

# Intrafamily relations and resilience as protectors against depressive symptoms in Mexican high school students

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## ABSTRACT

**Introduction.** Between 27.3% and 31.5% of adolescents in Mexico may present symptoms of depression. This issue has been studied from both family and resilience perspectives, although few studies have examined their interaction. **Objective.** In this study, we evaluated the influence of intrafamily relations and resilience on depressive symptoms in Mexican high school students, for which an analysis by sex was conducted. **Method.** For this correlation cross-sectional study, we evaluated 511 adolescents using the Revised Depression Scale of the Center for Epidemiological Studies, the short version of the Intrafamily Relation Evaluation Scale, and the Revised Resilience Questionnaire for Children and Adolescents. We performed multiple linear regression analyzes by sex using the stepwise method. **Results.** For young men, the predictor variables were expression, difficulties, and problem-solving ( $R^2_a = .34$ ), whereas for young women the variables were union and support, difficulties, and empathy ( $R^2_a = .25$ ). **Discussion and conclusion.** This study indicates specific aspects of intrafamily relations and resilience to develop sex-sensitive interventions to prevent depression in high school students.

**Keywords:** Depressive symptoms, intrafamily relations, resilience, adolescents, sex.

## RESUMEN

**Introducción.** Entre el 27.3 y el 31.5% de los adolescentes en México podrían presentar síntomas de depresión. Esta problemática se ha abordado desde una perspectiva de la familia y de la resiliencia, aunque pocos estudios incorporan su interacción. **Objetivo.** En este estudio evaluamos la influencia de las relaciones intrafamiliares y la resiliencia sobre la sintomatología depresiva en estudiantes mexicanos de bachillerato, para lo cual se realizaron análisis por sexo. **Método.** Para este estudio transversal correlacional, evaluamos a 511 adolescentes usando la Escala de Depresión Revisada del Centro de Estudios Epidemiológicos, la versión breve de la Escala de Relaciones Intrafamiliares y el Cuestionario de Resiliencia Revisado para Niños y Adolescentes. Realizamos análisis de regresión lineal múltiple por sexos mediante el método de pasos sucesivos. **Resultados.** Para los hombres, las variables predictoras fueron expresión, dificultades y resolución de problemas ( $R^2_a = .34$ ), mientras que para las mujeres fueron unión y apoyo, dificultades, y empatía ( $R^2_a = .25$ ). **Discusión y conclusión.** Este estudio indica aspectos específicos de las relaciones intrafamiliares y la resiliencia para desarrollar intervenciones sensibles al sexo para prevenir la depresión en estudiantes de bachillerato.

**Palabras clave:** Sintomatología depresiva, relaciones intrafamiliares, resiliencia, adolescentes, sexo.

## INTRODUCTION

Depression is a disorder characterized by a sad, empty, or irritable mood that persists for at least two weeks. It is accompanied by somatic and cognitive changes that affect the capacity to function of those who suffer from it (American Psychiatric Association, 2013). According to Heinze (2014), 800 million people worldwide will have a depressive episode in their lifetime. For Mexico, the adult population's risk of suffering from depressive symptoms is between 15% and 18% (Heinze, 2014). In Mexico's adolescent population, the prevalence of a major depressive episode is between 8.2% and 12.4%, whereas symptoms at the subclinical threshold are between 27.3% and 31.5%. In addition, those who suffer from a depressive disorder in adolescence are more likely to have other mental health problems in adulthood (González-Forteza, Hermosillo de la Torre, Vacio-Muro, Peralta, & Wagner, 2015).

There is evidence of a higher prevalence of depressive symptoms in women, both in the general population and among adolescents (Fosco & Lydon-Staley, 2019; González-Forteza et al., 2019; Rivera-Rivera, Rivera-Hernández, Pérez-Amezcuca, Leyva-López, & de Castro, 2015; Ruiz Cárdenas, Jiménez Flores, García Méndez, Flores Herrera, & Trejo Márquez, 2020). Moreover, researchers have recognized that socially defined gender roles influence how adolescents express or hide their emotional lives, including depressive symptoms (González-Forteza et al., 2015).

The family is a central institution in society that serves as both a primary support network and a socializing agent (Gracia Fuster & Musitu Ochoa, 2000). This emphasis on family is a major reason why adolescent development is linked to intrafamily relations, defined as the connections between family members in terms of union, expression of emotions, rules of coexistence, and adaptation to change (Rivera Heredia & Andrade Palos, 2010). In the literature, depressive symptoms have been associated with different family factors (Palacios Cruz, 2015) such as poor quality of communication (González-Forteza et al., 2019; Rivera-Rivera et al., 2015), hostility (Flores-Ramos, 2015), perception of family conflicts (Fosco & Lydon-Staley, 2019; Perales-Blum & Loreda, 2015; Ruiz Cárdenas et al., 2020). Furthermore, family cohesion and support (Fosco & Lydon-Staley, 2019; Anyan & Hjemdal, 2018; Morales Rodríguez & Rivera Alcántar, 2012), communication (Ioffe, Pittman, Kochanova, & Pabis, 2020), acceptance (Ruiz Cárdenas et al., 2020), expression of emotions and feelings (Betancourt Ocampo & Andrade Palos, 2012; Withers, McWey, & Lucier-Greer, 2016), and adequate general psychosocial functioning in the family (Pereira, Matos, Pinheiro, & Costa, 2016) have been found to have protective effects on depressive symptoms in adolescents. Thus, intrafamily relations are associated with adoles-

cents' mental health (Chávez-Flores, Hidalgo-Rasmussen, & Muñoz Navarro, 2018).

Resilience is understood as a process of positive adaptation to adverse situations in which different emotional, cognitive, and sociocultural factors interact (Luthar, 2015). The following are recognized as dimensions of resilience: internal protective factors, external protective factors, empathy, introspection, and problem-solving (Bravo-Andrade, González-Betanzos, Ruvalcaba-Romero, López-Peñaloza, & Orozco-Solís, 2019; González-Arratia, 2016). Researchers have found an inverse relationship between depressive symptoms and general resilience (Anyan & Hjemdal, 2016; Moksnes & Lazarewicz, 2019; Pereira et al., 2016; Restrepo-Restrepo, Vinaccia Alpi, & Quiceno, 2011), particularly in certain dimensions such as empathy (Bennik, Jeronimus, & aan het Rot, 2018; Gambin & Sharp, 2018) and problem-solving ability (Barcelata Eguiarte, Luna Martínez, Gómez- Maqueo, & Durán Patiño, 2016; Moksnes & Lazarewicz, 2019). In contrast, resilience has been positively associated with mental health (Asensio-Martínez, Magallón-Botaya, & García-Campayo, 2017).

In the literature on depression, few studies have incorporated together variables such as family and resilience when evaluating depressive symptoms in adolescents. Among the available research is a study developed in Turkey that establishes that adolescents who have good relationships with their parents are more resilient to emotional problems (Arslan, 2016). It has also been reported that, for Colombian students, family satisfaction, emotional regulation, and quality of life are elements of resilience in the face of depression (Restrepo-Restrepo et al., 2011). The interaction between positive parenting practices and resilience has also been shown to protect Mexican adolescents from depressive symptoms (Ruvalcaba-Romero, Gallegos-Guajardo, Caballo, & Villegas-Guinea, 2016).

Although there is an abundance of literature regarding risk factors for depressive symptoms in adolescents, few studies address the issue from a protective factor perspective. Additionally, there is a need for research that jointly addresses intrafamily relations and resilience regarding this problem in adolescents in Mexico. Therefore, the aim of the present study was to evaluate the influence of intrafamily relations and resilience on depressive symptoms in Mexican high school students.

## METHOD

### Design of the study

We conducted a cross-sectional correlational study that included students from a public high school in Jalisco, Mexico. We used convenience sampling as a non-probability sampling technique.

## Subject

All of the first-semester students from two high school shifts were invited to participate.

## Measurements

To assess depressive symptoms, we used the total score from the revised version of the Center for Epidemiological Studies Depression Scale (CES-D-R; González-Forsteza, Jiménez-Tapia, Ramos-Lira, & Wagner, 2008) in Mexican adolescents. It consists of 35 items that evaluate depressive symptoms for at least two weeks using a Likert scale. Response options range from “0 days” = 0 to “8 to 14 days” = 4 ( $\alpha = .93$ ).

We applied the short version of the Intrafamily Relation Evaluation Scale (ERI; Rivera Heredia & Andrade Palos, 2010), which consists of 12 items with Likert-type response options ranging from “Strongly Disagree” = 1 to “Strongly Agree” = 5. The scale includes the following dimensions, each with four items: union and support ( $\alpha = .81$ ), expression ( $\alpha = .88$ ), and difficulties ( $\alpha = .78$ ).

Finally, resilience was measured through the Resilience Questionnaire for Children and Adolescents (González-Arratia, 2016) in its revised version (Bravo-Andrade et al., 2019) with four dimensions: introspection, with five items ( $\alpha = .81$ ); empathy, with five questions ( $\alpha = .80$ ); problem solving, with five items ( $\alpha = .78$ ), and external protective factors, with three items ( $\alpha = .76$ ).

## Procedures

Data were collected online using digitized versions of the questionnaires using *Google forms*. Data collection was carried out at the school’s computer labs during class hours. Each first-semester group attended a different session; sessions were coordinated by the researcher. Partici-

pants answered the questionnaires between August 31 and September 4, 2015.

## Statistical analyses

We obtained descriptive statistics, reliability, and normality indices using IBM SPSS V25. We defined a normal distribution by taking the parameters asymmetry  $< 2$  and kurtosis  $< 7$  for samples larger than 300 cases (Abad, Olea Díaz, Ponsoda Gil, & García García, 2011; Kim, 2013). We compared means by sex using the Student’s t-test for independent samples and Pearson’s correlations. Multiple linear regression analyses by sex were conducted using the stepwise method with depressive symptoms as a dependent variable and the dimensions of intrafamily relations and resilience as predictors. The level of significance was set at  $p < .05$ . To indicate the intensity and direction of the relationship between the independent and dependent variables, we used the standardized beta coefficients. G\*Power 3 was used to calculate Cohen’s  $f^2$  for effect size.

Regarding the regression assumptions, we used the stepwise method with scatterplot analysis to confirm the linearity between depressive symptoms and the independent variables. We verified homoscedasticity through Levene’s test and the absence of association in residual plots. Non-autocorrelation was verified with Durbin-Watson (DW) test values between 1.5 and 2.5, which indicated independence between residuals for both young men (DW = 1.73) and young women (DW = 2.04). On the other hand, we found collinearity between the variables of introspection and external protective factors, both belonging to resilience. However, it should be noted that these variables were excluded automatically from the models in the stepwise regression procedure.

For the remaining variables, both the Variance Inflation Factors Indicator (VFI) and the tolerance indicator were close to 1, while the condition indices remained below 30, indicating there is no collinearity between these variables.

Table 1  
Descriptive statistics of depressive symptoms, dimensions of intrafamily relations, and dimensions of resilience

	Mean	SD	Min.	Max.	Skewness	Kurtosis
Depressive symptoms ( $\alpha = .93$ )	26.39	20.07	0	140	.10	3.55
Intrafamily relations						
Union and support ( $\alpha = .85$ )	16.37	3	4	20	-.81	.67
Expression ( $\alpha = .88$ )	16.13	3.25	4	20	-.95	1.17
Difficulties ( $\alpha = .63$ )	9.25	3.34	4	20	.27	-.24
Resilience						
Introspection ( $\alpha = .81$ )	21.24	3.21	5	25	-.99	.98
Empathy ( $\alpha = .80$ )	21.56	2.99	5	25	-1.07	1.28
Problem-solving ( $\alpha = .78$ )	21.09	2.83	5	25	-1.00	1.65
EPF ( $\alpha = .76$ )	13.32	2.11	3	15	-1.54	2.41

Note.  $N = 511$ . EPF = External protective factors.

Table 2  
Comparison of means by sex of depressive symptoms, dimensions of intrafamily relations, and dimensions of resilience (N = 511)

Variables	Men (n = 227)		Women (n = 284)		t	p
	Mean	SD	Mean	SD		
Depressive symptoms	22.70	18.55	29.35	20.77	-3.818	< .001
Intrafamily relations						
Union and support	16.45	2.96	16.30	3.03	.591	.554
Expression	16.04	3.17	16.21	3.32	-.607	.542
Difficulties	9.25	3.27	9.25	3.40	.016	.988
Resilience						
Introspection	21.63	3.02	20.94	3.33	2.435	.014
Empathy	21.69	2.82	21.46	3.11	.866	.381
Problem-solving	21.35	2.87	20.88	2.79	1.891	.060
External protective factors	13.17	2.17	13.43	2.05	-1.373	.173

## Ethical considerations

In a parent meeting, we presented the study and obtained informed consent signatures from the parents or guardians of each participant. Furthermore, we included informed assent for participants in *Google forms*. The voluntary nature of participation was made explicit, and the confidentiality of the responses was asserted. The project was approved by the school's ethics committee with the reference number CDPTN/282/15.

## RESULTS

Of the original 525 administered questionnaires, 14 were eliminated for presenting inconsistent answers or missing data (the valid response rate was 97.3%). The final sample consisted of 511 high school students between 14 and 18 years old with an average age of 15 years ( $SD = .54$ ), including 227 (44.4%) young men and 284 (55.6%) young women.

Table 1 presents the descriptive statistics of the study variables. Depressive symptoms had an excellent reliability level, while problem-solving and external protective factors were acceptable. The reliability levels of difficulties were questionable. The rest of the variables showed good reliability. Union and support showed the highest mean among the dimensions of intrafamily relations. Concerning resilience dimensions, empathy had the highest mean.

We found statistically significant differences between sexes for the variable of interest and introspection (Table 2). Therefore, we performed the following analyses separately according to sex.

Table 3 shows the matrix of bivariate correlations by sex. For both groups, all associations between the three constructs were statistically significant at a level of  $p < .01$ , except between problem-solving and difficulties, with a significance level of  $p < .05$  for young women. Regarding depressive symptoms, the direction of most associations was negative, except for difficulties. For young men, depressive symptoms were highly correlated with expression and had

Table 3  
Correlation matrix between depressive symptoms, dimensions of intrafamily relations, and dimensions of resilience, by sex

	1	2	3	4	5	6	7	8
1. Depressive symptoms	-							
2. Union and support <sup>a</sup>	-.452**	-						
3. Expression <sup>a</sup>	-.403**	.821**	-					
4. Difficulties <sup>a</sup>	.372**	-.446**	-.450**	-				
5. Introspection <sup>b</sup>	-.224**	.380**	.325**	-.155**	-			
6. Empathy <sup>b</sup>	-.381**	.579**	.601**	-.262**	.545**	-		
7. Problem-solving <sup>b</sup>	-.296**	.372**	.375**	-.136*	.655**	.556**	-	
8. EPF <sup>b</sup>	-.417**	.491**	.486**	-.281**	.405**	.477**	.472**	-

Note. The results of the men sample (n = 227) are presented above the diagonal. The results of women sample (n = 284) are presented below the diagonal. EPF = External protective factors.

<sup>a</sup> Intrafamily relations dimension; <sup>b</sup> Resilience dimension.

\* $p < .05$ ; \*\* $p < .01$ .

**Table 4**  
*Multiple linear regression analysis with depressive symptoms as a dependent variable in the group of men*

Variables	R <sup>2</sup> <sub>a</sub>	F(gl)	β	t	f <sup>2</sup>
Model 1	.279	88.656 (1, 225)**			.39
Expression <sup>a</sup>			-.532	-9.416**	
Model 2	.317	53.406 (2, 224)**			.47
Expression <sup>a</sup>			-.403	-6.173**	
Difficulties <sup>a</sup>			.238	3.648**	
Model 3	.347	41.002 (3, 223)**			.55
Expression <sup>a</sup>			-.329	-4.868**	
Difficulties <sup>a</sup>			.222	3.467**	
Problem-solving <sup>b</sup>			-.199	-3.360**	

Note. N = 227. R<sup>2</sup><sub>a</sub> = R square adjusted. f<sup>2</sup> = effect size.

<sup>a</sup>Intrafamily relations dimension; <sup>b</sup>Resilience dimension.

\*\* p < .001.

medium associations with the other dimensions such as difficulties, union and support, and empathy. For young women, the highest correlations were medium, established with union and support, external protective factors, expression, empathy, and difficulties.

Tables 4 and 5 present the models of the multiple linear regressions for young men and young women. In both groups, two factors for intrafamily relations and one for resilience stood out. For young men, the dimensions expression, difficulties, and problem-solving predicted a 34.7% variance in depressive symptomatology, whereas in young women, the dimensions union and support, difficulties, and empathy explained 25.4% of the variance. We observed large effect sizes both for young men and young women.

## DISCUSSION AND CONCLUSION

The present study aimed to evaluate the influence of intrafamily relations and resilience on depressive symptoms in Mexican high school students by conducting linear regression analysis by sex. The increase in the proportion of explained variance when integrating intrafamily relations and resilience accounts for the conjoint value of these variables for understanding depressive symptoms in adolescents. This results are consistent with the findings of Restrepo-Restrepo et al. (2011), which state that family satisfaction joined with greater emotional regulation and quality of life are resilient elements in the face of depression in this age group. Likewise, Ruvalcaba-Romero et al. (2016) found that positive parental practices and their interaction with adolescents' resilience act as protective factors against depressive symptoms. Thus, the quality of the relationships

**Table 5**  
*Multiple linear regression analysis with depressive symptoms as a dependent variable in the group of women*

Variables	R <sup>2</sup> <sub>a</sub>	F(gl)	β	t	f <sup>2</sup>
Model 1	.202	72.560(1, 282)**			.25
Union and support <sup>a</sup>			-.452	-16.512**	
Model 2	.235	44.544(2, 281)**			.31
Union and support <sup>a</sup>			-.358	-14.312**	
Difficulties <sup>a</sup>			.212	-8.344**	
Model 3	.254	33.130(3, 280)**			.35
Union and support <sup>a</sup>			-.255	-9.415**	
Difficulties <sup>a</sup>			.211	-7.632**	
Empathy <sup>b</sup>			-.179	-4.762**	

Note. N = 284. R<sup>2</sup><sub>a</sub> = R square adjusted. f<sup>2</sup> = effect size.

<sup>a</sup>Intrafamily relations dimension; <sup>b</sup>Resilience dimension.

\*\* p < .001.



between parents and adolescents influences the resilience of teenagers, which in turn affects the presence or absence of emotional and behavioral problems (Arslan, 2016).

In addition, the appearance of different dimensions of both constructs in the models highlights the importance of performing differentiated analyzes since different factors of intrafamily relations and resilience operated as protectors of depressive symptoms depending on sex. This contrast in the results for young women compared to young men highlights differences in expectations based on gender roles and how adolescents perceive their resources and abilities (Moksnes & Lazarewicz, 2019).

Our model found that, for young men, the variables that predict depressive symptoms are expression, difficulties, and problem solving. The dimension that showed the greatest predictive weight, in a negative direction, was expression, and this is consistent with the fact that poor quality of family communication is associated with depressed affect (González-Forteza et al., 2019), and inversely, family communication is protective against depression (Ioffe et al., 2020).

It has been reported that in adolescent males, low communication between parents and children almost doubles the probability that the child will present depressive symptoms (Rivera-Rivera et al., 2015). Conversely, those who have a free space for the expression of emotions and feelings at home, both with their mother and father, seem to have fewer depressive symptoms (Betancourt Ocampo & Andrade Palos, 2012; Withers et al., 2016) along with an increase in their psychological well-being (Chávez-Flores et al., 2018). This idea contrasts with conservative gender roles, in which communication is privileged among young women and autonomy in young men is favored suggesting that a reevaluation of traditional notions would enrich the relationships between parents and their male children.

An additional variable with a positive coefficient was difficulties. This finding is consistent with the report by González-Forteza et al. (2019) that showed that poor family relationships increase the risk of depression in adolescent males. Likewise, boys' perception of conflict between parents predicts depression (Ruiz Cárdenas et al., 2020), which implies that adolescents do not need to experience difficulties directly; observing problems between parents has a negative impact.

The dimension that explains depressive symptoms in young men to a lesser extent is problem-solving, which has a negative coefficient. This result suggests there is a relationship between the way adolescents perceive their ability to solve everyday difficulties and emotional stability. In this regard, Barcelata Eguiarte et al. (2016) found an inverse relationship exists between problem-solving ability and depression. Additionally, young men who have confidence in their abilities and their judgment with realistic expectations

have been reported to have fewer indicators of depressive symptoms (Moksnes & Lazarewicz, 2019).

Regarding young women, the predictors of depressive symptoms found in this study were union and support, difficulties, and empathy. Union and support had a negative relationship with depressive symptoms and presented the highest predictive weight in the model. Consistent with this finding, Fosco & Lydon-Staley (2019) argued that family cohesion is negatively related to depression rates. Similarly, Morales Rodríguez and Rivera Alcántar (2012) found a negative correlation between the management of sadness and the union and support perceived by Mexican adolescents, and Chávez-Flores et al. (2018) reported that family union and support increased psychological well-being in adolescents in Mexico.

In terms of sex, low levels of family cohesion are reportedly associated with symptoms of depression in young women (Anyan & Hjemdal, 2018). In contrast, family acceptance (Ruiz Cárdenas et al., 2020) and psychosocial functioning of family relationships (Pereira et al., 2016) negatively predict depression in young women. It suggests that adolescent girls may be more sensitive to the strength of emotional bonds generated within the family, indicating one of the positive aspects of traditional cultural expectations.

The second predictor variable with positive valence in young women is difficulties. In this regard, there is evidence that the stress experienced by young women at home, derived from family conflicts and poor-quality relationships, increases the risk of depression in adolescents (Anyan & Hjemdal, 2018; González-Forteza et al., 2019). It has even been proposed that this group is more affected by socially interactive behaviors, such as non-verbal hostility (Flores-Ramos, 2015), which would allow them to recognize and react to a greater range of conflicts, some of which may not be noticed by young men.

In young women, the variable with the least weight was empathy, which showed a negative relationship with depressive symptoms. There is evidence that, in adults, empathy, specifically cognitive, is negatively associated with depression (Bennik et al., 2018). A negative correlation has also been found in adolescent women between this type of empathy and depressive symptoms (Gambin & Sharp, 2018). These results suggest that when adolescents are able to understand other people's emotions, they tend to exhibit fewer symptoms of depression. Considering this result, we could argue that the ability to pay attention to the experiences of others protects such adolescents from these symptoms. Future studies should be conducted to test this hypothesis empirically.

It is worth noting that, for both young men and women, the difficulties variable not only appeared in the regression models but was also second in relevance. Various findings agree that family conflicts are associated with depression in adolescents (Fosco & Lydon-Staley, 2019; Perales-Blum

& Loredó, 2015), while a low perception of difficulties improves the mood and psychological well-being of Mexican adolescents (Chávez-Flores et al., 2018).

Regarding the dimensions excluded from the models, we can argue that the ability to solve everyday problems and connect empathically with others is more relevant than social support or the ability to know oneself for preventing depressive symptoms in adolescents. Thus, both emotional and functional aspects are highlighted (APA, 2013).

The current findings add to the abundant literature that affirms a greater presence of depressive symptoms in young women (Anyan & Hjemdal, 2016; González-Forteza et al., 2015; 2019; Rivera-Rivera et al., 2015; Ruiz Cárdenas et al., 2020). In the dimensions of intrafamily relations, there were no differences based on sex, although it is worth mentioning that there is no knowledge of research that establishes this distinction, so future studies should delve further into this point. On the other hand, the factors of resilience in the models also did not show any differences based on sex, contrary to the reported literature wherein some studies report greater resilience in young men (Moksnes & Lazarewicz, 2019; Pereira et al., 2016), and others in young women (González-Arratia & Valdez Medina, 2013). It is necessary to continue searching for empirical evidence that deeply analyzes this controversy and considers both the variable in general, and its dimensions in particular.

All the correlations between variables were statistically significant. Previous studies have suggested that the quality of family relationships and resilience protect against emotional problems (Arslan, 2016). In addition, intrafamily relationships increase adolescents' health (Chávez-Flores et al., 2018). Although it is not possible to establish a causal relationship at a correlational level, the increase in intrafamily relationships and the dimensions of resilience are associated with decreased depressive symptoms.

This research presents a theoretical contribution to the literature: the integration of the two relevant constructs for adolescents' mental health (Asensio-Martínez et al., 2017; Chávez-Flores et al., 2018) to further understanding of—and design prevention for—depression in Mexican adolescents. The findings of the present investigation emphasize the relevance of implementing prevention programs for depressive symptoms in adolescent high school students that consider intrafamily relations and resilience as central variables. Furthermore, the results indicate which specific aspects of these constructs require special attention. For instance, an intervention program could develop one session centered on problem-solving abilities, another session on empathy, and so on, until all variables are covered.

Furthermore, considering that family interactions significantly impact adolescents' well-being, it is necessary to have not only direct interventions within this age group but also actions that involve parents (Rivera-Rivera et al., 2015). The importance of sex-sensitive interventions that

contribute to the construction of healthy interaction styles is also highlighted (González-Forteza et al., 2019), questioning the subordination of women in the family (Ruiz Cárdenas et al., 2020).

One limitation of the present study is using a non-randomized sampling in a single school. Therefore, we suggest conducting further investigations with random sampling in larger and more diverse populations. Likewise, we understand that there are limitations inherent in the cross-sectional design that can restrict the causal interpretation of the variables. Thus, the use of longitudinal and experimental designs is encouraged.

In summary, we found that intrafamily relations based on emotional expression plus union and support coupled with the dimensions of resilience–problem-solving and empathy–protect against depressive symptoms in Mexican high school students based on sex. These findings highlighting the role of particular dimensions of variables in the prediction of depressive symptoms in this population that suggest potential elements for new or revised preventative interventions.

## Founding

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## Conflict of interest

The authors declare they have no conflicts of interest.

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