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Social support and its associations with Depression and Anxiety: an in-depth Analysis using Structural Equation Modeling

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Abstract

Although social support has been shown to have numerous positive effects on mental health, some studies found negative associations with certain internalizing symptoms. Because the origins of these associations are uncertain, the objective of the present study included the in-depth analysis of five dimensions of social support (i.e., social support seeking as a coping strategy, availability of emotional support, emotional support received, perceived comprehension, and need for support) and their associations with depressive and anxious symptoms. The sample (n = 822) was collected through Internet and a Full Latent Variables Model was developed in which the two symptoms were used as dependent variables. Subsequently, regression analyses were conducted to evaluate how the social support dimensions are influenced by depression and anxiety. The results evidenced that availability of emotional support, perceived comprehension, and need for support had direct effects on symptoms, and emotional support received and social support seeking indirect effects. Need for support was found to be the only dimension of social support that increased symptoms, and perceived comprehension was the only dimension of social support that reduced the need for support. Anxiety and depression exhibited different effects on social support: while depression reduced social support, anxiety increased it. It was concluded that anxiety can operate, under certain circumstances, as a protective mechanism against the negative effects of depression.

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1.Introduction

1.1 Social Support

The term social support is defined as a resource provided by another person, which can be any tangible or intangible good (Cohen & Syme, 1985). Rook (1985) adds that social relationships can not only help when resolving certain conflicts but also during the adaptation phase after a stressful situation.

The psychic effects of social support have been studied in-depth. Sommer and Fydrich (1989) have already stated that it can increase self-esteem, motivation, hope of success and also reduce negative arousal and the perception of stress itself. In this wise, the perception of one's abilities is modified in a positive way, which could increase well-being and, consequently, make an individual better support or overcome future stressful experiences.

There is empirical evidence of two complementary models that describe the functioning and effects of social support (Cohen & Wills, 1985; Henderson, 1992; Kessler & McLeod, 1985; Kobasa & Puccetti, 1983; Sandler & Lakey, 1982; Wills, 1985; Wills & Cleary, 1996): the main effect model describes how social support modifies well-being regardless of the degree of eventual stressors so that its simple existence increases well-being (Cohen & Syme, 1985) and the buffer effect model, in which social support moderates the distress that could be caused by stressors (Baron & Kenny, 1986). According to this model, social support does not influence an individual when there are no stressors (Cohen & Hoberman, 1983; Schwarzer & Leppin, 1988). In this way, Tobin et al. (1989) consider social support seeking as a coping strategy that comprises an active effort to manage the emotions caused by a stressful situation, which is also the definition of affiliation as an adaptive defense mechanism (Di Giuseppe et al., 2020; Perry, 2014).

As a result, it is possible to differentiate between the availability of social support and the social support received. According to several studies (Uchino, 2004, 2009), the perception of available social support has more significant effects to increase well-being, which could be because social support is suggested to be the product of an 'instrumental coping style' (Drageset & Lindstrom, 2003) or because the benefit of the social support received depends on the individual's needs (Maisel & Gable, 2009). Furthermore, social support from close social ties (for example, intimate partners, family, and friends) has a greater effect on mental health than support from peripheral social ties (Thoits, 2011). Due to this, Feeney and Collins' (2015) interpersonal process model includes the response capacity that is perceived in the person who provides social support, since this influences how the recipient of social support thrives through growth opportunities and life's adversities.

Even so, it should be considered that social support seeking to face stressful situations could be associated with negative results. Likewise, an extensive meta-analysis by Compas et al. (2017) showed that, in longitudinal studies, social support as a coping strategy exhibited a positive association with internalizing symptoms. To explain this maladaptive characteristic, these authors warned that social support could take the form of co-rumination, which consists of repeated discussion on the same topic (Stone et al., 2011). Furthermore, Rankin et al. (2018) found a positive association between high levels of need for support and depression.

1.2 The present study

Due to the possible negative effects that social support could have in certain situations (Compas et al., 2017; Rankin et al., 2018), the objective of this study included an in-depth analysis of the relationships between different dimensions of social support (i.e., social support seeking as a coping strategy, availability of emotional support, emotional support received, perceived comprehension and need for support) and how these are associated with depression and anxiety. On the one hand, we intended to develop a Full Latent Variables Model to evaluate the effects of social support on these symptoms, establishing them as dependent variables. On the other hand, we aimed to evaluate how the social support dimensions are influenced by depression and anxiety. For this purpose, we conducted regression analyses, in which we used the social support dimensions as dependent variables and depression and anxiety as independent variables.

2. Method

2.1 Compliance with ethical standards

This research was approved by the Committee on the Responsible Conduct of Research of the University of Buenos Aires, Argentina.

2.2 Sample

Intentional and snowball sampling was conducted. The sample consisted of 822 adults (M age= 44.30, SD= 15.67, female= 443) residing in Argentina, composed of 16.1% from the Autonomous City of Buenos Aires, 18.0% from Gran Buenos Aires, 14.6% from the Province of Buenos Aires and 51.3% from other provinces of Argentina. 64.2% were of incomplete university level or superior.

2.3 Instruments

Berlin Social Support Scale

An Argentine adaptation of the Berlin Social Support Scale (BSSS) by Schulz and Schwarzer (2003) was used. This version has 15 items that represent five subscales: *availability of emotional*

support (e.g., "Every time I feel sad, there are people who lift my spirits"), *availability of instrumental support* (e.g., "There are people who offer help when I need it"), *need for support* (e.g., "Before making an important decision, I definitely need a second opinion"), *emotional support received* (e.g., "That person showed me that he/she loves and accepts me"), *perceived comprehension* (e.g., "That person did not show much empathy for my situation"). The instrument offers a 5-point Likert scale (0 = *Totally disagree* to 4 = *Totally agree*) and, in the aforementioned study, the internal consistencies were between $.71 \leq \alpha \leq .90$.

In the Argentine adaptation study, the authors found high correlations between *availability of emotional support* and *availability of instrumental support*. That is why the latter subscale was not included in the present study. The article corresponding to the Argentine adaptation is under editorial review.

Coping Strategies Inventory

The Spanish version of the Coping Strategies Inventory (CSI) by Cano García et al. (2007) comprises 40 items that represent eight coping strategies: *problem-solving*, *cognitive restructuring*, *emotional expression*, *social support*, *problem avoidance*, *wishful thinking*, *self-criticism*, and *social withdrawal*. The instrument offers a 5-point Likert scale (0 = *Totally disagree* to 4 = *Totally agree*) and, in Cano García et al.'s (2007) study, internal consistencies were between $.63 \leq \alpha \leq .89$.

Due to the study objectives, we only used the *social support* dimension. To facilitate differentiation with the BSSS subscales, we renamed this dimension to *social support seeking* (for example, "I spoke to a person I trust").

Symptom Assessment-45 Questionnaire

The Symptom Assessment-45 Questionnaire (SA-45) by Sandín et al. (2008) has 45 items that correspond to nine dimensions: *somatization disorder*, *obsessive-compulsive disorder*, *interpersonal sensitivity*, *depression*, *anxiety*, *hostility*, *phobic anxiety*, *paranoid ideation*, and *psychoticism*. Participants are asked to rate all items on a five-point Likert scale (0 = *Not at all* to 4 = *Very much or extremely*) and, in the Spanish validation study, the internal consistencies were between $.63 \leq \alpha \leq .85$.

According to the characteristics of this study, only the *anxiety* and *depression* subscales were used.

2.4 Procedure

For data collection, we used the Google Forms© digital platform. On the initial page of the questionnaire, we left the contact email of one of the researchers. Furthermore, the possibility of withdrawing at any time from the research was reported and, after agreeing to participate through informed consent, the questionnaires were presented. Recruitment of the participants

was carried out through the social networks of Facebook, Instagram, and WhatsApp. To ensure satisfactory completion of the survey, we carried out a pilot test with 30 individuals.

To detect multivariate outliers, we performed the *Minimum Covariance Determinant* test (Leys et al., 2018) and, by the use of the Mardia (1970) test, we determined the absence of multicollinearity and non-compliance with the assumption of multivariate normality (kurtosis= 27.56, $p < .001$).

Because the items did not present a multivariate normal distribution, we evaluated the model fits through the *Maximum Likelihood Method* (MLM) (Hu & Bentler, 1999; Yu, 2002), which uses the Satorra and Bentler (2000) correction. For model evaluation, the following fit indices were used (Hu & Bentler, 1999): SRMR (Standardized Root Mean Square Residual) ≤ .08, RMSEA (Root Mean Squared Error of Approximation) ≤ .06, CFI (Comparative Fit Index) ≥ .95 and TLI (Tucker Lewis Index) ≥ .95. Also, we computed direct and indirect effects with the bootstrapping method (Preacher & Hayes, 2008), which allows the calculation of confidence intervals. Besides, we used the percentiles-based method with 500 bootstrap samples (Creedon & Hayes, 2015; Fritz et al., 2012; Tofighi & MacKinnon, 2016).

Before developing the Full Latent Variables Model, we performed an overall confirmatory factor analysis (CFA) of the psychometric instruments. Based on the results obtained, we evaluated the modification indices following the method proposed by Saris et al. (2009) and added 2 within-construct error covariance, since the residuals of several items significantly influenced the fit indices (Byrne, 2016).

Following Heinze et al.'s (2018) indications, we used the *Backwards Elimination* technique to establish the Full Latent Variables Model. This procedure begins with the unbiased global model. In the second step, the independent variable with the highest probability value p is removed, and then the model is re-evaluated.

Previous studies showed the associations that *depression* and *anxiety* have with *age* and *educational level* (Drentea, 2000; Huang et al., 2010; Lijster et al., 2017; Mirowsky & Ross, 1992), so we included the latter in all calculations as control variables.

2.5 Data analysis

We performed the *Minimum Covariance Determinant* test with the *MASS* package (Venables & Ripley, 2002); with *MVN* (Korkmaz et al., 2014), the Mardia (1970) test; with *lavaan* (Rosseel, 2012), the CFA, the development of the Full Latent Variables Model and the analysis of measurement invariance. All these packages are part of the R software (Core Team, 2020) and, for all calculations, the probability value $p \leq .05$ was used.

3. Results

Through the *Minimum Covariance Determinant* test (Leys et al., 2018), 87 values were classified as severe outliers, so they were excluded from the sample, reducing it to n= 735 (female= 399).

3.1 CFA of psychometric instruments

The fit indices corresponding to the overall CFA of the psychometric instruments took the following values: $\chi 2^{MLM}$ (Chi-Square using the maximum likelihood method with robust standard errors) = 944.760; df = 303; Scaling (Correction factor for the adjusted Satorra-Bentler Chi-Square) = 1.077; p = .000; RMSEA = .054, 90% CI [.050, .057]; SRMR = .045; CFI = .928 and TLI = .917.

Taking into account that the CFI and TLI did not reach the values suggested by Hu and Bentler (1999), we used the method proposed by Saris et al. (2009) to evaluate the modification indices and added the following within-construct error covariances: between item CSI_21 and CSI_29 (*social support seeking*), and between items SA_06 and SA_38 (*anxiety*). In this way, the fit indices improved substantially, since they reached the following values: $\chi 2^{MLM}$ = 692.247; df = 301; Scaling = 1.068; p = .000; RMSEA = .042, 90% CI [.038, .046]; SRMR = .042; CFI = .956 and TLI = .949.

3.2 Development of the Full Latent Variables Model to evaluate the effects of social support on depression and anxiety

First, we used *depression* and *anxiety* as dependent variables and the subscales of social support as independent variables. *Need for support* was found to have a positive effect on symptoms. On the other hand, only *emotional support received* and *social support seeking* had no direct effects on symptoms. Furthermore, *educational level* had no significant effect on *anxiety*. Subsequently, we used the *Backwards Elimination* method (Heinze et al., 2018) and eliminated these effects. The detailed results of the first regression analysis can be found in Table A1 in the appendices.

To include *emotional support received* and *social support seeking* in the model, we assessed the effects of these on the remaining social support variables. *Emotional support received* had direct effects on *perceived comprehension* and *availability of emotional support*, and *social support seeking* on *need for support* and *availability of emotional support*. Table 2A (see appendices) shows the details of these results.

As the effect of *social support seeking* on *need for support* had no theoretical rationale, this effect was excluded from the model. Applying the *Backwards Elimination* method (Heinze et al., 2018), we also eliminated the effects of *educational level* on *availability of emotional support*; of *age*, *educational level*, and *emotional support received* on *need for support*; of *age*, *educational level*, and *social support seeking* on *perceived comprehension*.

Table 1 represents the regression results of the final Full Latent Variables Model. Regarding the explained variances, the effect sizes for *depression*, *availability of emotional support*, and *perceived comprehension* were found at a high level, and the effect size for *anxiety* at a medium level (Cohen, 1988).

Table 1. Regression results of the final model, including the total / indirect effects of social support seeking and emotional support received on depression and anxiety

			95% CI					
Criterions	Predictors	*b*	LL	UL	*SE* B	z	Beta (β)	*p*
Depression (R^2= 32.5)								
	Availability of emotional support	-.467	-.598	-.336	.067	-6.976	-.335	.000
	Need for support	.283	.189	.376	.048	5.927	.244	.000
	Perceived comprehension	-.252	-.362	-.143	.056	-4.511	-.221	.000
	Age	-.017	-.022	-.012	.003	-6.800	-.255	.000
	Educational level	-.038	-.063	-.013	.013	-2.946	-.073	.003
Anxiety (R^2= 17.0)								
	Availability of emotional support	-.211	-.301	-.121	.046	-4.605	-.226	.000
	Need for support	.188	.118	.257	.035	5.310	.242	.000
	Perceived comprehension	-.120	-.198	-.042	.040	-3.013	-.157	.003
	Age	-.009	-.012	-.005	.002	-4.938	-.196	.000
Availability of emotional support (R^2= 51.7)								
	Emotional support received	.392	.318	.465	.037	1.480	.470	.000
	Social support seeking	.314	.247	.381	.034	9.180	.410	.000
	Age	.003	.000	.006	.001	2.017	.062	.044
Perceived comprehension (R^2= 44.0)								
	Emotional support received	.698	.594	.803	.053	13.112	.688	.000
Total / Indirect effects on depression								
	Social support seeking	-.147	-.196	-.097	.025	-5.785	-.137	.000
	Emotional support received	-.359	-.434	-.284	.038	-9.378	-.309	.000
Total / Indirect effects on anxiety								
	Social support seeking	-.066	-.097	-.036	.016	-4.223	-.093	.000
	Emotional support received	-.166	-.222	-.111	.028	-5.888	-.214	.000

Notes. n = 735; CI, confidence interval; LL, lower limit; UL, upper limit; robust *SE* and *p* values with Satorra-Bentler adjustments.

In this way, Figure 1 shows the graphical representation of the final Full Latent Variables Model with its respective values of the standardized regressions (β). To facilitate reading, we located the control variables *age* and *educational level* on the right margin of the illustration.

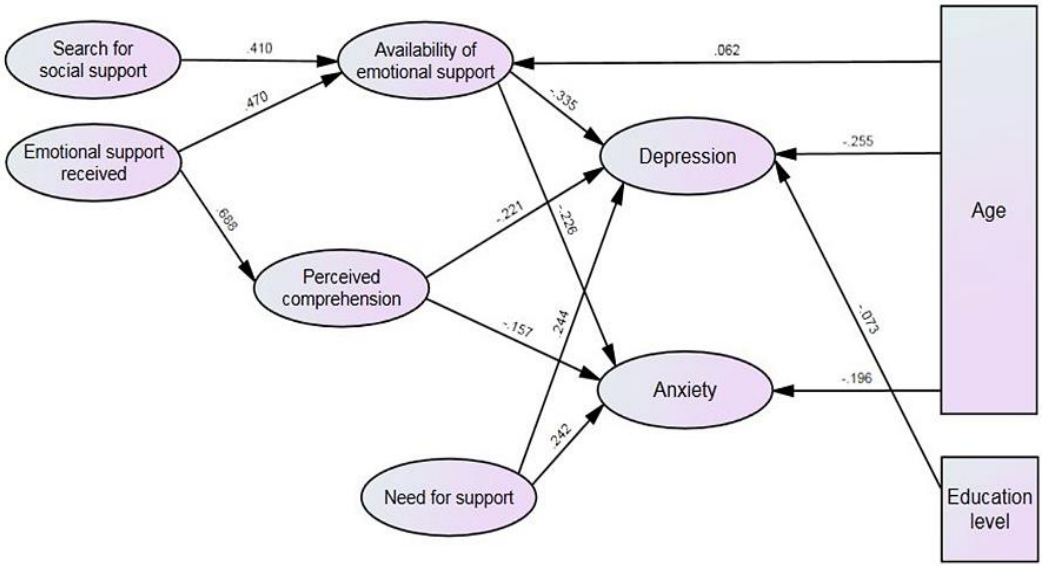

Figure 1. Graphic representation of the final Full Latent Variables Model

The final Full Latent Variables Model took the following fit indices: $\chi 2^{MLM} = 959.695$; df = 359; Scaling = 1.061; p = .000; RMSEA = .048, 90% CI [.044, .051]; SRMR = .053; CFI = .936 and TLI = .927. In line with central limit theorem, the need to exclude outliers might be negated by the large sample size. Accordingly, we tested if the model remains significant with the outliers included. The corresponding fit indices evidence that the inclusion of outliers improved the model fit: $\chi 2^{MLM} = 895.587$; df = 359; Scaling = 1.145; p = .000; RMSEA = .043, 90% CI [.039, .046]; SRMR = .051; CFI = .945 and TLI = .938. Thus, RMSEA and SRMR reached adequate values, and CFI and TLI were slightly below the values suggested by Hu and Bentler (1999).

To analyze whether the final model represented measurement invariance (configurational, metric, scalar, and strict), we performed a multigroup analysis. This analysis was limited to both female and male gender, as only four individuals had identified themselves as diverse. Because of the sensitivity of the Chi-Square difference test in large sample sizes (Bentler & Bonett, 1980; Meade et al., 2008), we used the changes in the CFI as well as the RMSEA to compare the nested models. Regarding changes in the fit indices, all were found with $|\Delta CFI| \leq .010$ (Cheung & Rensvold, 2002) and $|\Delta RMSEA| \leq .015$ (Chen, 2007) within favorable ranges. Detailed results can be found in Table A 3 (see appendices).

3.3 Regression analyses to evaluate how need for support is influenced by the remaining social support dimensions and to assess the effects of depression and anxiety on the five social support dimensions

As *need for support* was found to have a positive effect on symptoms, we conducted a regression analysis to assess the effects of the remaining social support variables on it. As can be seen in Table 2, only *perceived comprehension* had a negative effect on *need for support*.

Table 2. Regression analyses to evaluate how need for support is influenced by the remaining social support dimensions and to assess the effects of depression and anxiety on the five social support dimensions

			95% CI					
Criterions	Predictors	*b*	LL	UL	*SE* B	z	Beta (β)	*p*
Need for support								
	Availability of emotional support	.502	.331	.673	.087	5.743	.415	.000
	Emotional support received	.069	-.071	.210	.072	.966	.069	.334
	Perceived comprehension	-.280	-.402	-.159	.062	-4.527	-.285	.000
	Social support seeking	.200	.100	.300	.051	3.921	.217	.000
	Age	-.005	-.009	-.001	.002	-2.442	-.089	.015
	Educational level	-.020	-.054	.014	.017	-1.167	-.045	.243
Availability of emotional support								
	Depression	-.534	-.708	-.360	.089	-6.007	-.710	.000
	Anxiety	.409	.172	.647	.121	3.378	.398	.001
	Age	-.003	-.007	.001	.002	-1.355	-.051	.175
	Educational level	.037	.006	.068	.016	2.327	.092	.020
Need for support								
	Depression	.061	-.134	.257	.100	.616	.070	.538
	Anxiety	.087	-.183	.357	.138	.631	.073	.528
	Age	-.003	-.008	.002	.002	-1.348	-.054	.178
	Educational level	.016	-.022	.054	.019	.817	.034	.414
Emotional support received								
	Depression	-.527	-.721	-.333	.099	-5.318	-.608	.000
	Anxiety	.379	.110	.647	.137	2.766	.320	.006
	Age	-.001	-.005	.003	.002	-.345	-.012	.730
	Educational level	.012	-.023	.048	.018	.675	.026	.500
Perceived comprehension								
	Depression	-.531	-.742	-.320	.108	-4.930	-.570	.000
	Anxiety	.237	-.042	.516	.142	1.663	.186	.096
	Age	-.004	-.009	.000	.002	-1.860	-.068	.063
	Educational level	-.013	-.051	.024	.019	-.685	-.026	.493
Social support seeking								
	Depression	-.421	-.633	-.209	.108	-3.893	-.473	.000
	Anxiety	.364	.077	.650	.146	2.489	.299	.013
	Age	-.015	-.020	-.010	.002	-6.034	-.235	.000
	Educational level	.042	.007	.076	.018	2.383	.088	.017

Notes. n = 735; CI, confidence interval; LL, lower limit; UL, upper limit; robust *SE* and *p* values with Satorra-Bentler adjustments.

In line with the objective of this study, we also analyzed the effects that *depression* and *anxiety* had on the five social support dimensions. In this way, we noted that *depression* and *anxiety* appeared to have fundamentally different characteristics. *Depression* had negative effects on *availability of emotional support*, *emotional support received*, *perceived comprehension*, and *social support seeking*, while *anxiety* was characterized by positive effects on *availability of emotional support*, *emotional support received*, and *social support seeking*.

4. Discussion

To evaluate the associations between social support, *depression*, and *anxiety*, we developed a Full Latent Variables Model, in which we established the symptoms as dependent variables. Although CFI and TLI were slightly below the values suggested by Hu and Bentler (1999), RMSEA and SRMR reached adequate values. The multigroup analysis showed measurement invariance, meaning that the model evaluated the same constructs independently of gender. In the Full Latent Variables Model, *need for support* appeared to have a positive effect on symptoms, so we conducted a regression analysis to assess the effects of the remaining social support variables on it. Finally, we carried out regression analyses to evaluate the effects of *depression* and *anxiety* on the five social support dimensions.

In relation to the Full Latent Variables Model, we noted two main components. On the one hand, the significance of *need for support*, since this was the only variable that increased *depression* and *anxiety*. On the other hand, *emotional support received* and *social support seeking* resulted as the only independent variables, which is why they played a key role in the model. This statement is somewhat out of step with the results of previous studies, in which it was found that, compared to the *emotional support received*, the *availability of emotional support* had more significant effects to increase well-being (Uchino, 2004, 2009). To explain these contradictory results, it must be considered that, in the present study, *emotional support received* did not have direct effects on the symptoms, but through *availability of emotional support* and *perceived comprehension*. In this way, *emotional support received* explained a high percentage of the variances corresponding to the *availability of emotional support* and *perceived comprehension*, meaning that these two variables largely depended on the *emotional support received*. On the other hand, it was observed that the total effect that *emotional support received* had on symptoms depended on *perceived comprehension*, which could explain the opposite results obtained in previous studies.

In the same way, it should be taken into account that *emotional support received* derives from the individual's needs (Maisel & Gable, 2009) and, following the results of the regression analysis, *perceived comprehension* could be considered a prominent factor to reduce the *need for support*. At this point, the importance of *perceived comprehension* should be mentioned: considering that high

levels of *need for support* increased *depressive* and *anxious* symptoms, *perceived comprehension* was the only variable that reduced the *need for support*. In this sense, *perceived comprehension* as a key factor was in line with previous studies that showed the importance of the response capacity perceived in the provider of social support (Collins & Feeney, 2004; Feeney & Collins, 2015; Lakey et al., 2010).

When evaluating the effects that *depression* and *anxiety* had on all social support variables, a fundamentally different nature between both was evidenced. While *depression* had negative effects on *availability of emotional support*, *emotional support received*, *perceived comprehension*, and *social support seeking*, *anxiety* was characterized by positive effects on *availability of emotional support*, *emotional support received*, and *social support seeking*. This means that *anxiety* could operate, in a certain way, as a moderator of the negative effects of *depression* and might be considered as a mechanism that diminished the negative effect that *depression* had on social support. In addition, if we transfer these effects to the Full Latent Variables Model, we can affirm that *depression* was not only a result of diminished social support, but also a considerable cause of it.

In this place, we should remember the aforementioned meta-analysis by Compas et al. (2017) since they found a positive association between internalizing symptoms and *social support seeking* in longitudinal studies. Because of the obtained results in the present study, we noted the need to avoid grouping *depressive* and *anxiety* symptoms into a global category, since their effects on social support were essentially different.

Likewise, it should be noted that a longitudinal study found that *anxiety* was almost always the primary condition occurring during childhood or adolescence (Wittchen et al., 2000) and that psychosocial stressors tended to cause the first episode of *depression* in the life of a person (Khan et al., 2005). From the perspective of genetic epidemiology, it was concluded that the comorbidity between *anxiety* and *depression* could be due to *neuroticism* as a risk factor that both symptoms share (Middeldorp et al., 2005). In this way, the present study also evidenced the need to include not only *age* and *educational level* as control variables in future research but also *neuroticism*. This procedure could favor the differentiation between those components of *generalized anxiety disorder* that have a genetic origin and those that could be the result of a *depressive* episode that began due to a psychosocial stress event. Also, it would facilitate the evaluation of *anxiety*, or a component of it, as a possible protective mechanism against the negative effects of *depression*.

Finally, it was noted that the Full Latent Variables Model explained a high level of variance corresponding to *depression*, *availability of emotional support*, and *perceived comprehension*, and a medium level of *anxiety*. Although these results could be considered favorable, we point out that they

were obtained using control variables that had considerable effects. This fact should not be interpreted as a limitation of the study but rather as a finding that emphasizes the importance of using control variables.

Although the present study delved into the analysis of the relationships between social support, *anxiety*, and *depression*, it should be considered that Structural Equation Modeling does not demonstrate the presence of a causal relationship between the variables but can support a previous theory and/or must be validated with experimental designs (Byrne, 2016; Kline, 2015). This circumstance leads us to the need for future research to validate the present results. Likewise, it is important to bear in mind that the present study had a cross-sectional design, a non-probabilistic sampling was carried out, and self-reported measures were used, so the generalization of its results is difficult.

5. Conclusions

The unexpected result that *anxiety* and *depression* exhibited fundamentally different effects should be mentioned. While *depression* reduced social support, *anxiety* increased it. In this way, *anxiety* not only increased *availability of emotional support*, *emotional support received*, and *social support seeking* but, through the buffering effect that these variables had on *depression*, it could promote the reduction of high levels of *depression*. If we take into account (1) that psychosocial stressors were usually the cause of the first *depressive episode* in a person's life (Khan et al., 2005) and (2) that *depression* was not only a result of diminished social support but also a considerable cause of it, *anxiety* could be interpreted, under certain circumstances, as a protective mechanism against the negative effects of *depression*.

Data Accessibility Statement

The data that support the findings of this study are openly available at:

https://osf.io/gva5k/?view_only=87ac6b439a6a4a6cb53270ec4aeee1f8

Conflict of Interest Statement

The authors declare that the research was conducted in the absence of any potential conflict of interest.

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Appendices

Table 1 A. Regression results using symptoms as dependent variables and the five social support dimensions as independent variables

Criterions	Predictors	*b*	95% CI		*SE* B	z	Beta (β)	*p*
			LL	UL				
Depression								
	Availability of emotional support	-.485	-.670	-.300	.094	-5.138	-.346	.000
	Need for support	.321	.211	.431	.056	5.729	.287	.000
	Emotional support received	.042	-.118	.202	.082	.513	.036	.608
	Perceived comprehension	-.250	-.408	-.091	.081	-3.078	-.220	.002
	Social support seeking	-.071	-.178	.036	.055	-1.309	-.067	.191
	Age	-.019	-.024	-.014	.002	-7.656	-.282	.000
	Educational level	-.060	-.095	-.026	.018	-3.451	-.117	.001
Anxiety								
	Availability of emotional support	-.248	-.380	-.117	.067	-3.698	-.264	.000
	Need for support	.197	.117	.277	.041	4.814	.262	.000
	Emotional support received	.050	-.061	.161	.057	.879	.064	.379
	Perceived comprehension	-.137	-.246	-.028	.056	-2.458	-.179	.014
	Social support seeking	-.012	-.089	.066	.040	-.291	-.016	.771
	Age	-.010	-.013	-.006	.002	-5.509	-.218	.000
	Educational level	-.024	-.051	.003	.014	-1.737	-.069	.082

Notes. n = 735; CI, confidence interval; LL, lower limit; UL, upper limit; robust *SE* and *p* values with Satorra-Bentler adjustments.

Table 2A. Regression results including indirect effects of emotional support received and social support seeking on symptoms

Criterions	Predictors	*b*	95% CI		*SE* B	z	Beta (β)	*p*
			LL	UL				
Depression								
	Availability of emotional support	-.467	-.600	-.335	.068	-6.910	-.334	.000
	Need for support	.283	.188	.379	.049	5.832	.242	.000
	Perceived comprehension	-.252	-.361	-.142	.056	-4.501	-.221	.000
	Age	-.017	-.022	-.012	.003	-6.890	-.256	.000
	Educational level	-.037	-.063	-.012	.013	-2.909	-.072	.004
Anxiety								
	Availability of emotional support	-.212	-.303	-.121	.046	-4.578	-.227	.000
	Need for support	.189	.119	.259	.036	5.274	.241	.000
	Perceived comprehension	-.119	-.197	-.041	.040	-2.982	-.155	.003
	Age	-.009	-.012	-.005	.002	-4.947	-.196	.000
Availability of emotional support								
	Emotional support received	.393	.320	.466	.037	1.528	.473	.000
	Social support seeking	.310	.243	.377	.034	9.070	.406	.000
	Age	.003	.000	.006	.002	2.021	.063	.043
	Educational level	.014	-.009	.036	.011	1.200	.037	.230
Need for support								
	Emotional support received	.064	-.023	.151	.044	1.439	.064	.150
	Social support seeking	.363	.265	.461	.050	7.248	.398	.000
	Age	-.003	-.008	.001	.002	-1.375	-.054	.169
	Educational level	-.013	-.048	.022	.018	-.718	-.029	.473
Perceived comprehension								
	Emotional support received	.703	.597	.809	.054	13.011	.691	.000
	Social support seeking	-.001	-.075	.072	.038	-.037	-.001	.970
	Age	-.004	-.008	.000	.002	-1.794	-.066	.073
	Educational level	-.018	-.049	.013	.016	-1.131	-.039	.258

Notes. n = 735; CI, confidence interval; LL, lower limit; UL, upper limit; robust *SE* and *p* values with Satorra-Bentler adjustments.

Table 3A. Model fit and model comparisons testing for measurement invariance regarding gender

Model	Model fit						Model comparisons				
	$\chi2^{MLM}$	df	χ2/df	Scaling	RMSEA	CFI	$\Delta\chi2^{MLM}$	Δdf	p	ΔRMSEA	ΔCFI
M1: Config.	1306.966	718	1.820	1.060	.047	.935					
M2: Metric	1328.059	738	1.800	1.058	.047	.935	21.093	20	.392	.000	.000
M3: Scalar	1375.683	758	1.815	1.052	.047	.932	47.624	20	.000	.000	.003
M4: Strict	1397.339	785	1.780	1.073	.046	.933	21.656	27	.755	.001	.001

Notes. n = 731; female = 399; male = 332; $\chi2^{MLM}$ - Chi-square using the Maximum Likelihood Method with robust standard errors; df, degrees of freedom; Scaling, scaling factor of the Satorra-Bentler correction; RMSEA, Root mean Squared Error of Approximation; CFI, Comparative Fit Index.