Academic Stress and Anxiety among Portuguese Students: The Role of Perceived Social Support and Self-Management

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Abstract: Adolescents are experiencing increasing levels of anxiety and academic stress, with schools being privileged contexts to foster mental health literacy and hinder stress and anxiety. Social support and self-management skills have been described as protective factors for these phenomena. Therefore, this cross-sectional study examines the relations between social support, self-management skills, academic stress, and anxiety among adolescents, analyzing the mediational role of self-management in the relation between social support, academic stress, and anxiety. Participants included 137 adolescents, with an average age of 12.56 years (SD = 0.68), who completed the Perception of Academic Stress Scale, Generalized Anxiety Disorder Scale, Self-Control and Self-Management Scale, Child and Adolescent Social Support Scale, and a sociodemographic questionnaire. Results showed that students generally perceive moderate levels of social support from parents, teachers, and peers; moderate levels of academic stress and mild anxiety; and have self-management skills. Findings showed that self-management is related to social support, academic stress, and anxiety, with gender influencing academic stress and anxiety. Self-management was found to mediate the link between social support, academic stress, and anxiety. The results underscore the importance of fostering social support and self-management skills to mitigate academic stress and anxiety.

Keywords: social support; self-management; academic stress; anxiety

1. Introduction

In educational contexts, there has been an increase in the percentage of students reporting academic stress and anxiety, leading to the need to understand better how to make improvements to prevent this [1,2]. In Portugal, between the years 2014 and 2022, three large national studies were conducted in the scope of the Health Behaviour in School-aged Children (HBSC), which aimed to understand children’s and adolescents’ mental health and wellbeing [3–5]. The results indicated that over the years, there has been a notable decrease in the percentage of life satisfaction among Portuguese adolescents, from 85.4% in 2015 [3] to 81.7% in 2018 [4] and to 72.3% in 2022 [5]. The intensity of concerns has also been increasing, with 22.8% of young people reporting that their concerns are so intense that they cannot calm down or think about other matters [5]. Within this scope and considering that children’s and adolescents’ wellbeing and mental health are worldwide concerns, it is pivotal to further understand how to prevent academic stress and anxiety in school contexts to increase levels of wellbeing.

The literature underlines that contextual interactions are crucial for the development of adolescents [6], with school and family elements playing a key role in fostering positive outcomes. Thus, social support serves as an effective resource for responding to the basic needs of individuals, potentially influencing emotional wellbeing, personal development, and a person’s skills for dealing with challenging situations throughout their life (e.g., [7]).
Although social support could be a way to enhance self-management skills and increase wellbeing, there is scarce research examining the interactions between social support, self-management skills, stress, and anxiety. Most studies have approached these separately, finding relations between (i) social support and self-management, (ii) social support and stress, and (iii) self-management and stress, leaving the potential of an interdependent relation between social support and self-management towards the adolescents’ ability to deal with challenging situations unknown. As both academic stress and anxiety are defined as responses to challenging situations, this study aims to provide evidence on how relationships, through the form of social support, enhance the self-management skills of students, which are considered pivotal for managing emotions, thoughts, and behaviors in a way that is adjusted to different life situations [7], and thus decrease the levels of academic stress and anxiety in schools. Schools and families are considered fundamental in promoting healthy lifestyles, and three sources of social support are thus considered: family social support, teacher social support, and peer social support. Therefore, studying such relations can directly affect the development of adolescents by informing educators on the impact of their interactions—through social support—in enhancing the ability of adolescents to manage challenging situations.

1.1. School Settings and Academic Stress

Stress is a complex adaptive process that arises in situations perceived as dangerous or threatening, impacting both physical and psychological wellbeing [8]. Academic stress specifically refers to the inability of students to meet the academic demands placed upon them despite their adaptive abilities [9,10]. Indicators that suggest the presence of academic stress include cognitive factors such as frequent negative thoughts, physiological factors such as sleeping difficulties, breathing problems, and high heart rates, and motivational factors such as a lack of interest in completing tasks [8].

Potential predictors of academic stress, including motivation, locus of control, and life satisfaction [11], as well as self-management and external regulation [12], have been studied in recent years. Other studies focus on identifying the protective factors of this phenomenon, such as self-compassion [13] and social support [14].

Since academic stress may emerge in scholarly and educational contexts, it is essential to understand how students feel in these contexts. Among the 32 countries of the European Region and North America that participated in the World Health Organization (WHO) HBSC study conducted between 2002 and 2018 [2], Portuguese students were among those who presented a marked decrease in satisfaction with school over time, with Portugal also being among the countries in which students felt higher levels of pressure caused by school [2]. The Portuguese data in particular underline that school pressure was higher among girls and that while satisfaction with school tended to decrease over the years spent in school, pressure tended to increase [2,5]. So, it is imperative to better understand the actual levels of academic stress experienced by Portuguese students, as well as identify protective factors that may mitigate this phenomenon. Such protective factors may include self-management skills [12] and social support [14].

1.2. From Stress to Anxiety in School Settings

The distinction between stress and anxiety is challenging, as both share some similar symptoms, such as a faster heartbeat and breathing [15]. According to the American Psychological Association [16], anxiety is an emotion that results in worries, tensions, and physical symptoms. It is also considered a response to a future event, which can be subjective. In contrast, stress is triggered by an identifiable cause, and the symptoms are typically short-lived [15]. The key differences between stress and anxiety lie in their trigger and duration. While stress is a reaction to a specific event or circumstance, anxiety is often more pervasive and can persist for a longer period. By clearly understanding the differences between these two concepts, individuals can better identify and manage their emotional experiences.
Anxiety disorders are the most prevalent psychopathological disorders in childhood, adolescence, and adulthood, with high levels of comorbidity between the different types and other forms of psychopathology (e.g., depression) [17]. They show a high probability of recurrence and tend to become chronic if not treated [18], and their onset in adolescence predicts psychosocial dysfunction and depression in adulthood [19]. Recent findings estimate that one in twelve children and one in four adolescents suffer from anxiety [20]. Moreover, girls tend to be more vulnerable to developing internalizing symptoms that can sometimes result from anxiety [19,21]. During childhood and adolescence, different types of anxiety may arise, such as generalized anxiety disorder (GAD), social anxiety, specific phobias, and separation anxiety [22,23]. A six-wave study suggested that GAD is the most frequent anxiety disorder at the age of six and after twelve years old [22]. Symptoms resulting from GAD can be alleviated through self-management strategies [24–26].

In school settings, anxiety is a phenomenon that has been widely studied, and several factors and situations have been highlighted as potentially increasing the risk of students experiencing high anxiety and academic stress levels [26]. For instance, researchers have found that elementary school students often experience increased anxiety levels before classes and evaluations [27]. Moreover, the level of inclusion and sense of belonging within the school environment can also impact students’ anxiety levels. Students who feel a lower sense of belonging and security in their schools are more likely to experience higher levels of anxiety [28]. Furthermore, as students progress in age, their anxiety levels tend to increase. This can be attributed to the increasing workload and study hours as they advance through the years of schooling [29]. A similar pattern has been observed among Portuguese students, who exhibit progressively higher levels of anxiety from 8th grade to 12th grade [3–5].

1.3. Social Support and Academic Stress

Social support is conceptualized as the perception that an individual has of the general support or supportive behaviors that they receive. Additionally, social support is not only emotional, but can also be provided as instrumental, informational, and/or appraisal-based support [30]. Indeed, there are some studies focused on the relationship between social support and psychological conditions, and some authors claim that social support is crucial for healthy development [31]. For example, a high perception of social support from one’s parents and classmates is negatively correlated with depression in adolescents [32,33]. Likewise, a lack of social support was identified as a predictor of anxiety in adolescents aged between 12 and 17 years old [34].

Social support is closely related to basic psychological needs, as it plays a significant role in influencing emotional wellbeing, personal development, and the ability to cope with life’s challenges (e.g., [7]). For instance, studies in the literature underline that basic psychological needs include the need for a sense of social belonging and connection, and social support becomes a means by which individuals’ self-esteem can be boosted through positive reinforcement and encouragement. Moreover, sources of social support, such as family, friends, and teachers, can contribute to increasing a sense of safety, particularly in situations of vulnerability or high demands, for instance, situations that cause academic stress and anxiety [35,36]. In these situations, social support can provide tangible assistance, for instance by providing instructional and emotional help, potentially buffering stress and increasing the use of adaptive coping strategies, such as self-management skills [37].

Previous studies analyzed the relationships between perceived social support and problematic behaviors in students, with negative associations between family support and the presentation of problematic behaviors and difficulties at school [38], underlining that social support from the family can be a predictor of quality of life for adolescents [39]. The role of families in shaping children’s development has been widely studied, with studies in the literature suggesting that families’ actions, for instance social support behaviors, can be affected by their socioeconomic level [40].
In school settings specifically, social support was found to be positively correlated with engagement [41,42] and negatively correlated with indiscipline [43] and academic stress [44]. Moreover, social support moderates students’ perceptions of wellbeing when they feel stressed in their academic lives [45]. In this sense, when students perceive social support from their families, peers, or even teachers, they tend to have lower levels of academic stress. Considering the importance of social support in promoting students’ well-being, this study aims to understand how the social support perceived by Portuguese students, in relation to parents, teachers, and peers, relates to their academic stress levels and anxiety.

### 1.4. Self-Management and Academic Stress

Self-management is one of the five core competencies integrated in social and emotional learning (SEL). During infancy and adolescence, SEL aims to foster skills and attitudes that promote identity building, including self-management skills as predictors of overall wellbeing and mental health [46–48]. This competency is defined as the ability of children and adults to manage their emotions, thoughts, and behaviors in a way that is adjusted to different life situations. Self-management refers to the ability to use strategies to manage stress, manage emotions, set goals, and remain motivated to achieve them. The promotion of SEL can occur not only in the family context, but also in the school and community contexts. Social and emotional competencies are negatively correlated with anxiety, which may arise during academic evaluation periods, and negative feelings [5]. This means that students with lower social and emotional competencies may feel higher levels of anxiety and have more negative feelings during periods of evaluation. Contrarily, students with good social and emotional competencies may be more able to implement adequate self-management skills, perform better during these specific periods, and present lower levels of anxiety and negative feelings. In this sense, it is essential to promote these skills in educational contexts so that both academic stress and anxiety can be managed by students in a healthy way. One study focused on identifying the self-management strategies most used by adolescents [25], and recorded a total of 73 strategies, which were classified into four categories: “(a) I use thinking through strategies, (b) I surround myself with people/animals, (c) I live and manage my emotions, (d) I continue my daily activities” (p. 8).

Moreover, children and adolescents who experience more social support are better able to manage their emotions [47], feel lower levels of internalizing symptoms [48], and present higher levels of well-being, self-esteem, and life satisfaction [49]. Hence, social support is established as an important protective factor for wellbeing and mental health in adolescence, including through its role in the promotion of key social and emotional competences. Additionally, some investigations [50–52] highlight the mediating role of self-control in the relationship between social support and anxiety, depression, insomnia, and students’ perceptions of wellbeing. Therefore, social support may promote students’ self-control and, consequently, lead to lower levels of anxiety, depression, and insomnia, and higher levels of perceived wellbeing. Similarly, some authors [53] suggest that social support is a source of self-control. Considering these facts, it could be interesting to understand the role of self-management skills in the relationship between social support, academic stress, and anxiety.

### 1.5. Current Study

The present study aims to analyze the relationship between students’ perceptions of social support and self-management skills and how these impact their levels of academic stress and anxiety. Specifically, we aim to (1) analyze the relationship between perceived social support and self-management skills; (2) analyze the relationship between perceived social support and levels of academic stress and anxiety; (3) analyze the relationship between self-management skills and levels of academic stress and anxiety; (4) analyze the relationship between the parents’ educational level and perceived social support; (5) analyze whether self-management mediates the relationship between social support
and academic stress; and (6) analyze whether self-management mediates the relationship between social support and anxiety.

According to previous studies, the perception of social support is associated with self-management skills in children and adolescents [47,52]. Considering that social support has a negative correlation with academic stress [44] and anxiety levels [54], we hypothesize that the more social support that students perceive to have, the lower their levels of academic stress (Hypothesis 1). Likewise, the more social support students perceive to have, the lower their levels of anxiety (Hypothesis 2). Similarly, since self-management also has a negative correlation with academic stress and anxiety [23–25], we hypothesize that the more self-management skills students have, the lower their levels of academic stress and anxiety (Hypothesis 3).

Additionally, and considering the previous literature on the role of parents’ social background on their educative practices [40], namely studies reporting that parents’ practices will hinder or foster their children’s social and emotional development (e.g., [55]), we hypothesize that parents’ socioeconomic background will impact their actions in the scope of social support and the development of self-management skills. As such, parents with high levels of education are expected to give more social support to their children (Hypothesis 4). Finally, we hypothesize that self-management skills will mediate the relationship between social support and academic stress (Hypothesis 5). Similarly, we hypothesize that self-management skills will also mediate the relationship between social support and anxiety (Hypothesis 6). Hypotheses 5 and 6 emerge from the idea that social support will be crucial for the promotion of social and emotional competencies, such as self-management [55,56]. Self-management skills involve the ability to stay motivated and engaged in tasks, which is fundamental in school [27,55,56]. Additionally, parents’ involvement, as well as the involvement of other significant figures (e.g., friends, teachers), will support students to develop their socioemotional competencies more efficiently [24], thus increasing their capacity to deal with adverse situations, like those that generate academic stress and anxiety. Moreover, previous studies indicate that social support is a predictor of psychological conditions and is pivotal to the development of self-management skills [32–34,50]. Therefore, understanding the relationship between social support, self-management, anxiety, and academic stress in adolescents is crucial, as social support will help to maintain several basic human needs, fostering adolescents’ autonomy and the development of self-management competencies that can act as protective factors, buffering against academic stress and anxiety. Identifying these dynamics provides valuable insights for changing the current high levels of stress and anxiety that adolescents seem to be feeling, contributing to improved mental health outcomes.

2. Materials and Methods

2.1. Participants

Participants included 137 Portuguese students aged 11 to 14 years (M = 12.56, SD = 0.68). Participants were part of a larger project aiming to develop a psychoeducational 3D virtual world learning environment for helping students develop stress-related coping skills, namely the ability to identify stress and overcome stressful situations in school settings). Thus, participants were part of a convenience sample from the partner schools of the mentioned larger project. From the 137 students participating in the study, 94 attended the 7th grade (68.6%), and 43 attended the 8th grade (31.4%). Seventy-five students (54.7%) identified as female and sixty as male (43.8%); one student identified as a non-binary gender, and another one preferred not to specify their gender.

Information about the students’ parents was also collected. Most mothers (n = 89, 65%) and fathers (n = 93, 67.8%) were aged between 40 and 49 years old. Most students were not able to specify their mothers’ (n = 79, 57.7%) and fathers’ (n = 87, 63.5%) level of education. From the available data, the levels of education with the highest percentage of completion were middle school (mothers: n = 10, 7.3%; fathers: n = 8, 5.8%), high school
(mothers: n = 10, 7.3%; fathers: n = 12, 8.8%), and bachelor (mothers: n = 19, 13.9%; fathers: n = 18, 13.1%).

2.2. Measures

2.2.1. Perception of Academic Stress Scale

This scale aims to gather information about students’ perceptions regarding sources of academic stress [56]. The scale is composed of 18 items, organized in three subscales: stressors related to academic expectations (4 items) (e.g., “The unrealistic expectations of my parents stress me out”); stressors related to academic work and exams/evaluations (8 items) (e.g., “I believe that the amount of work assignment is too much”); and stressors related to students’ academic self-perceptions (6 items) (e.g., “I am confident that I will be a successful student”). The scale was translated from its English version by an expert in English and Portuguese. The translation was revised by a senior researcher with expertise in the area. The revisions were focused on accurately translating each item using appropriate terminology for adolescents. The Portuguese translation was piloted with four Portuguese students (two male and two female middle school students aged 12–13 with an average performance in school according to their teacher) to determine whether adolescents could understand the items and complete them independently. Each item is rated on a 5-point Likert scale, where 1 means strongly disagree and 5 means strongly agree. The total score for each subscale is computed by averaging all items included in the subscale, with scores varying between 1 and 5. An overall score can also be calculated by averaging all items. The scale presented good internal consistency (α > 0.70) in previous studies with university-level students [56,57]. In the present study, this scale obtained a Cronbach’s alpha of 0.75, which revealed good internal consistency, especially in a younger student population.

2.2.2. Generalized Anxiety Disorder Scale (GAD-7)

This is a widely used scale to assess generalized anxiety disorder in children and adolescents [58,59]. It is a self-report scale where individuals need to take the last two weeks into consideration to answer each item. It includes seven items, scored on a 4-point scale (0 = not at all; 1 = several days; 2 = more than half the days; 3 = nearly every day). The total score, ranging between 0 and 21, is calculated by summing the score assigned to each item. The interpretation of the results obtained on the scale should be carried out as follows: 0–4 minimal anxiety, 5–9 mild anxiety, 10–14 moderate anxiety, and 15–21 severe anxiety. The scale presented good reliability, both in its original version (α = 0.92) [59] and in the Portuguese version (α = 0.88) [59]. In the present study, GAD-7 also revealed good reliability (α = 0.81).

2.2.3. Self-Control and Self-Management Scale (SCMS)

This scale aims to document self-control and self-management skills [60]. It includes 16 items, organized into three subscales: self-monitoring (6 items) (e.g., “When I work toward something, it gets all my attention”); self-evaluating (5 items) (e.g., “When I set important goals for myself, I usually do not achieve them”); and self-reinforcing (5 items) (e.g., “When I do something right, I take time to enjoy the feeling”). This scale did not have a Portuguese version. In this sense, an expert in Portuguese and English conducted the translation. Then, to ensure the accuracy of the content as well as its adequacy for adolescents, a senior researcher meticulously reviewed all terms. Finally, four Portuguese students (two male and two female middle school students aged 12–13 with an average performance in school according to their teacher) completed the scale and were interviewed to pilot the scale and ensure adolescents understood the items. Each item is scored on a 6-point Likert scale, where 0 means “Very undescriptive of me” and 5 means “Very descriptive of me”. Scores for each subscale are computed by summing all items included in the subscale, with scores from the self-evaluating subscale being negatively keyed. In previous studies, all subscales presented good internal consistency (α ≥ 0.74), and the measure revealed negative and statistically significant correlations with well-validated
instruments, such as the Beck Depression Inventory and Clinical Anxiety Scale [60]. In the present study, the global SCMS score was used as a measure of self-management. This scale presented good internal consistency (α = 0.79).

2.2.4. Child and Adolescent Social Support Scale (CASSS)

This instrument measures children’s and adolescents’ perceptions of social support from parents, teachers, classmates, close friends, and the school community [30]. The scale is composed of 60 items, organized in five subscales (i.e., parent, teacher, classmate, close friend, and school) with 12 items each. For each item, students must rate how often they feel they receive support from different sources (e.g., “My parents show they are proud of me”), using a 6-point Likert scale ranging from 1 (never) to 6 (always). Additionally, students rate the importance of that type of support using a 3-point Likert scale, ranging from 1 (not important) to 3 (very important). Scores are then computed by subscale. A total scale score—total social support—can be obtained by averaging the subscale scores, excluding the importance subscale, which is usually used for clinical purposes [61]. The scale achieved good results in terms of its internal consistency with previous studies (e.g., α > 0.76 [62]; α > 0.84 [54]), including with the Portuguese population (e.g., α = 0.97 [63]). In the present study, only the subscales of parent, teacher, and classmate social support were used. The internal consistency for the global social support scale was very good (α = 0.91); the subscales of social support from parents, teachers, and classmates also presented very good internal consistency (α = 0.91; α = 0.86; and α = 0.89, respectively).

2.2.5. Sociodemographic Questionnaire

This questionnaire collected students’ sociodemographic information (e.g., age, gender, parental educational level) and academic information (e.g., year of schooling, students’ perceptions of academic performance, and students’ perceptions of academic stress).

2.3. Procedures

2.3.1. Data Collection

This study was conducted in compliance with all ethical standards from the American Psychological Association (APA) and the General Data Protection Regulation (GDPR). Written informed consent was obtained from the school director, as well as from the parents/legal guardians of all 7th and 8th grade students participating in the study. Although parental consent was previously obtained, students were informed before data collection that their participation was voluntary, they could drop out at any time without any consequences, and that all data collected were confidential. Data were collected between February and March 2023 in school settings, with each student completing the questionnaires individually. On average, students took 30 to 40 min to complete the data collection protocol. Researchers were present during the data collection process to support students and clarify any questions related to the questionnaires.

2.3.2. Data Analysis

Quantitative analyses were performed using Statistical Package for the Social Sciences 29 (SPSS 29). First, descriptive analyses were used to characterize students’ levels of academic stress, generalized anxiety, self-control, self-management, and perception of social support. Then, associations between the variables under study were explored using Pearson correlations. To interpret the correlation values, we considered the guidelines proposed by Cohen [64]: small (<0.10), moderate (between 0.10 and 0.49), and large (≥0.50). For variables with statistically significant and moderate/strong correlations, multiple hierarchical regression models were computed. Finally, the mediating role of self-management on the relationship between social support and academic stress, and between social support and anxiety, was analyzed through mediation models, according to the method of Preacher and Hayes [65] and using the Process macro in SPSS [66].
3. Results

3.1. Preliminary Analyses

Overall, the participants in the present investigation perceived parents, teachers, and peers as supportive. Descriptive data showed that students perceived more support from their parents (M = 55.52, SD = 11.49) than from teachers or peers (M = 49.37, SD = 10.67; M = 49.81, SD = 11.20, respectively). Regarding self-management skills, students were above the midpoint of SCMS (40), which means that they had satisfactory self-management skills. For academic stress, students reported medium to medium-high levels, with average values of 2.88 (SD = 0.47) on a maximum scale of 5 points. Students also presented mild anxiety levels (M = 9.14, SD = 4.97). When analyzing anxiety reports by level of severity, according to the scale cut-off points, 18.2% of students reported a severe level, 24.1% reported a moderate level, 38.7% reported mild anxiety, and 17.5% reported minimal anxiety.

In order to explore the relationships among the variables, Pearson Product Moment correlations were computed. Table 1 presents the descriptive statistics and correlations between social support, self-management skills, academic stress, and anxiety, as reported by adolescents. Students’ perceptions of the social support received from their parents showed a significant moderate positive correlation with social support from teachers and peers. Furthermore, social support from parents exhibited a significant moderate negative correlation with academic stress and anxiety. Similarly, social support from teachers demonstrated a significant moderate positive correlation with social support from peers and a significant negative correlation with academic stress. Social support from peers, on the other hand, exhibited a significant moderate negative correlation with academic stress but not with anxiety. Total social support showed a significant moderate negative correlation with academic stress (r = −0.35, p < 0.01) and anxiety (r = −0.24, p < 0.01). Overall, and although all correlations were moderate, parental social support demonstrated the strongest correlation (compared to peers and teachers) with academic stress, anxiety (positive correlation), and self-management skills (positive correlation). Associations between parents’ level of education—maternal and paternal—showed that neither mothers’ nor fathers’ education levels were associated with levels of parental social support (r = 0.09, p = 0.52 and r = 0.16, p = 0.28, respectively). The mothers’ level of education was negatively associated with levels of academic stress (r = −0.31, p = 0.02).

Table 1. Descriptive statistics and correlations between social support, self-management skills, academic stress, and anxiety (N = 137).

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<td>2. Social Support Teachers</td>
<td>0.40 **</td>
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<td>3. Social Support Peers</td>
<td>0.22 *</td>
<td>0.35 **</td>
<td>-</td>
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<td>4. Total Social Support</td>
<td>0.74 **</td>
<td>0.78 **</td>
<td>0.71 **</td>
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<td>5. Self-Management</td>
<td>0.41 **</td>
<td>0.15</td>
<td>0.22 **</td>
<td>0.36 **</td>
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<td>6. Academic Stress</td>
<td>−0.32 **</td>
<td>−0.30 **</td>
<td>−0.17 *</td>
<td>−0.35 **</td>
<td>−0.47 **</td>
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<td>7. Anxiety</td>
<td>−0.29 **</td>
<td>−0.14</td>
<td>−0.11</td>
<td>−0.24 **</td>
<td>−0.31 **</td>
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Mean 55.51 49.37 49.81 51.56 51.89 2.88 9.14
SD 11.49 10.67 11.20 11.12 10.93 0.47 4.97
Scale 12–72 12–72 12–72 12–72 0–80 1–5 0–21

*p < 0.05. **p < 0.01.

Self-management skills were significantly correlated with all variables in this study, except for social support from teachers. Academic stress demonstrated a significant positive correlation with anxiety, indicating that higher academic stress levels were associated with increased anxiety among the participants.
3.2. Multiple Hierarchical Regression Analysis

Considering the associations described above, a multiple hierarchical regression analysis was computed using social support as a predictor variable and self-management, academic stress, and anxiety as outcomes. Three separate models were explored, including students’ age and gender as covariates (see Table 2). The results showed that gender was a significant predictor of academic stress and anxiety, and social support explains an additional 35% of the variance in self-management, 15% of the variance in academic stress, and 5% of the variance in anxiety.

| Table 2. Summary of the hierarchical multiple regression analysis for predicting social support, academic stress, and anxiety. |
|---|---|---|---|---|---|---|
| **Self-Management** | **Academic Stress** | **Anxiety** |
| **B** | **SE B** | **β** | **B** | **SE B** | **β** | **B** | **SE B** | **β** |
| **Block 1** |  |  |  |  |  |  |  |  |  |
| Constant | 34.35 | 17.84 | 2.06 | 0.71 | 5.95 | 7.44 |
| Age | 1.64 | 1.43 | 0.10 | 0.06 | 0.06 | 0.20 | 0.60 | −0.34 |
| Gender a | −1.79 | 1.80 | −0.80 | 0.19 | 0.07 | 0.23 ** | 3.59 | 0.75 | 0–39 *** |
| **Block 2** |  |  |  |  |  |  |  |  |  |
| Constant | 12.04 | 17.80 | 2.87 | 0.73 | 12.45 | 7.66 |
| Age | 1.55 | 1.35 | 0.10 | 0.04 | 0.05 | 0.07 | −0.18 | 0.58 | −0.03 |
| Gender a | −1.84 | 1.71 | −0.09 | 0.19 | 0.07 | 0.23 ** | 3.599 | 0.73 | 0.39 |
| Social Support | 0.45 | 0.12 | 0.33 *** | −0.02 | 0.005 | −0.30 *** | −0.13 | 0.05 | −0.21 ** |
| **Total Model** |  |  |  |  |  |  |  |  |  |
| $R^2$ Total = 0.35 *** | $R^2$ Total = 0.39 *** | $R^2$ Total = 0.44 *** |

Note. a 0 = male and 1 = female. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

3.3. Mediation Analysis

To explore whether self-management mediates the relationship between social support and academic stress, and the relationship between social support and anxiety, two mediation models were explored that included gender as a covariate (see Figure 1). As shown in Figure 1, the mediation analysis revealed that there was a significant total effect of social support on academic stress ($β = −0.0195$, $p < 0.001$) and on self-management ($β = 0.4646$, $p < 0.001$). The inclusion of social support in the model reduces the effect of self-management to $β = −0.0122$ ($p < 0.001$). Social support mediates the relationship between self-management and academic stress ($F(3, 132) = 20.2612; p < 0.001$), explaining 32% of the variance. The results suggest a significant indirect effect ($b = −0.0074$, 95% Bca CI [−0.0127, −0.0033]). To test the significance of the mediation effect of self-management between social support and academic stress, the Sobel [67] test was performed. The statistics from the Sobel, Aroian, and Goodman [67–69] tests were $−3.22$ ($p < 0.01$), $−3.19$ ($p < 0.01$), and $−3.26$ ($p < 0.01$), respectively, which means that the mediation effect was significant. Overall, these results show that a higher level of social support is related to a lower level of academic stress, and a significant proportion of this relation is explained by the mediating role of self-management. Moreover, higher levels of self-management are also related to lower levels of academic stress ($β = −0.0159$, $p < 0.01$). Gender did not contribute significantly to self-management ($p > 0.05$); however, gender did contribute significantly to academic stress ($p < 0.05$).

The second mediation analysis showed that there was a significant independent effect of social support on anxiety ($β = −0.1341$, $p < 0.01$). When self-management was included in the analysis, the independent effect of social support was reduced to $β = −0.088$ ($p < 0.10$). Social support mediates the relationship between self-management and anxiety ($F(3, 132) = 14.9561; p < 0.001$), explaining 25% of the variance. The results suggest a significant indirect effect of self-management ($b = −0.0460$, 95% Bca CI [−0.0915, 0.0081]). This result is corroborated by the results of the Sobel test, which showed a significant mediation effect of self-management on the relationship between social support and anxiety. The statistics of the Sobel, Aroian, and Goodman tests [67–69] were $−2.29$ ($p < 0.05$), $−2.24$.
(p < 0.05), and −2.33 (p < 0.05), respectively. Overall, these results show that a higher level of social support is related to a lower level of anxiety, and a significant proportion of this relation is explained by the mediating role of self-management. Moreover, higher levels of self-management are also related to lower levels of anxiety (β = −0.099, p < 0.01). Gender did not contribute significantly to self-management (p > 0.005); however, gender did contribute significantly to anxiety (p < 0.001) (see Figure 1).

Figure 1. Path diagram showing the mediating effect of self-management in the relation between perceived social support and academic stress, and in the relation between perceived social support and anxiety, with gender as a covariate.

4. Discussion

This study aimed to understand the associations among social support, self-management, and academic stress and anxiety in Portuguese adolescents, as well as the mediating role of self-management in (a) the relation between social support and academic stress and (b) the relation between social support and anxiety. First, we analyzed students’ perceptions of social support from parents, teachers, and classmates. Then, we analyzed students’ self-management skills, as well as their levels of anxiety and academic stress. Third, we explored the relations between the parents’ educational level and perceived social support. Then, the relations between social support, self-management skills, academic stress, and anxiety were explored. The predictive role of social support for self-management skills, anxiety, and academic stress was also examined through hierarchical multiple regression analysis. Finally, two mediation models were tested to explore the mediating role of self-management in the relationship between students’ social support and their levels of academic stress and anxiety.

Overall, the results highlight the importance of social support in mitigating academic stress and anxiety levels among students, confirming Hypotheses 1 and 2. Social support from parents, teachers, and peers emerged as crucial factors in reducing academic stress and anxiety, emphasizing the need for strong support systems within educational environments. These results are congruent with those of previous studies that showed the relevance of students’ perceptions of social support in reducing academic stress levels [44], as well as in promoting students’ psychological wellbeing at school [45]. Furthermore, our results also...
evidence and corroborate the suggestions proposed by organizations such as the World Health Organization [70] and the European Union [1] regarding the role of schools and educational settings in promoting students’ mental health.

This suggests, in accordance with previous literature, that the more students perceive the people in their lives, and their parents in particular, as supportive, the more self-management skills they will have [47,52], and the lower the levels of stress [44] and anxiety students will present [54]. Self-management skills were also negatively related to academic stress and anxiety, as postulated in the third hypothesis, suggesting that the more self-management skills students have, the lower their levels of academic stress and anxiety. Overall, the results highlight the importance of both social support and self-management for adolescents’ mental health. Previous research underlines that students’ ability to manage stress can be improved through effective support from families, peers, and teachers. Moreover, social support might also contribute to lower perceptions of stress [71].

Moreover, the lack of significant correlations between self-management skills and perceptions of social support from teachers may suggest that teachers do not have as important a role in promoting these skills compared to parents and peers. According to previous studies, students’ perceptions of social support from teachers are positively correlated with school adjustment [72] and study engagement [73], but not with self-confidence and motivation [72]. This suggests that teachers’ support may be a construct with only direct effects on academic performance. However, a study from Camacho et al. [74] showed that teachers’ support can be a predictor of fewer cases of decreased student motivation levels. The ability to exhibit self-motivation is one of the main characteristics of a person with good self-management skills [51,53]. Considering that we have different information regarding social support from teachers and its link with other variables, further investigations are needed to clarify the role of teachers in students’ motivation, self-management, and other nonacademic skills.

Moreover, parents’ level of education was not associated with their levels of social support, contrary to what we expected (Hypothesis 4). This is surprising, particularly considering previous literature that underlines how increases in a family’s income can reduce symptoms of depression and antisocial behavior in children (e.g., [40,55]). On the one hand, this may indicate that the pattern of a relation between socioeconomic background and emotional support may be changing as an effect of the wide recognition of emotional support for development and success throughout one’s life. On the other hand, we are aware that the large amount of missing data for parents’ educational level and the low variability in the variables in this study may have hindered the ability to capture significant relations, thus explaining the lack of a relation that may indicate that parents, in terms of their educational level, are providing positive social support levels.

Regarding the mediating role of self-management (a) on the relation between social support and academic stress and (b) on the relation between social support and anxiety, the findings showed a significant total effect of social support on academic stress, elucidating that students with enhanced social support exhibit lower levels of academic stress (Hypotheses 5 and 6). Importantly, the inclusion of self-management in this model unveiled its mediating role in the relationship between social support and academic stress. Overall, the results suggest that individuals who receive strong social support tend to experience less academic stress, and part of this relationship is explained by the mediating role of self-management skills. Thus, social support seems to play an important role in the development of self-management skills, and both are closely related to adolescents’ mental health.

In the second mediation model, a significant independent effect of social support on anxiety was identified, meaning that individuals with better social support tend to experience lower levels of anxiety. The inclusion of self-management in the analysis attenuated the independent effect of social support on anxiety. Previous research [51] showed a positive association between both perceived social support and self-management
and anxiety in Chinese college students during the COVID-19 pandemic. Self-control was found to be a mediator between social support and student anxiety levels.

These findings highlight that the perception of positive and effective support by families, peers, and teachers can enhance students’ ability to use strategies to manage stress and regulate emotions, which are key skills for improving mental health and preventing stress and anxiety [50,51]. Students face several challenges and difficulties related to school and personal issues that potentially increase stress and demand the use of social and emotional skills, such as self-management, and the support from adults and peers from several settings might be a resource for self-management and for alleviating stress and anxiety [53].

In line with previous research [20], gender was associated both with self-management and anxiety levels. These findings expand previous research by highlighting the nuanced and context-dependent nature of the mediating role of self-management and the differential effects of gender on academic stress and anxiety, emphasizing the importance of considering these factors in the assessment and intervention of psychological well-being among individuals in educational settings.

5. Limitations

Despite the contributions of this study, some limitations must be acknowledged. First, this was a cross-sectional study using only self-report measures. Research employing longitudinal designs to establish causal relationships and considering objective measures to complement self-report data is still needed. Also, the number of participants was limited, and a convenience sample was used, which must be taken into consideration in the interpretation and generalization of the results. Thirdly, the Perception of Academic Stress Scale [56] was used for the first time in Portugal. Thus, although it was revealed to have adequate internal consistency and its relations with other variables were in the expected direction, further examination of its psychometric characteristics is needed. The same is true for the Self-Control and Self-Management Scale [60], for which we could not find any Portuguese studies using it. Finally, this study was conducted with students attending the seventh and eighth grades of basic education, and despite the researchers’ efforts, it was not possible to obtain information about their parents’ level of education. As such, it would be pertinent for future investigations to include participants from different school levels and further explore the role of parents’ level of education in regard to family social support. In the present study, the limited information about parents’ level of education may have hindered the ability to capture significant relations. Future studies are needed to shed light on the ways that parents’ education level can affect the ways that they support their children and foster self-management skills.

6. Conclusions

Overall, the present study sheds light on the relationships between social support, self-management skills, academic stress, and anxiety among adolescents. The results provide valuable insights into the complex relationships between self-management, social support, academic stress, anxiety, and gender, expanding previous research that found relations between (i) social support and self-management [53], (ii) social support and indicators of wellbeing [32,37,38,45], and (iii) self-management and wellbeing [13,53]; however, previous studies have not provided an integrative model for the relationship between social support, self-management, academic stress, and anxiety during the particularly challenging phase of adolescence. In the present study, both the individual and cumulative effects of social support and self-management on academic stress and anxiety among adolescents were considered.

The findings emphasize the role of self-management skills as a mediator between social support and academic stress and anxiety, reinforcing that academic stress and anxiety are related to both social support and self-management. Note that all individuals’ basic psychological needs include the need for social interactions, which is the driving force
for development [6]. Reinforcing the key role of interactions for positive development, this study emphasizes that efforts to enhance social support systems within educational settings—namely family and school settings—may affect students’ self-management skills and have positive implications for students’ mental health and overall academic performance within a more integrated model. Overall, our results underline the significance of support from various sources, including parents, teachers, and peers, in impacting the development of self-management skills, which are pivotal for dealing with challenges across school years. These findings can make both professionals in schools as well as families aware of the relevance of their support for adolescents to foster their wellbeing.

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**References**


33. Fredrick, S.S.; Demaray, M.K.; Malecki, C.K.; Dorio, N.B. Can social support buffer the association between depression and suicidal ideation in adolescent boys and girls? *Psychol. Sch.* 2018, 55, 490–505. [CrossRef]


35. He, T.B.; Tu, C.C.; Bai, X. Impact of social support on college students’ anxiety due to COVID-19 isolation: Mediating role of perceived risk and resilience in the postpandemic period. *Front. Psychol.* 2022, 13, 948214. [CrossRef]


71. Uchino, B.N. Understanding the links between social support and physical health: A life-span perspective with emphasis on the separability of perceived and received support. *Perspect. Psychol. Sci.* **2009**, 4, 236–255. [CrossRef] [PubMed]

72. Vedder, P.; Boekaerts, M.; Seegers, G. Perceived social support and well being in school; The role of students’ ethnicity. *J. Youth Adolesc.* **2005**, 34, 269–278. [CrossRef]


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