5.70, $p < 0.01$, $\eta_p^2 = 0.02$], revealing an inverse relationship between SES and FAD subscale scores. Specifically, Scheffe's comparisons showed that the low SES group scored significantly higher than the high SES group in Communication, Roles, and Behavioral Control and higher than the medium SES group in Communication and Behavioral Control (all ps < 0.05), while no differences were found between the medium and high SES groups. All the effect sizes previously described ($\eta_p^2 = 0.03$ or smaller) can be considered small.

To examine the role of FAD in the prediction of BDI scores, two hierarchical regression analyses were conducted. For both analyses, sex, age, and SES were introduced in the first step, with SES significantly predicting BDI scores ($\beta = -0.12$, $p < 0.001$). For the first analysis, in the second step the BDI scores were regressed on the FAD composite scores, which exhibited a robust predictive effect ($\beta = 0.36$, $p < 0.001$). In the second analysis, as all the FAD dimensions

TABLE 2 Descriptive statistics and bivariate correlations between the variables in the study.

Scale	2	3	4	5	6	7	8	9	M	SD
1. BDI	−0.11	0.36*	0.25*	0.25*	0.30*	0.34*	0.32*	0.30*	8.24	7.97
2. SES		−0.07	−0.07	−0.08	−0.10	−0.02	0.00	−0.08	0.57	0.81
3. Total FAD			0.74*	0.76*	0.75*	0.80*	0.74*	0.69*	2.11	0.49
4. Problem Solving				0.71*	0.67*	0.69*	0.44*	0.60*	2.22	0.58
5. Communication					0.62*	0.69*	0.47*	0.56*	2.23	0.58
6. Roles						0.65*	0.59*	0.64*	2.16	0.51
7. Affective Responsiveness							0.58*	0.57*	2.07	0.71
8. Affective Involvement								0.56*	1.88	0.63
9. Behavioral Control									2.11	0.59

*$p < 0.0014$ (significance level $p < 0.05$ adjusted at $p < 0.0014$ following Bonferroni correction for multiple comparisons).

TABLE 3   Unique contributions in the prediction of BDI scores.

Variable	β	Cross product $\beta*r*$	Pratt's measure $d = (\beta*r)/R^2$
Sex	0.038	0.001	0.004
Age	−0.034	−0.001	−0.005
SES	−0.096*	0.011	0.069
Problem Solving	−0.025	−0.006	−0.039
Communication	−0.049	−0.012	−0.076
Roles	0.052	0.016	0.098
Affective Responsiveness	0.213***	0.072	0.453
Affective Involvement	0.159**	0.051	0.322
Behavioral Control	0.093+	0.028	0.174
		$\sum\beta*r = R^2 = 0.16$	$\sum d = 1$

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$; +$p < 0.10$.

significantly predicted BDI scores when tested separately, and in order to control for the shared explained variance and identifying unique contributions, BDI scores were regressed on the six FAD dimensions entered together in the second step. This resulted in only Affective Responsiveness and Affective Involvement showing significant effects, with Behavioral Control approaching significance, revealing the unique effects of the FAD dimensions. In addition to these significance tests, Pratt's measures were calculated to identify the amount of variance accounted for by each predictor. The results are presented in Table 3, showing that the nonoverlapping contributions to the variance accounted for by Affective Responsiveness, Affective Involvement, and Behavioral Control were above the criterion recommended by Wu et al. (2014) for considering a predictor important (0.11 for nine predictors). Indeed, just these three FAD dimensions accounted for up to 95% of the total BDI variance explained by the three demographic variables and the six FAD dimensions. Lastly, the moderation of these effects by the demographic variables was explored, revealing that age qualified the relationship between Affective Responsiveness and BDI ($\beta = 0.13$, $p < 0.05$). This moderation effect is plotted in Figure 1, which shows a steeper slope—stronger association with BDI—for younger adolescents compared with older adolescents, confirmed by simple slope tests, which revealed a significant effect only for younger adolescents [t (611) = 2.87, $p < 0.01$].

Finally, we tested whether the obtained effect of SES on BDI scores could be mediated by the different FAD dimensions. For this purpose, each FAD dimension was regressed on the SES scores, revealing that Problem Solving, Communication, Roles, and Behavioral Control were significantly predicted by SES. Additionally, when the two-way interactions of SES with sex and age were introduced, Affective Responsiveness was also predicted by both SES and its interaction with sex. Thus, using the Process macro, we tested two complementary mediational models. In the first, Problem Solving, Communication, Roles, and Behavioral Control were tested as potential parallel mediators of the relationship between SES and BDI scores (Process, model 4). In the second, we tested a conditional mediational model, in which Problem Solving, Communication, Roles, Behavioral Control, and Affective Responsiveness were tested as potential parallel mediators, with the relationships between SES and FAD dimensions (path a) moderated by sex (Process, model 7). The results are shown in Table 4. The first model revealed that Behavioral Control and Roles mediated in parallel the relationship between SES and BDI. In the second model, only Affective Responsiveness mediated the relationship between SES and BDI, revealing a mediating effect of Affective Responsiveness conditional on sex. A closer inspection of this model showed a significant indirect effect through Affective Responsiveness only for boys (indirect effect = −0.41; 95%; BBCI: −0.82, −0.13).
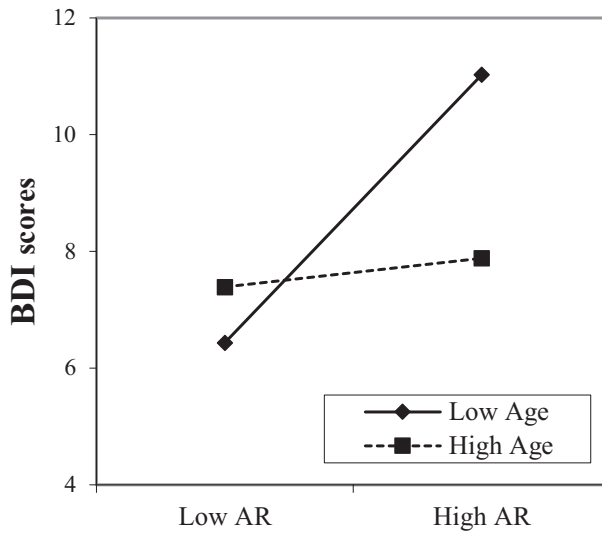
FIGURE 1 Moderation by age of the relationship between Affective Responsiveness and BDI. Abbreviation: AR, Affective Responsiveness.

TABLE 4 Parallel indirect effects (ab) of SES on BDI through FAD dimensions.

Mediators	Unconditional indirect effects		Indirect effects conditional on sex	
	ab	95% BCCI	ab	95% BCCI
Problem Solving	−0.01	−0.14, 0.08	−0.07	−0.38, 0.05
Communication	−0.04	−0.20, 0.03	−0.04	−0.34, 0.05
Roles	−0.18*	−0.41, −0.06	0.11	−0.02, 0.40
Affective Responsiveness			0.60*	0.21, 1.17
Behavioral Control	−0.15*	−0.41, −0.02	0.11	−0.08, 0.45

Abbreviation: BCCI, bias corrected confidence interval.

*$p < 0.05$.

DISCUSSION

The present study offers a picture of the specific dimensions of the MMFF responsible for the relationship between family functioning and adolescent depressive symptoms. This study also reveals the mediating role of these family functioning dimensions in the relationship between SES and depressive symptoms. First, in agreement with previous studies, all the MMFF dimensions predicted adolescent depressive symptoms when tested separately, but when the overlap among the dimensions was controlled, only Affective Responsiveness, Affective Involvement, and Behavioral Control remained as genuine predictors of depressive symptoms, accounting for up to 95% of the total explained variance. In addition to its main effect, Affective Responsiveness was also qualified by age, revealing that the younger the adolescents, the greater the association between Affective Responsiveness and depressive symptoms. The association between each of the two affective dimensions and depressive symptoms is in agreement with our first hypothesis, while the result obtained for Behavioral Control—which approached significance—is of particular interest. We also found that family SES predicted adolescent depressive symptoms and, more importantly, family functioning mediated this relationship, according to our second hypothesis. Specifically, the relationship between SES and depressive symptoms was mediated in parallel by

Roles and Behavioral Control, and also by Affective Responsiveness when the mediation was conditional on sex, revealing that Affective Responsiveness mediates the relationship between SES and depressive symptoms only in boys.

Our results regarding Affective Responsiveness and Affective Involvement extend previous findings and show that the appropriate experience and expression of emotions among family members as well as an adequate involvement in one another's affairs are bonding variables that explain adolescent depressive symptoms. Completing the picture of family variables involved in depressive symptoms in adolescence, our results reveal that family Behavioral Control also contributes to depressive symptoms. Interestingly, Gorostiaga et al. (2019) report a similar association between parental behavioral control and internalizing symptoms in adolescents. These results can be interpreted in line with other findings that show a relationship between parental monitoring and depressive symptoms in this age group (Yap et al., 2014). Poor behavioral control implies a lack of family rules with clear behavior-consequence relationships, which would undermine the development of self-regulation and lead adolescents to learned helplessness (Evans et al., 2005). Therefore, we posit that unambiguous family rules help adolescents anticipate what is expected of them, providing predictability to family interactions and promoting self-regulation. Taken together, our results can be interpreted in terms of a reciprocal influence between affect and behavioral control in the family, generating a virtuous circle between adherence to family rules and receiving affective support, which is in line with the affectionless control hypothesis to explain depression (Kawai et al., 2017; Parker, 1983; Stein et al., 2000). However, future studies specifically designed to test this idea are needed.

Our results also allow us to delve into the mechanisms underlying the relationship between SES and adolescent depressive symptoms. The finding that Behavioral Control and Roles were parallel mediators of the relationship between SES and depressive symptoms supports the Family Stress Model's assumption that SES affects depressive symptoms through family functioning (Conger et al., 2010) and specifically suggests that establishing and adhering to family rules and roles buffer the impact of low SES on adolescent well-being. Furthermore, our finding that Affective Responsiveness and Affective Involvement were the only FAD dimensions not predicted by SES suggests that low SES would undermine adolescents' psychological well-being through behavioral, not affective, management mechanisms, and aligns with the beneficial effects of family routines found for adolescents in low-SES conditions (Budescu & Taylor, 2013) and the lack of association between SES and family attachment found by Botha et al. (2018). However, when we performed a mediation analysis conditional on sex, the results revealed a mediating effect of Affective Responsiveness, which suggests an affective mechanism by which SES would lead to depressive symptoms only in boys. Although this result might seem counter-intuitive at first glance, given the greater affective orientation of girls compared to boys (Christov-Moore et al., 2014), a possible explanation emerges considering the existence of sex differences in emotional expression under stressful conditions (Vogel et al., 2003). Accordingly, under low SES conditions, boys would be more reluctant to show affect than girls, making boys more likely to be trapped in a family feedback loop of low affective expression that would contribute to their depressive symptoms.

This study has some limitations. First, caution should be taken in generalizing these findings to adolescents with clinical or subclinical depression, since our aim was to study the relationship of SES and family functioning with depressive symptoms in nonclinical adolescents. Future studies are also needed in adolescents from other countries and cultures before conclusions can be drawn about the generalizability of these findings. Second, the use of the term 'effect' in this study must be understood as statistical effect and is qualified by the cross-sectional design. The analyses employed allowed us to establish predictive relationships between SES, family functioning, and depressive symptoms, but causal links cannot be established. Third, we used adolescent self-reports to assess SES and family functioning. Although the FAD self-report measure has proved useful for predicting depressive symptoms in this age group (Jager et al., 2012; Millikan et al., 2002), which is the focus of this study, it should not be taken as an objective measure

of family functioning. In addition to measuring family functioning through FAD self-reports, future studies should replicate these results including FAD measures collected from adolescents' families. In the same vein, studies including a more objective measure of SES are needed. Finally, although the Spanish FAD version used in the study exhibits good psychometric properties, the fact that it is not a properly validated scale should be considered a major limitation of the study. Despite these limitations, this study exhibits several strengths. It included a reasonably large sample of adolescents from diverse socioeconomic backgrounds, which contributes to the generalizability of the findings. We also used rigorous methodology, which allowed us to control for overlap among family functioning variables, to quantify their unique contributions, and to study their role in parallel and conditional mediation. Finally, the value of the predictive relationships found between SES, family functioning, and adolescent depressive symptoms, although not necessarily implying causation, should not be underestimated.

In conclusion, by using the MMFF as a comprehensive framework of family functioning and considering the communality among the dimensions of the model, our study is unique in identifying the family functioning characteristics involved in the relationship between family functioning and adolescent depressive symptoms. Our findings show the importance of affective variables, as expected, along with the importance of establishing clear-cut rules within the family to avoid depressive symptoms. Moreover, our study points to these characteristics of family functioning as mechanisms by which SES leads to adolescent depressive symptoms, shedding light on the factors that psychosocial programs should focus on to help families of vulnerable adolescents, especially those with low SES. Specifically, our results emphasize the importance of promoting adequate emotional expression and involvement among family members and suggest that compliance with rules and roles should be encouraged in low SES families to prevent adolescent depressive symptoms.

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