




## Self-care behaviors and academic stress in nursing students

Conductas de autocuidado y el estrés académico en estudiantes de enfermería


**Mary Carmen Tubón Laguna**

<https://orcid.org/0000-0002-2362-1067> 

Graduate Researcher at Universidad Técnica de  
Ambato, Ecuador

[mtubon5434@uta.edu.ec](mailto:mtubon5434@uta.edu.ec) (correspondence)

**Sara Verónica Guadalupe Núñez**

<https://orcid.org/0000-0002-6555-8959> 

University Professor and Researcher at  
Universidad Técnica de Ambato, Ecuador

### ABSTRACT

**Introduction:** Self-care behaviors and academic stress are crucial aspects of the education of nursing students. Self-care, defined as deliberate actions to maintain health and well-being, is essential for future health professionals. Academic stress can significantly affect students' performance and well-being. **Objective:** To analyze the relationship between self-care behaviors and academic stress in nursing students at the Technical University of Ambato, Ecuador. **Methods:** A quantitative, descriptive, and correlational study was conducted with a cross-sectional, non-experimental design. The Scale to Estimate Self-Care Capacities (EECAC) and the SISCO SV Academic Stress Inventory were used in a sample of 71 seventh-semester students. **Results:** 67.6% of the students presented a medium self-care capacity and 32.4% high. Regarding academic stress, 84.6% showed moderate levels and 11.3% high levels, with notable differences between genders. A complex relationship between self-care and stress was observed, where even students with high self-care capacity can experience high-stress levels. **Conclusion:** Although self-care practices are essential, they alone are insufficient to prevent high academic stress in nursing students. The need to implement multifactorial, gender-sensitive interventions to address academic stress and promote self-care in this population is underscored.

**Keywords:** Self-care; Academic Stress; Nursing Students; Mental Health; Self-care; Academic Stress.

### ARTICLE HISTORY

**Received:** 2024-09-01

**Revised Version:** 2024-11-01

**Accepted:** 2024-11-21

**Published:** 2024-12-05

**Copyright:** © 2024 by the authors

**License:** CC BY-NC-ND 4.0

**Document type:** Article

### ARTICLE INFORMATION

**Main topic:**

Self-care behaviors and academic stress

**Main practical implications:**

Interventions targeting academic stress and promoting self-care practices should be multifactorial and gender-sensitive, emphasizing the need for holistic support systems in nursing education.

### RESUMEN

**Introducción:** Las conductas de autocuidado y el estrés académico son aspectos cruciales en la formación de estudiantes de enfermería. El autocuidado, definido como las acciones deliberadas para mantener la salud y el bienestar, es esencial para los futuros profesionales de la salud. El estrés académico puede afectar significativamente el rendimiento y bienestar de los estudiantes. **Objetivo:** Analizar la relación entre las conductas de autocuidado y el estrés académico en estudiantes de enfermería de la Universidad Técnica de Ambato, Ecuador. **Métodos:** Se realizó un estudio cuantitativo, descriptivo y correlacional, con diseño no experimental transversal. Se utilizó la Escala para Estimar Capacidades de Autocuidado (EECAC) y el Inventario de Estrés Académico SISCO SV en una muestra de 71 estudiantes de séptimo semestre. **Resultados:** El 67.6% de los estudiantes presentaron una capacidad de autocuidado media y el 32.4% alta. En cuanto al estrés académico, el 84.6% mostró niveles moderados y el 11.3% niveles altos, con diferencias notables entre géneros. Se observó una relación compleja entre autocuidado y estrés, donde incluso estudiantes con alta capacidad de autocuidado pueden experimentar niveles elevados de estrés. **Conclusión:** Aunque las prácticas de autocuidado son importantes, no son suficientes por sí solas para prevenir el estrés académico alto en estudiantes de enfermería. Se subraya la necesidad de implementar intervenciones multifactoriales y sensibles al género para abordar el estrés académico y promover el autocuidado en esta población.

**Palabras clave:** Autocuidado; Estrés Académico; Estudiantes de Enfermería; Salud Mental.

## INTRODUCTION

Self-care is defined as the set of deliberate actions a person takes to maintain his or her health and well-being. According to Dorothea Orem's theory, self-care comprises all the activities that an individual initiates and performs on his or her own to maintain life, health and well-being. This includes practices such as healthy eating, regular exercise, stress management, proper personal hygiene, and seeking medical attention when necessary. In the context of nursing students, self-care takes on special relevance, as these future health professionals must be able to care for themselves in order to effectively care for others (Ruiz-Aquino et al., 2021).

Academic stress, on the other hand, refers to the psychological and physiological response that students experience when faced with the demands and pressures of the educational environment. Barraza defines academic stress as a systemic process of an adaptive and essentially psychological nature, which occurs when the student is subjected to a series of demands that, in the student's own assessment, are considered stressors. This type of stress can manifest itself through physical symptoms such as headaches or digestive problems, psychological symptoms such as anxiety or depression, and behavioral symptoms such as changes in sleeping or eating habits. In the case of nursing students, academic stress can be exacerbated by the demanding and emotionally demanding nature of their professional training (Teque- Julcarima et al., 2020; Jiménez et al., 2024).

Worldwide, research on self-care behaviors and academic stress in nursing students has gained relevance in recent years. A study by (Colomer-Pérez & Useche, 2021) in Spain found that nursing students presented moderate levels of self-care, but these were negatively affected by academic stress. The authors highlighted the importance of implementing strategies to improve self-care practices as a means to reduce the impact of stress in this student population.

In the Asian context, research conducted by Zhang et al. (2020) in China revealed that nursing students experienced high levels of academic stress, especially during clinical internships. The study also found a negative correlation between self-care behaviors and stress levels, suggesting that encouraging self-care practices could be an effective strategy to mitigate academic stress in these students. These findings highlight the need to address self-care and stress management as integral components of nursing education globally.

In Latin America, the issue of academic stress and its relationship with self-care behaviors in nursing students has received increasing attention. A study conducted by Ruiz-Aquino et al. (2021) in Peru found that 63.2% of health sciences students, including nursing students, presented an average level of self-care behaviors. However, the study also revealed that these levels of self-care were not sufficient to counteract the high levels of academic stress experienced by students, especially in the final years of the degree program.

In Brazil, research conducted by Oliveira Silva et al. (2021) explored the relationship between self-care practices and academic performance in nursing students. The results indicated that those students who maintained better self-care habits, including a balanced diet, regular exercise and adequate time management, tended to experience lower levels of academic stress and, consequently, better performance in their studies. These findings underscore the importance of promoting self-care as a comprehensive strategy to improve not only the health and well-being of students, but also their academic performance.

In Ecuador, research on self-care behaviors and academic stress in nursing students has gained relevance in recent years. A study conducted by (Maza Ramon & Carrión Cabrera, 2023) at the National University of Loja revealed that 32.5% of nursing students presented high levels of academic stress. The research also found a negative correlation between self-care practices and stress levels, suggesting that strengthening self-care behaviors could be an effective strategy to mitigate stress in this student population.

Another relevant study was conducted by (Morales Xocop & Cardona de Chavac, 2020) at the Technical University of Ambato, where the relationship between emotional self-care and academic performance in nursing students was explored. The results indicated that students who regularly practiced stress management and emotional self-care techniques tended to have better academic performance and reported lower levels of burnout. These findings highlight the importance of integrating the teaching of self-care strategies into the nursing curriculum in Ecuadorian universities.

The issue of academic stress and its impact on the self-care behaviors of nursing students is a growing concern globally. According to a meta-analysis by Teque-Julcarima et al. (2020), the prevalence of academic stress among nursing students worldwide ranges from 20% to 70%, with a mean of 43%. This wide range reflects variations in the educational systems and academic cultures of different countries. The study also revealed that stress levels tend to increase as students progress through their careers, with particularly high peaks during clinical placements.

Regarding self-care behaviors, a multinational study conducted by Rodriguez-Hernandez (2020) found that only 35% of nursing students reported adequate self-care practices. The study identified particularly problematic areas, such as lack of

adequate sleep (reported by 68% of students), irregular eating (62%) and lack of regular exercise (57%). These data suggest an urgent need for interventions aimed at improving self-care practices among nursing students. In addition, the study found a significant negative correlation ( $r = -0.45$ ,  $p < 0.001$ ) between academic stress levels and self-care practices, indicating that the higher the levels of stress, the less likely students were to engage in appropriate self-care behaviors.

The World Health Organization (WHO) has recognized the importance of addressing academic stress and promoting self-care in nursing students as a public health priority. In its State of the World's Nursing 2020 report, WHO highlighted the need to strengthen the education and well-being of future nursing professionals to ensure a resilient and effective health workforce. The organization argues that well-prepared nursing students with good self-care practices are essential to building robust health systems and achieving the health-related Sustainable Development Goals (World Health Organization, 2020).

The WHO also emphasizes that excessive academic stress and poor self-care practices among nursing students can lead to long-term mental health problems, early professional burnout and career dropout. This is of particular concern given the global shortage of nursing professionals, estimated at 5.9 million according to the WHO report. Therefore, the organization urges educational institutions and health systems to implement comprehensive strategies to promote self-care and manage academic stress as a fundamental part of nursing education (World Health Organization, 2020).

The Ministry of Public Health (MOH) of Ecuador has identified strengthening the competencies and well-being of health professionals, including nursing students, as a strategic priority. In its Ten-Year Health Plan 2022 - 2031, the MOH recognizes the importance of addressing academic stress and promoting self-care in future nursing professionals as part of its efforts to improve the quality of health care and strengthen the national health system (Ministerio de Salud Pública & Viceministerio de Gobernanza y Vigilancia de la Salud. Quito, 2022).

The MOH has highlighted that high levels of academic stress and poor self-care practices among nursing students can have long-term negative consequences, not only for the individual health of future professionals, but also for the quality of care they will provide to patients. According to MOH data, 30% of nursing students in Ecuador report symptoms of emotional exhaustion before graduation, which could lead to a decrease in the quality of care and an increase in staff turnover in the future. Therefore, the ministry has established as a priority objective the implementation of psychological support and self-care promotion programs in higher education institutions offering nursing programs (Ministerio de Salud Pública & Viceministerio de Gobernanza y Vigilancia de la Salud. Quito, 2022)

In view of the above, the general objective of this study was to analyze the relationship between self-care behaviors and academic stress in nursing students.

## METHODOLOGY

A quantitative, descriptive and correlational study was carried out with a cross-sectional, non-experimental design. This design made it possible to examine the relationship between self-care behaviors and academic stress in nursing students at a specific point in time, without manipulating the study variables (Thomas & Zubkov, 2023).

The study population consisted of seventh semester nursing students of the Universidad Técnica de Ambato. A non-probabilistic convenience sampling was used, resulting in a final sample of 71 students who met the inclusion and exclusion criteria.

### Inclusion criteria:

- Students enrolled in the 7th semester of the Nursing program.
- Students who are not enrolled in a second enrollment.
- Students who agreed to participate voluntarily and signed the informed consent form.

### Exclusion criteria:

- Students from other semesters of the nursing career.
- Students with previous diagnosis of mood disorders.
- Students who reported psychoactive substance use.
- Students who did not correctly complete the questionnaires. Two instruments were used for data collection:

Scale to Estimate Self-Care Capacities (EECAC) and the SISCO inventory of academic stress. The Scale to Estimate Self-Care Capacities (EECAC), consisting of 24 items with a 4-option Likert-type response pattern (1 = total disagreement, 4 =

total agreement), consists of the health promotion dimension, social interaction dimension, personal well-being dimension, activity and rest dimension, and food and nutrition dimension. Each response is summed to produce a total score; for measurement purposes questions 2, 6, 11, 13, 14, 15, 20 and 23 are reversed, so the total value ranges from 24 to 96 points, where a higher score indicates greater self-care capabilities. To facilitate interpretation and comparison, the scores were transformed to a scale from 0 to 100 using the formula:  $\text{Transformed score} = (\text{Original score} - 24) / 72 * 100$ . Cut-off points were established to categorize levels of self-care capacity: low (0-33), medium (34-66) and high (67-100). The EECAC has been validated in the Mexican population by Da Silva (1997) and Gallegos (1998), who reported a Cronbach's alpha of 0.79 and 0.81 respectively, indicating good internal consistency of the instrument (Guzmán-Castillo et al., 2022).

To measure academic stress, the SISCO SV Academic Stress Inventory adapted to the context of the crisis by COVID-19 was used, which consists of 47 items distributed in three dimensions: stressors (15 items), symptoms (15 items) and coping strategies (17 items). It uses a 6-option Likert scale (0 = never, 5 = always). The total score ranges from 0 to 235 points, where a higher score indicates a higher level of academic stress. Cut-off points were established to categorize the levels of academic stress: mild (0-78), moderate (79-157) and strong (158-235). Construct validity was assessed by means of Pearson's correlation coefficient  $r$  corrected and confirmatory factor analysis, obtaining a variance of total explained of 0.53952. Reliability was evaluated with Cronbach's alpha coefficient, obtaining a value of 0.946, indicating excellent internal consistency of the instrument (Salas Osorio, 2021).

To carry out the data collection, the study participants applied the two measurement instruments online. They were provided with the questionnaire created through the Google Forms platform in which they had to answer each item by selecting the option they best identified with. Prior to the application, informed consent was obtained from each participant. Once the questionnaires have been completed, the responses will be tabulated and analyzed, after which the corresponding scores will be assigned to each instrument.

The data collected were analyzed using SPSS (Statistical Package for Social Sciences) statistical software. Descriptive analyses were performed to characterize the sample and the study variables. To examine the relationship between self-care behaviors and academic stress, correlation tests and analysis of variance were used, according to the nature of the variables.

From a research ethics perspective, this study was based on the principles established in the Declaration of Helsinki of the World Medical Association, which addresses a number of essential ethical issues in medical research involving human subjects, including the requirement to obtain informed consent, the obligation to promote the welfare and minimize harm to participants, the importance of fair subject selection, the protection of the most vulnerable participants, the confidentiality of personal data, the right of participants to be informed, and transparency in the publication of results (The World Medical Association, 2022). Thus, by signing the informed consent form, each participant freely and voluntarily agreed to participate in the research and was aware of the confidentiality of his or her identity and the objectives of the study.

## RESULTS AND DISCUSSION

The results of this research address self-care behaviors and academic stress in nursing students of the Technical University of Ambato, a topic of great relevance in the context of training health professionals. This study, which involved 71 seventh semester students, focuses on three main aspects: the determination of the types of self-care behaviors, the identification of academic stress levels, and the relationship between these two crucial variables.

The findings obtained through the application of the Scale to Estimate Self-Care Capacities (EECAC) and the SISCO SV Academic Stress Inventory are presented. The data are analyzed considering gender differences and possible implications for the well-being and academic performance of nursing students. Table 1 presents the results of self-care ability in a sample of 71 nursing students, categorized by gender and ability level.

**Table 1.** Sociodemographic data

	Self-care capacity	Frequency	Percentage
Female	Low	0	0,0
	Medium	34	47.9
	High	16	22.5
Male	Low	0	0.0
	Medium	14	19.7
	High	7	9.9
<b>Total</b>		<b>71</b>	<b>100</b>

**Note:** Results obtained from the surveys applied

The distribution by gender in the sample reflects the demographic trend characteristic of the nursing career. There is a marked female presence, with 50 students (70.4% of the total), compared to a male representation of 21 students (29.6%). A notable finding is the absence of cases with low self-care skills in both genders, suggesting that nursing students in general maintain at least an average level of self-care practices.

The majority of the students surveyed (48 individuals, equivalent to 67.6% of the sample) have an average self-care capacity. This majority group demonstrates adequate self-care practices, although with room for improvement. On the other hand, a significant segment of the sample (23 students, representing 32.4%) exhibits a high capacity for self-care, which is especially positive in the context of their training in health sciences. This distribution indicates that while most students have adequate self-care practices, there is a substantial group that has developed outstanding self-care skills.

When analyzing the data by gender, interesting patterns are observed. Among females, 34 students (47.9% of the total sample) show a medium self-care capacity, while 16 (22.5%) reach a high capacity. In the case of men, 14 (19.7% of the total) show a medium capacity and 7 (9.9%) a high capacity. It is notable that, proportionally, males show a slightly higher percentage of high self-care ability. Of the total number of male students, 7 out of 21 (33.3%) fall into this category, compared to 16 out of 50 (32.0%) in the case of females, giving a minimal difference.

These results are encouraging in the context of nursing education, as they suggest that students are developing good self-care practices. This is particularly relevant considering their future profession, where they will be responsible for promoting health and well-being in others. The presence of one-third of the sample with high self-care skills is particularly positive, although it also indicates that there is room for improvement in raising the self-care skills of the rest of the students.

Table 2 presents the results of academic stress level in a sample of 71 nursing students, categorized by gender and stress level.

**Table 2.** Level of Academic Stress

	Academic stress level	Frequency	Percentage
Female	Low	0	0.0
	Medium	42	59.2
	High	8	11.3
Male	Low	3	4.2
	Medium	18	25.4
	High	0	0.0
Total		71	100.0

**Note:** Results obtained from the surveys applied

The distribution by gender maintains the trend observed in Table 1, with a greater female representation. There are 50 female students (70.5% of the total) and 21 male students (29.5%), reflecting the typical composition in nursing programs. A significant finding is the absence of cases of high stress among males and mild stress among females, suggesting a gender difference in the perception or management of academic stress.

The majority of the students surveyed (60 individuals, equivalent to 84.6% of the sample) present a moderate level of academic stress. This majority group indicates that stress is a common experience among nursing students, although it does not reach extreme levels in most cases. On the other hand, a small segment of the sample (8 students, representing 11.3%) exhibit a high level of stress, all of them women, which is concerning and deserves special attention. Only a minority (3 students, 4.2%) report mild levels of stress, all of them male.

When analyzing the data by gender, distinctive patterns are observed. Among females, 42 students (59.2% of the total sample) show a moderate level of stress, while 8 (11.3%) present a high level. In the case of men, 18 (25.4% of the total) present a moderate level and 3 (4.2%) a mild level. It is notable that no men report high levels of stress, while no women report mild levels, suggesting a possible gender difference in the experience or reporting of academic stress.

These results are revealing in the context of nursing education, as they indicate that academic stress is a prevalent reality among students. The prevalence of moderate levels of stress suggests that while stress is common, most students appear to be managing it without reaching extreme levels. However, the presence of a high stress group, exclusively composed of women, points to the need for specific support strategies for this group.

Table 3 presents the relationship between self-care capacity and academic stress level in a sample of 71 nursing students, providing an integrated view of these two crucial variables in the context of nursing education.

**Table 3.** Relationship between Self-Care Ability and Level of Academic Stress

Self-Care Capability	Academic Stress Level			
	Low	Medium	High	Total
Low	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Medium	2 (2.8%)	36 (50.7%)	4 (5.6%)	42 (59.2%)
High	1 (1.4%)	24 (33.8%)	4 (5.6%)	29 (40.8%)
Total	3 (4.2%)	60 (84.5%)	8 (11.3%)	71 (100%)

**Note:** Results obtained from the surveys applied.

A notable finding is the total absence of cases with low self-care skills at all stress levels, which is consistent with the results previously observed in Table 1. This data suggests that nursing students, regardless of their stress level, maintain at least an average level of self-care practices, which is encouraging in the context of their professional training.

The majority of students (36 individuals, equivalent to 50.7% of the sample) present a medium self-care capacity and a moderate level of academic stress. This majority group indicates that, although students experience stress, they also maintain adequate self-care practices. On the other hand, a significant segment (24 students, representing 33.8%) exhibit high self-care ability along with a moderate level of stress, suggesting that these self-care skills may be helping to manage stress effectively.

When analyzing the cases of severe stress, an equal distribution is observed between those with medium and high self-care capacity (4 students or 5.6% in each category). This data is particularly interesting, as it suggests that even high self-care capacity does not necessarily prevent severe levels of stress in all cases. This could indicate the presence of other factors that influence academic stress beyond self-care practices.

At the opposite end of the spectrum, it is noted that of the 3 students (4.2%) who report mild levels of stress, 2 have medium self-care ability and 1 has high ability. Although this group is small, it suggests that both medium and high self-care practices may be associated with low levels of stress in some cases.

These results are revealing in the context of nursing education, as they indicate a complex relationship between self-care practices and academic stress. While that most students with medium and high self-care abilities experience moderate levels of stress, it is also observed that these abilities do not guarantee the absence of severe stress.

## Discussion

The results of this study provide a comprehensive view of self-care behaviors and academic stress in nursing students. Regarding self-care behaviors, our findings show that the majority of students (67.6%) present a medium self-care capacity, while 32.4% exhibit a high capacity. These results are comparable to those found by Ruiz-Aquino et al. (2021), who reported that 63.2% of health sciences students in Peru showed a medium level of self-care behaviors. However, our study shows a slightly higher percentage of students with high self-care skills (32.4% vs. 25.7% in the Peruvian study), which could suggest a positive trend in the training of future nursing professionals in terms of personal health practices.

The absence of students with low self-care skills in our sample is notable, which contrasts with some previous studies. For example, Salas Osorio, (2021) found that 15.3% of nursing students in Colombia presented a low level of self-care during the COVID-19 pandemic. This difference could be attributed to the specific measures implemented in our institution to promote self-care, or to a greater general awareness of the importance of these practices in the post-pandemic context.

In relation to gender, our results show a slight difference in favor of men in terms of high self-care capacity (33.3% vs 32.0% in women), although this difference is not statistically significant. This differs from that reported by (Colomer-Pérez & Useche, 2021), who found that women tended to show better self-care practices than men in Spanish nursing students. This discrepancy could be due to cultural factors or the specific characteristics of our sample, and deserves further investigation.

Regarding academic stress, our study reveals that 84.6% of the students present a moderate level, while 11.3% exhibit a high level, all of them female. These findings are consistent with those of Teque- Julcarima et al., (2020), who reported that 87.5% of Peruvian nursing students experienced moderate to high levels of academic stress. However, our results show a lower prevalence of high stress compared to other studies. For example, (Maza Ramon & Carrión Cabrera, 2023) found that 32.5% of Ecuadorian nursing students presented high levels of stress.

The absence of high stress among men in our sample is an interesting finding that contrasts with some previous studies. (Nuñez Tavera & Ramirez Mendoza, 2021) found no significant gender differences in stress levels among Peruvian nursing students. This discrepancy could be due to cultural factors specific or to the coping strategies used by the male students in our sample.

In examining the relationship between self-care capacity and academic stress, our results show that even students with high self-care capacity can experience severe levels of stress (5.6% of the sample). This suggests that, while self-care is important, it is not sufficient on its own to prevent high academic stress. This finding is consistent with that reported by Rosales Pucheta et al. (2023), who found that, although Mexican nursing students showed good levels of positive mental health, they still experienced significant academic stress.

Importantly, our study found a complex relationship between self-care and stress. While most students with medium and high self-care abilities experience moderate levels of stress, we also observed that these abilities do not guarantee the absence of severe stress. This is in line with the findings of Corea Del Cid, (2021), who points out that academic stress in health science students is multifactorial and cannot be mitigated solely through self-care practices.

One aspect to consider is the potential impact of academic stress on students' mental health. Gil-Díaz et al., (2022) found a significant correlation between academic stress and depressive symptomatology in adolescents. Although our study did not specifically assess depression, the fact that 11.3% of our sample present high levels of stress suggests the need to implement prevention strategies and psychological support for this at-risk group.

Our findings also highlight the importance of considering gender differences in the experience and management of academic stress. The fact that all cases of high stress in our sample are female is in line with that reported by Quintero Lopez & Gil Vera, (2021), who found a higher prevalence of depressive symptoms in female university students during the COVID-19 pandemic.

Regarding the practical implications of our results, the need to strengthen self-care promotion and stress management strategies in nursing programs is evident. Guzman-Castillo et al., (2022) stress the importance of implementing evidence-based interventions to reduce academic stress in college students. Our findings suggest that these interventions should be gender sensitive and address not only self-care practices, but also other factors that contribute to academic stress.

## CONCLUSIONS

It is concluded that the results show that most of the students present a medium to high self-care capacity, which is encouraging in the context of their professional training. However, it was observed that even those with high self-care abilities may experience elevated levels of academic stress. This suggests that while self-care practices are important, they alone are not sufficient to prevent high academic stress in all cases. The absence of students with low self-care skills is a positive finding, indicating that nursing education is fostering at least basic self-care practices among students. However, there is significant room for improvement in raising the self-care skills of the remaining students.

Also, it was identified that the majority of students present a moderate level of academic stress, with a smaller group exhibiting high levels, the latter being composed exclusively of females. This gender difference in the experience of stress is a significant finding that deserves further research and attention in future interventions. In addition, a slight difference was observed in favor of men in terms of high self-care capacity, although this difference is not statistically significant. These results underscore the importance of implementing gender-sensitive self-care promotion and stress management strategies that address not only self-care practices, but also other factors that contribute to academic stress. It is crucial to develop evidence-based interventions to reduce academic stress, considering that academic stress is a multifactorial phenomenon that cannot be mitigated solely through self-care practices.

And among the limitations of the study, it is worth noting the relatively small sample size and its cross-sectional nature, which prevents establishing definitive causal relationships between the variables studied. Furthermore, by focusing on seventh-semester students, the results may not be generalizable to students at other academic levels. Methodologically, the exclusive reliance on self-report instruments could introduce social desirability biases. For future studies, we suggest conducting longitudinal research that examines how self-care behaviors and academic stress evolve over the course of a career, incorporating mixed methodologies that include qualitative data on students' experiences, and exploring the effectiveness of different interventions to promote self-care and reduce academic stress. It would also be valuable to investigate the role of cultural and socioeconomic factors in the relationship between self-care and academic stress, as well as to further examine the gender differences observed in this study.

## REFERENCES

- Colomer-Pérez, N., & Useche, S. A. (2021). Self-care appraisal in nursing assistant students: Adaptation, validation and psychometric properties of the Spanish ASAS. *PLoS one*, 16(12), e0260827. <https://doi.org/10.1371/JOURNAL.PONE.0260827>

Corea Del Cid, M. T. (2021). La depresión y su impacto en la salud pública. *Revista Médica Hondureña*, 89(Supl.1), 46–52. <https://doi.org/10.5377/RMH.V89ISUPL.1.12047>

Gil-Díaz, M. E., Rivera-Heredia, M. E., & Vargas-Garduño, M. de L. (2022). Situaciones vitales estresantes y sintomatología depresiva en adolescentes rurales. *Revista de Psicología y Educación - Journal of Psychology and Education*, 17(1), 97. <https://doi.org/10.23923/RPYE2022.01.219>

Guzmán-Castillo, A., Bustos N., C., Zavala S., W., & Castillo-Navarrete, J. L. (2022). Inventario SISCO del estrés académico: revisión de sus propiedades psicométricas en estudiantes universitarios. *Terapia psicológica*, 40(2), 197–211. <https://doi.org/10.4067/S0718-48082022000200197>

Jiménez, D. A., Medina, M. E., Ortigoza, A., & Canova Barrios, C. J. (2024). Estilos de vida de los estudiantes de Enfermería de una institución pública de Tucumán, Argentina. *Ibero-American Journal of Health Science Research*, 4(1), 52–58. <https://doi.org/10.56183/iberojhr.v4i1.606>

Maza Ramon, E. L., & Carrión Cabrera, M. S. (2023). NIVEL DE ESTRÉS, ANSIEDAD Y DEPRESIÓN EN ESTUDIANTES DE ENFERMERÍA DE LA UNIVERSIDAD NACIONAL DE LOJA. *Enfermería Investiga*, 8(3), 11–16. <https://doi.org/10.31243/ei.uta.v8i3.2107.2023>

Ministerio de Salud Pública, & Viceministerio de Gobernanza y Vigilancia de la Salud. Quito. (2022). *Plan Decenal de Salud 2022 - 2031* (Primera Edición). [https://www.salud.gob.ec/wp-content/uploads/2022/07/Plan\\_decenal\\_Salud\\_2022\\_ejecutivo.18.OK\\_.pdf](https://www.salud.gob.ec/wp-content/uploads/2022/07/Plan_decenal_Salud_2022_ejecutivo.18.OK_.pdf)

Morales Xocop, A. Y., & Cardona de Chavac, M. I. (2020). El autocuidado emocional en la educación superior. *Revista Científica Internacional*, 3(1), 59–65. <https://doi.org/10.46734/REVCIENFICA.V3I1.19>

Nuñez Tavera, F. N., & Ramírez Mendoza, C. R. (2021). Correlación de la salud mental positiva y el autocuidado en estudiantes de enfermería de una universidad peruana. *Revista Peruana de Medicina Integrativa*, 6(2), 42–47. <https://doi.org/10.26722/RPMI.2021.V6N2.41>

Oliveira Silva, G., Aredes, N. D. A., & Galdino-Júnior, H. (2021). Academic performance, adaptation and mental health of nursing students: A cross-sectional study. *Nurse Education in Practice*, 55, 103145. <https://doi.org/10.1016/J.NEPR.2021.103145>

Organización Mundial de la Salud. (2020). *Situación de la enfermería en el mundo 2020: invertir en educación, empleo y liderazgo* (Organización Mundial de la Salud, Trad.). <https://iris.who.int/handle/10665/332164>

Quintero López, C., & Gil Vera, V. D. (2021). Depresión en estudiantes universitarios derivada del Covid-19: un modelo de clasificación. *Cuadernos Hispanoamericanos de Psicología*, 21(1), 1–15. <https://doi.org/10.18270/CHPS.V21I1.3712>

Rodríguez-Hernández, S. (2020). Variables que repercuten en la salud mental, autocuidado y autorrealización en estudiantes de enfermería y gerontología. *Revista Electrónica de Psicología Iztacala*, 23(2), 467–493. <https://doi.org/10.5218/PRTS.2010.0007>

Rosales Pucheta, A., Torres Clemente, E. K., Valdez Salvador, B. del M., Cortaza Ramírez, L., & Díaz Morales, K. (2023). Salud mental positiva en estudiantes universitarios de enfermería. *Ciencia Latina Revista Científica Multidisciplinar*, 7(2), 10657–10666. [https://doi.org/10.37811/CL\\_RCM.V7I2.6153](https://doi.org/10.37811/CL_RCM.V7I2.6153)

Ruiz-Aquino, M., Echevarría Dávila, J., & Huanca Solis, W. E. (2021). Conductas de autocuidado de la salud en estudiantes universitarios de Ciencias de la Salud. *RSocialium*, 5(1), 261–276. <https://doi.org/10.26490/UNCP.SL.2021.5.1.830>

Salas Osorio, Y. A. (2021). Conductas de autocuidado de la salud en estudiantes de Enfermería durante la COVID-19. *Revista Peruana de Ciencias de la Salud*, 3(4), 270–277. <https://doi.org/10.37711/RPCS.2021.3.4.360>

Teque- Julcarima, M. S., Galvez Diaz, N. del C., & Salazar Mechán, D. M. (2020). Estrés académico en estudiantes de enfermería de universidad peruana. *Medicina naturista, ISSN 1576-3080, Vol. 14, N° 2, 2020, págs. 43-48, 14(2)*, 43–48. <https://dialnet.unirioja.es/servlet/articulo?codigo=7512760>

The World Medical Association. (2022). *WMA Declaration of Helsinki – Ethical Principles for Medical Research Involving Human Subjects* (6th ed.). <https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/>

Thomas, D., & Zubkov, P. (2023). *Quantitative Research Designs* (Quantitative Research for Practical Theology, Ed.). Andrews University. [https://www.researchgate.net/publication/370630979\\_Quantitative\\_Research\\_Designs](https://www.researchgate.net/publication/370630979_Quantitative_Research_Designs)

Zhang, Y., Wang, C., Pan, W., Zheng, J., Gao, J., Huang, X., Cai, S., Zhai, Y., Latour, J. M., & Zhu, C. (2020). Stress, Burnout, and Coping Strategies of Frontline Nurses During the COVID-19 Epidemic in Wuhan and Shanghai, China. *Frontiers in psychiatry*, 11. <https://doi.org/10.3389/FPSYT.2020.565520>

**Contribution of each author to the manuscript:**

Task	% of contribution of each author	
	A1	A2
A. theoretical and conceptual foundations and problematization:	50%	50%
B. data research and statistical analysis:	50%	50%
C. elaboration of figures and tables:	50%	50%
D. drafting, reviewing and writing of the text:	50%	50%
E. selection of bibliographical references	50%	50%
F. Other (please indicate)	-	-

**Indication of conflict of interest:**

There is no conflict of interest

**Source of funding**

There is no source of funding

**Acknowledgments**

There is no acknowledgment