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Self-esteem and Self-concept as Predictors of Social Anxiety in University Students

*Autoestima y autoconcepto como predictores de la ansiedad en
estudiantes universitarios*

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ABSTRACT

Social anxiety is currently recognized as having an inverse relationship with self-esteem in university students. However, the effect of self-concept on this relationship has been little studied. This study explores the influence of self-esteem and self-concept (academic, social, emotional, family, and physical) on social anxiety, as self-reported by university students. It distinguishes between dimensions such as fear of public speaking/interacting with authority figures, interacting with strangers, interacting with the opposite sex, assertive expression of annoyance, disgust or displeasure, and sensitivity to criticism and embarrassment. The study employed a non-experimental, cross-sectional, and explanatory design. Participants included 282 students from the faculty of education (58 men and 224 women), aged between 18 and 40 years. They completed the Social Anxiety Questionnaire for Adults, the Self-Esteem Scale, and the AF-5 Self-Concept Inventory. Multiple regression revealed that emotional and social self-concept predict most dimensions of social anxiety, often with a greater effect than self-esteem. The results suggest that students' perceptions of themselves have a more substantial impact on social anxiety than their self-assessed sense of worth. Intervention programs focusing on emotional and social self-concept, while accounting for individual, cultural, and gender differences, may effectively reduce social anxiety in this demographic.

KEYWORDS: Social Anxiety, Fear of Public Speaking, Self-Esteem, Self-Concept, University Students.

RESUMEN

Actualmente se reconoce que la ansiedad social tiene una relación inversa con la autoestima en estudiantes universitarios, sin embargo, la influencia del autoconcepto en dicha asociación ha sido escasamente estudiada. Por tanto, en este trabajo se estudió la influencia de la autoestima y del autoconcepto (académico, social, emocional, familiar, físico) en la ansiedad social auto-reportada por estudiantes universitarios, distinguiendo en ella 5 dimensiones: miedo a hablar en público/interacción con la autoridad, interacción con desconocidos, interacción con el sexo opuesto, expresión asertiva de molestia, y quedar en evidencia. La investigación fue cuantitativa, no-experimental, transversal y de alcance explicativo. Participaron 282 estudiantes de dos carreras de Magisterio (58 hombres, 224 mujeres) entre 18-40 años. Se aplicó el Cuestionario de Ansiedad Social para Adultos, la Escala de Autoestima y el inventario AF-5 de Autoconcepto. Se realizaron análisis de regresión múltiple, encontrando que las variables predictoras de la mayoría de las dimensiones de la ansiedad son el autoconcepto emocional y social, incluso con mayor influencia que la autoestima. Los resultados sugieren que la forma en cómo se percibe el estudiante influye más en la presencia de la ansiedad social que el aprecio que siente por sí mismo. Programas de intervención centrados en el autoconcepto emocional y social, teniendo en cuenta las diferencias individuales, culturales y de género, podrían reducir eficazmente la ansiedad social en este grupo demográfico.

KEYWORDS: Ansiedad social, Miedo de hablar en público, Autoestima, Autoconcepto, Estudiante universitario.

INTRODUCTION

According to the DSM-5® ([Asociación Americana de Psiquiatría, 2014](#)), social anxiety refers to intense, persistent and disproportionate fear or anxiety of the threat that may arise from one or more social situations. Individuals with performance-based social anxiety primarily fear and avoid social situations that involve performing activities but have no difficulty in situations where they are not required to act in front of others.

The clinical practice guidelines published by [National Institute for Health and Care Excellence \(2013\)](#) report this to be one of the most common problems of anxiety, affecting one in ten people. The disorder is characterized by a persistent fear of certain social situations, such as meeting new people, participating in meetings, and speaking in public. It can interfere with various aspects of daily living. Many individuals with this condition often perceive their social anxiety as a personal flaw, which makes them vulnerable to stigma and shame when acknowledging it. During their time at school, before reaching university, students will have already had to deal with giving presentations in front of their class group on several occasions and have had to endure the anxiety they felt on speaking in public ([Becerra-Traver, 2017](#)). Starting university makes greater demands of students, where they find themselves in social situations in which they are required to exchange ideas with their peers, engage in teamwork and present the results. Fear of public speaking, interacting with unfamiliar peers, fear of ridicule, and a lack of assertiveness can become obstacles that impede satisfactory performance and communication in class ([Mou et al., 2022](#)). In this sense, [Morales \(2011\)](#) explains that university life demands students undertake a series of tasks that involve using not only knowledge and competences but also skills for controlling emotions and anxiety. Authors such as [Hakami et al. \(2017\)](#) find that fear of public speaking is common in the population, with some 26% of university students reporting they suffer from this condition. This percentage may be even higher, as some students attempt to conceal their social fears.

Previously, [Cho et al. \(2004\)](#) found that fear of negative evaluations by an audience and predictions of poor performance were the factors underlying actual or expected anxiety of communicating with one or more people. Students with social anxiety tend to experience cognitive blocks, in which psychological processes such as memory and attention are impaired in high-threat situations like public speaking. These blocks are exacerbated by fears related to perceived personal inadequacy in such situations. Furthermore, [Gallego et al. \(2022\)](#) reported that university students exhibiting social anxiety significantly underestimated their performance during public speaking relative to the assessments made by their evaluators.

Meanwhile, several researchers have studied self-esteem, defined as a positive or negative attitude towards oneself (Atienza et al., 2000; Niveau et al., 2021; Rosenberg, 1973). It has been examined in students at different educational levels, but the present report focuses on measuring and analyzing self-esteem in university students. Arshad et al. (2015) and Ponce-Pardo et al. (2023) investigated its relationship with academic performance and found a positive correlation between self-esteem and academic performance in university students. In addition, several authors studied the association between self-esteem and social anxiety and their results showed a significant negative correlation (Murad, 2020; Obadeji & Kumolalo, 2022; Zhang et al., 2019). Specifically, Zhang et al. (2019) conducted a meta-analysis that included 58 original articles and 32,181 participants, finding that self-esteem and social anxiety are negatively correlated.

A relationship has also been found between social anxiety and low self-esteem, while positive self-esteem has been found to provide a buffer against anxiety (Holas et al., 2023; Millings et al., 2012; Morley & Moran, 2011). The abovementioned studies indicate a clear association between self-esteem and the presence of social anxiety, and thus one of the aims of the present study was to investigate self-esteem in university students and its relationship with the factors of social anxiety described by Caballo et al. (2010). These authors contend that social anxiety is not a unitary construct, but is, instead, composed of five dimensions: fear of public speaking/interaction with people in authority, interactions with strangers, interactions with the opposite sex, assertive expression of annoyance, disgust or displeasure, and criticism and embarrassment. They also included a measure of overall social anxiety. Moreover, when self-esteem was measured with an implicit association test (De Jong, 2002), the results did not support the hypothesis that low self-esteem plays a significant role in social anxiety.

Furthermore, the study of the self-concept of university students has also generated interest (Vázquez & Riso, 2022), mainly in relation to academic and personal variables. Self-concept is a hierarchical and multidimensional construct shaped by the knowledge or criteria that an individual uses to perceive themselves, based on their appearance, thinking, and ways of interacting with others. It encompasses images, judgements, and concepts acquired through experience. It is not considered a unidimensional concept (Esnaola et al., 2018). It has been reported to differ between men and women and is consolidated with age (Vázquez & Riso, 2022). Sánchez & Matalinares et al. (2014) evaluated general self-concept and interpersonal values, finding an inverse relationship with the value of support and a direct association with the value of leadership. They also reported relationships between the five dimensions of self-concept and the six types of values, highlighting the absence of correlation between interpersonal values and family self-concept. The relationship between social skills and self-concept has also been studied (Caldera et al., 2018), with a positive relationship found between the two variables, and emotional self-concept having the greatest impact on social skills.

Delgado et al. (2013) examined the relationship between social anxiety and self-concept in adolescents. In social anxiety they distinguished cognitive, physiological and motor symptoms, while self-concept was addressed in terms of physical skills, physical appearance, mathematics, verbal skills, general school, parent relations, same-sex peer relations, opposite-sex peer relations, emotional stability, honesty and self-esteem. Their results showed that students with social anxiety were more likely to negatively perceive their relationships with same-sex peers, to consider themselves worse students, less attractive and less athletic, and to be more emotionally unstable than students without social anxiety. In this regard, Micheal-Raj & Babu (2022) examined the relationship between social anxiety and negative self-portrayal among undergraduate and graduate students, revealing that individuals exhibiting social anxiety are inclined to view themselves unfavorably not only in terms of their academic achievements and emotional resilience, but also in relation to their physical appearance and athletic competences. The construct of self-portrayal is similar to self-concept, and comprises three components: social competence, signs of anxiety and physical appearance.

Due to the limited evidence on the effect of self-concept on social anxiety in university students, we decided to study multidimensional self-concept using the self-concept scale (AF-5, in its Spanish acronym) developed by García & Musitu (1999). These authors define the concept as the set of perceptions, thoughts and feelings that an individual holds with reference to themselves, and which emerge as a result of the interaction of personal and social factors. This scale is based on the multidimensional proposal of Shavelson et al. (1976), and consists of five dimensions: academic, social, emotional, family and physical.

In light of the above, the aim of the present study was to determine whether self-esteem and self-concept predict social anxiety and to investigate the dimensions of self-concept that predict the different domains of social anxiety. As mentioned, multidimensional questionnaires were used to explore social anxiety and self-concept (Caballo et al., 2010; Caballo et al., 2017; García & Musitu, 2014, respectively), while a unidimensional scale (Rosenberg, 1973) was administered to measure self-esteem. Our first hypothesis was that self-esteem affects the presence of social anxiety across all its dimensions. The second was that the emotional and social factors are the elements of self-concept that most contribute to the occurrence of social anxiety, while our third hypothesis was that both self-esteem and self-concept predict social anxiety in all its dimensions.

The sample consisted of second-year university students enrolled in early childhood and primary education degree programs. It was a non-clinical population that had not expressly requested help to overcome fear of public speaking (one of the dimensions of social anxiety), but who often showed anxiety around teachers and classmates when presenting assignments. Ahmad et al. (2017) found the levels of social anxiety experienced by students in the first two years of the teacher-training course to

be higher than that in their third- and fourth-year counterparts. This may be due not only to age but also to the learning and social experience gained in academic environments, which improves self-management of social anxiety and helps reduce it.

METHOD

Design

This is a quantitative research with a non-experimental, cross-sectional design and explanatory scope (Hernández-Sampieri & Mendoza, 2018).

Participants

The convenience sample consisted of 282 students from the second year of the degrees in early childhood education and primary education at a Spanish university. The sample consisted of 58 men and 224 women, with 140 students enrolled in the primary education degree (49 men and 91 women), and 142 in early childhood education (9 men and 133 women). The mean age was 20.69 years, with a standard deviation of 3.05 (min 18 – max 45).

Instruments

To measure the variables mentioned, as well as a brief ad hoc questionnaire designed to collect sociodemographic data, the following three instruments were administered:

Social Anxiety Questionnaire for Adults (SAQ-A30), (Caballo et al., 2010; Caballo et al., 2017). This instrument is used in both clinical practice and research on social anxiety and phobia. It is a 30-item self-report questionnaire that assesses five dimensions: fear of public speaking/interaction with people in authority, interactions with strangers, interactions with the opposite sex, assertive expression of annoyance, disgust or displeasure, and criticism and embarrassment. Overall social anxiety is also measured. Each dimension comprises six items randomly distributed through the questionnaire. Respondents score the items for level of unease, stress or nervousness on a 5-point Likert scale, ranging from 1 = *Not at all or very slight* to 5 = *Very high or extremely high*. As regards its psychometric properties, the five-factor structure of the SAQ-A30 has been shown to be robust and stable, with a high percentage of cumulative variance explained (54.39%) in university students. The consistency level (Cronbach's alpha) reported for the total score is high (.91) and the concurrent validity is good (.66).

Rosenberg Self-Esteem Scale (Rosenberg, 1973). The aim of this scale is to assess satisfaction with oneself. The scale consists of 10 items, 5 posed positively and 5 negatively in order to control acquiescence and the tendency to respond affirmatively. The items are scored on a 4-point Likert-type scale, from Strongly agree to Strongly disagree. The total score ranges from 10 to 40, with the cut-off point being 25. A score of below 25 points corresponds to low self-esteem, i.e. the individual has significant problems of self-esteem. Five minutes is considered sufficient time to complete the ques-

tionnaire, which is often used for pre-treatment assessment. The scale was translated into Spanish and validated by [Atienza et al. \(2000\)](#). Regarding its psychometric properties, internal consistency is high (.86) in a female sample.

Self-Concept Scale 5 (AF-5; [García & Musitu, 2014](#)). This 30-item questionnaire assesses five dimensions of self-concept: social, academic/professional, emotional, family and physical. It is easy and quick to administer and can be used with children from age 10 to adults. Its five-factor structure has been validated, with confirmatory factor analyses having been applied to ensure the factor structure of the AF-5 and the validity of the five-factor model. The scale has shown strong internal consistency for the overall score (.82) and each dimension (social .70, academic/professional .88, emotional .73, family .77, and physical .74).

Procedure

To implement the study, students in the second year of the degree courses in early childhood education and primary education were invited to participate in a research study on social anxiety. This call was made in December 2019, before the end of the first term. The students were first informed about the aims of the study, and, with those willing to participate, we agreed upon a date and time for the administration of the questionnaires during the tuition schedule. On the day the instruments were administered, two members of the teaching staff were present in the room to help explain the instructions and distribute and collect the questionnaires. On the same day, they were asked to sign the informed consent form and, once it was collected, the students were asked to complete a questionnaire with their sociodemographic and previous clinical data. They were then given instructions on how to answer the questions in the different scales. The three questionnaires were administered in a single session, with a duration of approximately 40 minutes. The order in which the questionnaires were administered was counterbalanced to reduce possible order effects.

Ethical considerations

The informed consent form included information about the objectives and procedure of the study, while ensuring the confidentiality of the data provided. Additionally, the university's research ethics committee approved the study (Protocol 27734).

Statistical analysis

We conducted analyses of reliability (Cronbach's alpha) and normality (Kolmogorov-Smirnov), descriptive measures (means and standard deviation), correlations (Spearman) and regression analyses. These included checking for collinearity (tolerance and variance inflation factor), homoscedasticity (scatter plots), normality of residuals (Kolmogorov-Smirnov) and independence (Durbin-Watson). To ensure the absence of collinearity, tolerance values should not be below .1 and the variance inflation factor should not be greater than 10; for homoscedasticity the scatter plots should show

homogeneously distributed residuals, and, for independence, the Durbin-Watson test values should be between 1.5 and 2.5. All the above calculations were performed using IBM SPSS® v. 28.0 software. To estimate the effect size, f^2 was calculated following the recommendations of Ialongo (2016) for this measure, where values exceeding .15 are indicative of a medium effect, while those surpassing .35 correspond to a large effect. For statistical power, $1-\beta$ (Kang, 2021) was calculated. Both measures, size effect and power, were obtained using G*Power software.

RESULTS

Table 1 shows the mean and standard deviation for the overall sample for all the dimensions of anxiety, self-esteem and self-concept. Also, the coefficients of reliability are presented in the same table.

Table 1.

Means, standard deviations, and Cronbach's alpha for anxiety, self-esteem and self-concept for the total sample

	Overall sample (282)		Cronbach's alpha
	Mean	SD	
I. Social Anxiety			
Speaking in public/interaction with people in authority	20.18	(5.34)	.86
Interaction with strangers	14.98	(5.13)	.82
Interaction with the opposite sex	20.61	(5.29)	.86
Assertive expression of annoyance, dis-gust or displeasure	18.07	(4.66)	.76
Criticism and embarrassment	20.01	(4.32)	.74
Overall social anxiety	93.85	(18.41)	.91
II. Self-esteem			
Overall self-esteem	31.85	(5.14)	.85
III. Self-concept			
Academic self-concept	7.01	(1.45)	.85
Social self-concept	7.17	(1.69)	.78
Emotional self-concept	4.39	(1.94)	.75
Family self-concept	8.72	(1.44)	.75
Physical self-concept	5.75	(2.00)	.84
Overall self-concept	33.03	(5.57)	.78

In this study, the reliability of the SAQ-A30 was high in some subscales (fear of public speaking/ interaction with people in authority, interaction with the opposite sex, and interaction with strangers) and was lower but acceptable in others (assertive expression of annoyance, disgust or displeasure, and criticism and embarrassment). In the Rosenberg self-esteem scale, high reliability was found,

similar to that reported by [Atienza et al. \(2000\)](#). For the AF-5 scale, the reliability for global, social, emotional, and family self-concept was acceptable, while the reliability was high for academic and physical self-concept.

To select the predictor variables, self-esteem and self-concept -specifying their dimensions-, to be included in the regression model, Spearman's bivariate correlations were performed, with the results shown in [Table 2](#).

Table 2.
Correlations between factors of anxiety, self-esteem and dimensions of
self-concept (282)

	Self-es- teem	Academic self-con- cept	Social self-con- cept	Emotional self-con- cept	Family self-con- cept	Physical self-con- cept	Overall self-con- cept
Speaking in pu- blic/interaction with people in authority	-.306**	-.068	-.336**	-.592**	.024	-.167**	-.390**
Interaction with strangers	-.251**	-.098	-.529**	-.458**	-.084	-.177**	-.428**
Interaction with the opposite sex	-.319**	-.043	-.283**	-.404**	.010	-.208**	-.314**
Assertive expres- sion of annoyanc- e, disgust or dis- pleasure	-.247**	-.018	-.137*	-.369**	-.073	-.124*	-.245**
Criticism and embarrassment	-.164**	.063	-.124*	-.477**	.093	-.061	-.185**
Overall anxiety	-.341**	-.063	-.381**	-.615**	-.005	-.200**	-.426**

Note. *Correlation is significant at the 0.05 level (bilateral), **Correlation is significant at the 0.01 level (bilateral).

We observed low inverse correlations between self-esteem and all dimensions of anxiety. Furthermore, low to moderate inverse correlations were identified between all anxiety dimensions and three self-concept factors: social, emotional, and physical, along with overall self-concept. Notably, there were no correlations between academic and family self-concept and any factors related to social anxiety. Additionally, the dimension of criticism and embarrassment did not show a correlation with physical self-concept.

As a result, the regression model for most dimensions of social anxiety included five predictor variables: self-esteem, social self-concept, emotional self-concept, physical self-concept, and overall self-concept. However, for the criticism and embarrassment dimension, we incorporated only four variables, omitting physical self-concept.

Table 3 presents the results of the ANOVA multiple regression for each anxiety dimension, conducted using the Enter method. Each model for the social anxiety variables, including overall anxiety, was found to be significant, demonstrating medium to large effect sizes (ranging from .18 to .85) and high statistical power (.99).

Table 3.

Variance analysis of the regression models, including size effect (f^2) and statistical power $1-\beta$

Social anxiety dimension	F (gl)	p	R^2/R^2	f^2	$1-\beta$
Predictor variables	adjusted				
Speaking in public/interaction with / interaction with people in authority	35.99 (5,276)	<.001	.40/.38	.67	.99
Self-esteem, social SC, emotional SC, physical SC and overall SC					
Interaction with strangers	41.26 (5,276)	<.001	.43/.42	.75	.99
Self-esteem, social SC, emotional SC, physical SC and overall SC					
Interaction with the opposite sex	15.67 (5,276)	<.001	.22/.21	.28	.99
Self-esteem, social SC, emotional SC, physical SC and overall SC					
Assertive expression of annoyance, disgust or displeasure	9.72 (5,276)	<.001	.15/.13	.18	.99
Self-esteem, social SC, emotional SC, physical SC and overall SC					
Criticism and embarrassment	24.05 (4,277)	<.001	.26/.25	.35	.99
Self-esteem, social SC, emotional SC and overall SC					
Overall social anxiety	47.52 (5,276)	<.001	.46/.45	.85	.99
Self-esteem, social SC, emotional SC, physical SC and overall SC					

In each multiple regression model, we evaluated the presence of collinearity. As shown in Table 3, none of the correlations between the variables exceeded .90, indicating an absence of collinearity. We also calculated the tolerance and variance inflation factor (VIF) for the models. In the five-factor models, the tolerance values for all predictors were above .1: self-esteem (.572), social self-concept (.383), emotional self-concept (.531), physical self-concept (.333), and total self-concept (.127). Similarly, for the criticism and embarrassment dimension, which included only four predictors, no tolerance value fell below .1: self-esteem (.574), social self-concept (.432), emotional self-concept (.630), and overall self-concept (.257).

Regarding the variance inflation factor, all values in the five-predictor model were below 10: self-esteem (1.747), social self-concept (2.611), emotional self-concept (1.883), physical self-concept (3.002), and total self-concept (7.854). The same was true for the criticism and embarrassment dimension with four predictors: self-esteem (1.747), social self-concept (2.317), emotional self-concept (1.587), and overall self-concept (3.891).

For the independence assumption, the Durbin-Watson test results fell within the acceptable range of 1.5 to 2.5: fear of public speaking/interaction with persons in authority (1.713), interaction with strangers (1.918), interaction with the opposite sex (2.167), assertive expression of annoyance, disgust, or displeasure (2.019), criticism and embarrassment (1.874), and overall social anxiety (2.022).

Additionally, the assumption of normality of the residuals was generally satisfied, as indicated by non-significant results from the Kolmogorov-Smirnov test, except for the model concerning interaction with the opposite sex, where results should be interpreted with caution. Moreover, the scatter plots presented in Figure 1 demonstrate that while the distribution of the residuals is not entirely homogeneous, it does not exhibit serious distortions, suggesting the presence of homoscedasticity.

Figure 1.

Residual scatter plots to explore the presence of homoscedasticity. The horizontal axes show the dimensions of social anxiety, and the vertical axes represent the residual values

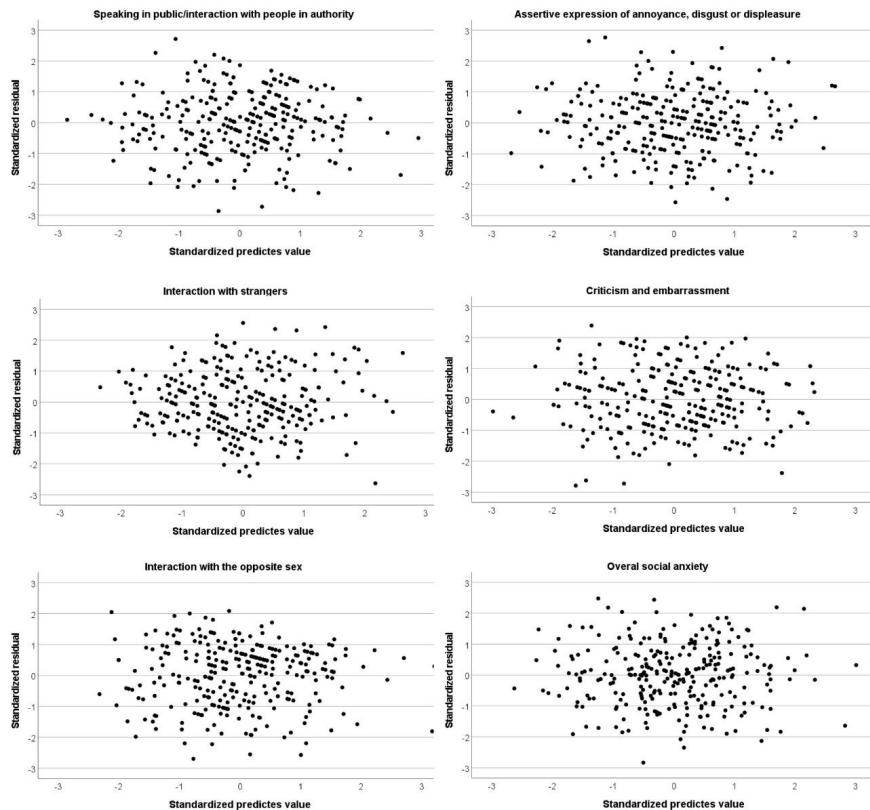


Table 4 shows the regression coefficients, their standard deviations, t-values and significance. Although all the models for each of the anxiety variables proved significant, only some of the predictor variables showed significant effects. In the dimension of interaction with the opposite sex, all the predictors of self-concept were significant, the highest being emotional self-concept, followed by social, physical, and total, with self-esteem presenting the lowest value. For overall anxiety, three self-concept predictors were found to be significant, namely, social, emotional and total self-concept. Meanwhile, two significant predictors were found for three dimensions of social anxiety: in the cases of fear of public speaking/interaction with people in authority and interaction with strangers, the predictors were emotional and social self-concept. In the dimension of criticism and embarrassment, the predictors were emotional self-concept and overall self-concept. Finally, in the case of the social anxiety dimension of assertive expression of annoyance, disgust or displeasure, the only significant predictor was emotional self-concept.

Table 4.

Variance analysis of the regression models, including size effect (f^2) and statistical power $1-\beta$

Predicted variables	Predictor variables	<i>B</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Fear of speaking in public/interaction with people in authority	Model	29.843	1.988	15.009	<.001
	Self-esteem	-.069	.064	-1.069	.286
	Social SC	-.667	.240	-2.784	.006
	Emotional SC	-1.618	.177	-9.165	<.001
	Physical SC	.034	.216	.157	.875
	Total SC	.128	.126	1.015	.311
Interaction with strangers	Model	26.516	1.856	14.289	<.001
	Self-esteem	.003	.060	.053	.958
	Social SC	-1.752	.224	-7.837	<.001
	Emotional SC	-1.001	.165	-6.079	<.001
	Physical SC	.068	.202	.338	.736
	Total SC	.149	.117	1.272	.204
Interaction with the opposite sex	Model	28.613	2.235	12.802	<.001
	Self-esteem	-.164	.072	-2.275	.024
	Social SC	-.831	.269	-3.084	.002
	Emotional SC	-1.065	.198	-5.367	<.001
	Physical SC	-.531	.243	-2.182	.030
	Total SC	.330	.141	2.336	.020

Assertive expression of annoyance, disgust or displeasure	Model	25.248	2.054	12.289	<.001
	Self-esteem	-.124	.066	-1.872	.062
	Social SC	-.125	.248	-.506	.613
	Emotional SC	-.744	.182	-4.080	<.001
	Physical SC	.093	.224	.417	.677
	Total SC	.012	.130	.095	.924
Criticism and embarrassment	Model	22.757	1.570	14.497	<.001
	Self-esteem	-.042	.057	-.739	.461
	Social SC	-.358	.202	-1.772	.077
	Emotional SC	-1.277	.145	-8.809	<.001
	Physical SC	.205	.079	2.591	.010
Overall social anxiety	Model	132.256	6.460	20.472	<.001
	Self-esteem	-.394	.209	-1.887	.060
	Social SC	-3.795	.778	-4.875	<.001
	Emotional SC	-5.759	.573	-10.043	<.001
	Physical SC	-.502	.703	-.714	.476
	Total SC	.894	.409	2.187	.030

DISCUSSION

The aim of the present study was to determine whether self-esteem and self-concept predict social anxiety and to examine the dimensions of self-concept that predict the different dimensions of social anxiety. The first finding was that self-esteem only predicted one of the five dimensions assessed, namely, anxiety about interaction with the opposite sex. The correlations calculated between self-esteem and all the dimensions of social anxiety were negative and statistically significant, thereby corroborating prior studies (Murad, 2020; Obadeji & Kumolalo, 2022; Zhang et al., 2019): However, in the regression analyses, it was the dimensions of self-concept that demonstrated significant contributions, rather than self-esteem. Additionally, the aforementioned studies reported a relationship between unidimensional constructs (self-esteem and social anxiety), while the current study differentiated five dimensions of social anxiety. This differentiation among various dimensions is also essential in relation to self-perceptions, as reported by Gök & Yalçınkaya-Alkar (2023), who illustrated that, within a nonclinical cohort of adults, not only does self-esteem serve as a predictor of social anxiety, but other cognitive assessments, including both positive and negative self-perceptions, also exert a significant influence.

The second key finding is that emotional self-concept predicts all dimensions of social anxiety. While social, physical, and overall self-concept were found to predict some dimensions of social

anxiety, surprisingly, family self-concept did not predict any dimensions within the social context. Although there is a lack of previous studies specifically examining the relationship between self-concept and social anxiety among university students, our finding that emotional self-concept predicts social anxiety across all dimensions aligns with [García & Musitu \(2014\)](#). They reported a positive correlation between this self-concept factor and “social skills, self-control, and peer acceptance” (p. 19), while noting a negative correlation with anxiety. Their findings suggest that students with a low emotional self-concept may struggle to manage their emotions and tend to react inappropriately or nervously in social situations.

Furthermore, [Caldera et al. \(2018\)](#) emphasized that a high emotional self-concept is crucial for developing social skills among university students, and [Micheal-Raj & Babu \(2022\)](#) found that individuals with social anxiety often undervalue their own abilities across various competencies. Thus, it can be inferred that cultivating a stable emotional self-concept is vital for managing social anxiety in all its dimensions.

Social self-concept is the next most important in terms of its impact on social anxiety. The only dimension it fails to predict is that of assertive expression of annoyance, disgust or displeasure, as this is the exclusive domain of emotional self-concept. This finding aligns with those of [Micheal-Raj & Babu \(2022\)](#), who found that social anxiety was related to the social competence aspect of self-portrayal. Thus, developing this dimension of self-concept, which emphasizes knowledge of peer relations, is also an important element in avoiding the emergence of social anxiety.

Furthermore, despite [García & Musitu \(2014\)](#) reporting that physical self-concept, in its social and physical attractiveness facets, is negatively correlated with anxiety, in the present study, it only predicted anxiety involved in interaction with the opposite sex. This seems logical, given the belief that physical image is of great importance in establishing relationships with the opposite sex. This coincides with the findings of [Micheal-Raj & Babu \(2022\)](#) as regards self-portrayal (physical appearance) and anxiety.

Additionally, [García & Musitu \(2014\)](#) found that the family dimension of self-concept is key and is negatively correlated with anxiety. In the research by [Caldera et al. \(2018\)](#), the family dimension of self-concept was shown to be more important than the other dimensions. [Ocampo et al. \(2022\)](#) studied academic and family self-concept in high-performing university students, finding that they had greater social skills, were less withdrawn and integrated better with their peer group, exhibiting better academic and family self-concept. Given that self-concept is a protective factor against anxiety, university students with a good academic self-concept will present fewer anxious reactions and have better strategies when dealing with academic evaluations ([Portillo, 2021](#)).

Inexplicably however, our study found no association between social anxiety and academic self-concept, nor between social anxiety and family self-concept. Hence, they were not included in the model.

The results of our multiple linear regression analysis showed that the most significant independent or predictor variables were emotional and social self-concept. Although self-esteem was included in all the models explaining the different dimensions of social anxiety we measured, surprisingly, it only predicted one of these dimensions. This finding lends support to the notion of assessing anxiety with a multidimensional model, as it allows us to differentiate between the diverse aspects of anxiety on which self-esteem truly impacts, and so avoid falling into generalizations. In fact, the large body of evidence of the relationship/prediction between anxiety and self-esteem is not corroborated by our findings, given that anxiety was only included in the dimension of interaction with the opposite sex.

The results of this study lead us to conclude that, in reference to the first hypothesis, self-esteem predicts the presence of social anxiety solely in the dimension of interaction with the opposite sex. As regards our second hypothesis, our findings confirm that the factors of emotional and social self-concept are the most robust predictors of social anxiety in its diverse dimensions. Finally, in terms of our third hypothesis, we can say that, compared with self-esteem, self-concept is a stronger predictor of social anxiety in all its dimensions. This finding is important as it suggests paying attention towards one's self-concept is a crucial factor influencing social anxiety, particularly in a landscape where there is an extensive body of scientific literature on self-esteem and social anxiety.

One constraint of this study was the use of a convenience sampling method. To mitigate this constraint, it is worth noting that the five predictive models pertaining to dimensions of social anxiety exhibited effect sizes of considerable magnitude: larger (public speaking, interaction with strangers, and criticism and embarrassment) and medium (interaction with the opposite sex, and assertive expression of annoyance). Consequently, the predictions can be regarded as meaningful. Nevertheless, to enhance the generalizability of the results, it would be recommendable for forthcoming research to implement a randomized approach for participant selection.

It is worth underlining that the sample comprised an unbalanced number of women and men. This, however, does reflect the reality of enrolment in teacher training courses for early childhood education and primary education in Spain, where there continues to be a predominance of female students, particularly in the former discipline. Moreover, it is worth noting that the study was conducted with a non-clinical sample of university students. To be able to generalize the results, it would be useful to work with a larger randomized sample, but also with a greater number of male students, also taking samples from other degree courses and universities in Spain to gain greater representativeness.

CONCLUSIONS

Accurate information is crucial for developing tailored intervention programs that address the facets of self-concept and social anxiety. This study demonstrates that the emotional and social components of self-concept are significant predictors of social anxiety. These findings can be leveraged to

design intervention programs aimed at enhancing learners' emotional and social self-concept, thereby reducing the prevalence of social anxiety.

Enhancing the emotional self-concept of university students has the potential to reduce social anxiety, as evidenced in the research conducted by [Palacios et al. \(2022\)](#), who contend that social anxiety may be alleviated through targeted interventions designed to bolster emotional and social self-concept. They propose that such interventions could be implemented via tailored training programs focused on the development of socio-emotional competencies.

Future research should concentrate on elucidating the levels of emotional and social self-concept among college students who experience anxiety related to public speaking, authority figures, interactions with peers and the opposite sex, challenges with assertiveness, and fears of potential embarrassment. This knowledge will aid in formulating enhanced interventions aimed at alleviating social anxiety. Programs that emphasize emotional and social self-concept while considering individual, cultural, and gender differences could be particularly effective in addressing social anxiety within this demographic. A range of methodologies and strategies should be proposed to tackle social anxiety in college students, accommodating their individual preferences. Some students may prefer face-to-face interventions, while others might favor less intimidating online programs.

Various methodologies can be implemented in face-to-face interventions to reduce social anxiety, such as the cognitive reformation of irrational beliefs that may underlie social anxiety and a diminished emotional and social self-concept, or the identification of maladaptive cognitive strategies employed for emotional regulation that may be exacerbating and perpetuating social anxiety. Thus, it is useful to leverage the proven experiences that have shown a cognitive emotion regulation program can improve emotion regulation strategies and reduce anxiety and depression levels in university students ([Gökmen-Özdemir & Eryilmaz, 2024](#)).

Online interventions can be designed as either individual or group-oriented and structured as guided or self-directed. [Bantjes et al. \(2024\)](#) provide empirical evidence that online modalities of cognitive behavioral therapy effectively alleviate symptoms of anxiety and depression among college students, utilizing both remote group therapy and self-administered online interventions.

Finally, it is suggested that these interventions be incorporated into the psychological support services of the university, thereby enabling outreach to the student population, particularly to individuals who, owing to issues of timidity and social inhibition, encounter challenges in seeking such assistance, despite recognizing its necessity and acknowledging its ever-growing importance in academic environments.

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