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SOCIO-EMOTIONAL SKILLS AS ANTECEDENTS OF STRESS, ANXIETY AND DEPRESSION: A STUDY WITH ADOLESCENTS AND YOUNG PEOPLE

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ABSTRACT

Socioemotional skills have been attracting increasing interest among researchers due to their explanatory capacity for several variables associated with mental health and mental disorders. In this context, the main objective of this study was to analyze the predictive role of socioemotional skills in anxiety, stress and depression. The research included a sample of 283 participants with an average age of 17.43 years. Data were collected using two instruments. The first consisted of a scale of socioemotional skills, while the second assessed levels of stress, anxiety and depression. The results indicated that certain factors of socioemotional skills were able to predict the dimensions of stress, anxiety, and depression. Additionally, significant differences were identified in the scores of the constructs studied, depending on the gender variable. It is concluded that socio-emotional skills are predictors of stress, anxiety, and depression.

Keywords: Socioemotional Skills. Stress. Anxiety. Depression.

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INTRODUCTION

Socioemotional skills (SES) have emerged as a promising field of scientific research due to their theoretical relevance and broad applicability in various contexts. These skills can be defined as individual capacities manifested in consistent patterns of thoughts, feelings, and behaviors, which can be developed throughout life through formal and informal learning experiences. Furthermore, they play an essential role in promoting positive socioeconomic outcomes in individuals' personal and professional trajectories (Kankaras & Suarez-Alvarez, 2019).

SES comprises a set of skills, attitudes, and knowledge that, throughout human development, enable individuals to recognize and understand their own emotions, as well as the emotions of others. From this perspective, they are understood as indispensable tools for formulating adaptive and effective responses to the various demands of people's daily lives (Bisquerra & López, 2021).

A systematic review of international literature, which examined articles published between 2017 and 2022, highlighted that CSE encompasses skills, knowledge, and attitudes that are crucial for understanding, regulating, and expressing social and emotional phenomena. These skills are essential for fostering healthy intrapersonal and interpersonal relationships, directly contributing to people's well-being (Silva & Behar, 2023).

According to the World Health Organization (2012), some mental disorders begin in childhood and adolescence. Research has identified the origin of many mental illnesses during this period, one of which is depression, with high prevalence and associated comorbidities, such as anxiety disorders, which can be found in up to 80% of cases (Caspi et al., 2014; Jatobá & Bastos, 2007).

The constructs stress, anxiety, and depression have traditionally been studied using the reduced version of the Anxiety, Stress, and Depression Scale, known as the Depression Anxiety Stress Scale (DASS-21). This instrument was developed to provide a self-report measure of symptoms of anxiety, stress, and depression. During the construction process, it was established that the main symptoms of depression are: a lack of perspective, low self-esteem, devaluation of life, self-deprecation, and inertia. Furthermore, the main symptom of anxiety is physiological arousal. The stress construct of the scale emerged empirically during the development of depression and anxiety scales, through the addition of items related to tension, difficulty relaxing, impatience, restlessness, and irritability (Szabó, 2010).

Research shows that depression is the main risk factor for suicide, being the second leading cause of death in the adolescent population. Furthermore, presenting a disorder

such as depression in adolescence is associated with a range of mental disorders in adulthood, such as anxiety, disorders related to psychoactive substance abuse, bipolarity, stress, and suicidal behavior (Thapar et al., 2012).

Anxiety can be characterized by long-term anticipation of negative events that may occur when the individual faces uncertainties in life, existential threats, or a feeling of potential or real danger (Apóstolo et al., 2006). Anxiety can occur as a natural feeling or as a psychological disorder. The intensity and duration of this state will determine the difference between normal and pathological (American Psychiatric Association, 2014).

Finally, stress specifically, has been described as a state of excessive and chronic excitement or tension resulting from the ineffectiveness of coping strategies. This condition generally leads the individual to have a low tolerance for frustrations and significant emotional effects (Apóstolo et al., 2006; Pais-Ribeiro et al., 2004).

Based on the above context, considering that socio-emotional skills are good predictors of mental health or illness and that adolescents are extremely susceptible to stress, anxiety, and depression, this study's main objective is to analyze the predictive power of socio-emotional skills on stress, anxiety, and depression. In addition, diagnoses of all dimensions of the constructs will be carried out, as well as the statistical correlations between them. Finally, analyses of differences between sexes will be conducted for all factors of the constructs studied.

METHODOLOGY

This study is configured as a quantitative approach. It is classified as a cross-sectional study to analyze the statistical correlations and predictive power of the variables of the socio-emotional competencies model on the variables of stress, anxiety, and depression. In addition, two studies were conducted here. Calculations of statistical differences between groups for the gender variable.

PARTICIPANTS

The study included the participation of 283 students attending a professional training course. The sample was predominantly composed of women (50.2%), with a mean age of 17.47 years (range: 15 to 21 years; SD = 1.58). The sample size calculation was performed using the G*Power 3.1.9.2.7 program, considering a significance level of 5%, statistical power of 80%, and effect size of 0.15. For a multiple regression analysis, considering three predictive factors, the minimum sample size indicated was 77 subjects, for correlations, 64 subjects, and for t-test, 102 subjects (Faul et al., 2009).

INSTRUMENTS

Two instruments were used to carry out this research, the first being a scale of socio-emotional skills (Souza & Faiad, 2022). This instrument consists of 28 items and this study presented the following indicators: social awareness, six items, (ω = 0.71); self-management, with seven items, (ω = 0.70); responsible decision-making, with six items, (ω = 0.60); self-awareness, with five items, (ω = 0.65); and relationship skills, with four items, (ω = 0.59). The model presented good adjustment indices for the sample of adolescent and young students: χ2/pdf = 1.85; CFI = 0.95; TLI = 0.95; RMSEA = 0.04 and SRMS = 0.05. The second instrument used was the Depression, Anxiety, and Stress Scale (DASS-21) (Vignola & Tucci, 2014). The scale contains three factors: anxiety (ω = 0.89); stress (ω = 0.91) and depression (ω = 0.88). The instrument uses a four-point Likert-type response system, ranging from 0 (not applicable at all) to 3 (very applicable or most of the time). The model presented good adjustment indices for the sample of adolescent and young adult students: χ2/pdf = 2.56; CFI = 0.94; TLI = 0.95; RMSEA = 0.03 and SRMS = 0.04.

ETHICAL AND COLLECTION PROCEDURES

Data were collected online, using Google Forms, using a form containing the instruments, and a Free and Informed Consent Form (FICF). The FICF informed the participants about the research topic, objectives, guardian data, and guarantee of anonymity. The coordinator of the professional training course obtained authorization for data collection from parents or guardians.

ANALYSIS PROCEDURES

Statistical analysis procedures were conducted using the SPPS 24 program. First, multiple regression analyses were performed (enter method). Regarding the statistical assumptions for this analysis, the criteria of multicollinearity and independence of residuals were considered, which presented adequate indicators, according to the guidelines of Field (2013).

Analyses of differences between groups for the gender variable were performed using the unpaired t-test. The normal distribution of the data was analyzed using the Kolmogorov-Smirnov and Shapiro-Wilk tests, and the assumption of homogeneity of variance was assessed using the Levene test. Bootstrapping procedures (1000 re-samplings; 95% CI BCa) were performed in the t-test to obtain greater reliability in the results. The technique corrects deviations from sample normality and differences between group sizes, also using a 95% confidence interval for differences between means (Haukoos

& Lewis, 2008). In addition, the effect size of the test was calculated based on the analysis of Cohen's d.

RESULTS

DESCRIPTIVE ANALYSIS OF THE FACTORS

The results of the descriptive analyses of the five factors of the socioemotional skills scale will be presented below. Table 1 presents the values of the means, standard deviations, raw scores, and percentile values identified in the standards of the socio-emotional skills scale.

Table 1. Descriptive analyses of the factors of the socioemotional competence scale

Socioemotional Competence Factors	Mean	Standard Deviation	Raw Score	Percentile
Social Awareness	3.98	0.66	23	40
Emotion Self-Management	3.78	0.71	26	70
Responsible Decision-Making	4.33	0.62	26	50
Emotional Self-Awareness	4.28	0.67	21	40
Relationship Skills	4.33	0.69	17	40

Source: Authors.

Table 2 presents the mean and standard deviation results for the three factors of the DASS-21 scale.

Table 2. Descriptive analyses of the factors of the DASS-21 scale

DASS-21 Scale Factors	Mean	Standard Deviation
Stress	1.25	0.82
Anxiety	1.14	0.94
Depression	0.99	0.83

Source: Authors

T-TEST FOR SEX VARIABLE

Mean difference analyses for the sex variable were conducted for all factors of the socioemotional competence scales and the DASS-21 scale. The results related to socioemotional competencies showed significant differences for two factors. Males had higher emotional self-management scores compared to females. However, females had higher responsible decision-making scores. The effect size for these differences was small.

Regarding the scores of the DASS-21 scale factors, females scored higher in all factors. The effect size for the differences in anxiety and stress was moderate, while for depression, it was small. Table 3 below presents the statistically significant differences in the mean scores of the socioemotional competence factors and the DASS-21 scale for the sex variable.

Table 3. T-test for sex variable in socioemotional competence factors and DASS-21 scale

Socioemotional Competence Factors	Sex	M	df	t	d	p
Emotion Self-Management	Male	3.89	281	-2.570	0.30	0.012
	Female	3.69				
Responsible Decision-Making	Male	4.26	281	2.047	0.25	0.035
	Female	4.41				

DASS-21 Scale Factors	Sex	M	df	t	d	p
Anxiety	Male	0.92	281	3.874	0.48	0.001
	Female	1.36				
Stress	Male	1.06	281	4.039	0.44	0.001
	Female	1.43				
Depression	Male	0.88	281	2.318	0.28	0.019
	Female	1.11				

Source: Authors. M = mean; df = degrees of freedom; t = t-value; d = Cohen's effect size; p = significance.

STATISTICAL CORRELATION ANALYSES

Table 4 below presents the results of the statistical correlations between all factors of the socioemotional competence scales and the DASS-21 scale factors. This analysis revealed that most relationships were significant, with some moderate and strong correlations.

Table 4. Correlations between socioemotional competence factors and the DASS-21 scale

	Anxiety	Stress	Depression
Social Awareness	-0.195**	-0.156**	-0.137*
Emotion Self-Management	-0.490**	-0.546**	-0.529**
Responsible Decision-Making	-0.111	-0.146*	-0.190**
Emotional Self-Awareness	-0.186**	-0.187**	-0.203**
Relationship Skills	-0.185**	-0.150*	-0.234**

Source: Authors. **. Significant correlations at 0.01 level. * Significant correlations at 0.05 level.

MULTIPLE LINEAR REGRESSION ANALYSIS

Three multiple linear regression analyses were conducted to investigate to what extent the factors of the socioemotional competence instrument impact stress, anxiety, and depression levels.

Table 5 below presents the prediction coefficients for the three dependent variables. As shown, the only variable that impacted stress levels was the dimension of emotion self-management, explaining 30% of the predicted variable. Regarding the results related to anxiety, the factors of emotional self-management and responsible decision-making explained 25% of the predicted variable. Finally, the emotional self-management factor was able to explain 28% of the depression variable.

Table 5. Regression between socioemotional competencies and stress, anxiety, and depression

Predictors – Stress

Adjusted R^2	Beta	t	p
0.30	-0.596	-10.246	0.000

Predictors – Anxiety

Adjusted R^2	Beta	t	p
0.25	-0.514	18.509	0.001
	0.141	2.099	0.037

Predictors – Depression

Adjusted R^2	Beta	t	p
0.28	-0.544	-9.212	0.000

Source: Authors.

DISCUSSION

To analyze the diagnosis of socioemotional skills factors, the normative study of the scale (Souza & Faiad, 2022) was used. In this research, it was possible to identify three factors that presented percentile values lower than 50%. They were: social awareness (40%); emotional self-awareness (40%) and relationship skills (40%). A very interesting fact concerns the results of self-management of emotions, which presented a high percentile (70%), going against studies that demonstrate that this dimension generally presents lower scores than other dimensions of socioemotional skills (Souza et al., 2021; Souza & Souza Junior, 2023).

Research on differences in the diagnosis of socioemotional skills in men and women has already been widely investigated. Similar results to this study can be found in the scientific literature (Coelho et al., 2014; Coelho et al., 2016; Coryn et al., 2009; Merrell et al., 2010).

Regarding the diagnoses of anxiety, stress, and depression, it was noted that the indicators did not present extreme results. When using the reference values suggested by Martins, et al. (2019), it is possible to see that the averages for stress (1.25); anxiety (1.14), and depression (0.99) were below the reference value (2.34), which is considered a normal value in the diagnosis of the three factors.

Regarding the comparisons of the results of stress, anxiety, and depression for the gender variable, the results found in this research showed that women presented higher levels of stress, anxiety, and depression than men. These results were statistically significant and the effect size in the differences between anxiety and depression was medium and for stress, it was small. The literature has presented different results regarding these indicators, with findings that do not present significant differences between men and women (Martins et al., 2019) and results that present significant differences between men and women (Camacho et al., 2016).

The results of the multiple regression analyses indicated that some socioemotional skills factors were able to predict stress, anxiety, and depression. More specifically, the only socioemotional skills variable that impacted stress levels was the self-management of emotions dimension, explaining 30% of the predicted variable. Regarding the results related to anxiety, the self-management of emotions and responsible decision-making factors explained 25% of the predicted variable. Finally, the self-management of emotions factor was able to explain 28% of the depression variable.

The results of the correlation analyses reinforce the findings of the regression analyses and draw attention to the relationship between self-management of emotions and stress, anxiety, and depression. The most significant indicators were the correlations between stress and self-management of emotions, $r = -0.546$, $p < 0.001$; anxiety and self-management of emotions, $r = -0.490$, $p < 0.001$; and depression and self-management of emotions, $r = -0.529$, $p < 0.001$. These results draw attention to the importance of developing control over emotions and its relationship with anxiety, stress, and depression.

CONCLUSION

The main objective of this research was to analyze the predictive power of socioemotional skills on stress, anxiety, and depression. In addition, diagnoses were made of all dimensions of the constructs, as well as the statistical correlations between them. Finally, analyses of differences between sexes were performed for all factors of the constructs. The objectives of the research were achieved and extremely important results were presented on the constructs studied. The main findings demonstrated that socio-emotional skills are related to and are capable of predicting stress, anxiety, and depression. Furthermore, significant statistical differences were found for the variables gender, some socioemotional skills factors, and stress, anxiety, and depression.

As for the limitations of the study, we can highlight that the collection of data could have reached a larger number of participants, to outline a more comprehensive overview of the diagnosis of the institution's students. Additionally, other sociodemographic variables could have been collected for an analysis of their influences on socio-emotional skills, anxiety, stress, and depression.

About the research agenda, some relevant studies can be suggested based on the findings. Research that seeks a better understanding of the dimensions that presented lower indicators (stress, depression, relationship skills, emotional self-awareness, and social awareness) could be conducted to improve the understanding of these indicators.

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