



ORIGINAL

## Coping with stress and self-efficacy as predictors of academic satisfaction in a sample of university students

### Afrontamiento al estrés y autoeficacia como predictores de la satisfacción académica en una muestra de estudiantes universitarios

Edwin Gustavo Estrada-Araoz<sup>1</sup>  , Guido Raúl Larico-Uchamaco<sup>2</sup>  , Nelly Olinda Roman-Paredes<sup>3</sup>  ,  
Euclides Ticona-Chayña<sup>4</sup>  

<sup>1</sup>Universidad Nacional Amazónica de Madre de Dios, Escuela Profesional de Educación. Puerto Maldonado, Perú.

<sup>2</sup>Universidad Nacional de Cañete, Escuela Profesional de Ingeniería de Sistemas. Cañete, Perú.

<sup>3</sup>Universidad Nacional de Barranca, Escuela Profesional de Enfermería. Barranca, Perú.

<sup>4</sup>Universidad Nacional Intercultural Fabiola Salazar Leguía de Bagua, Escuela Profesional de Biotecnología. Bagua, Perú.

**Cite as:** Estrada-Araoz EG, Larico-Uchamaco GR, Roman-Paredes NO, Ticona-Chayña E. Coping with stress and self-efficacy as predictors of academic satisfaction in a sample of university students. Salud, Ciencia y Tecnología. 2024; 4:840. <https://doi.org/10.56294/saludcyt2024840>

Submitted: 05-08-2023

Revised: 05-01-2024

Accepted: 23-04-2024

Published: 24-04-2024

Editor: Dr. William Castillo-González 

#### ABSTRACT

**Introduction:** academic satisfaction is a fundamental component that influences students' educational experience and directly impacts their academic performance and overall well-being.

**Objective:** to determine whether coping with stress and self-efficacy predict the academic satisfaction of university students.

**Methods:** a quantitative, non-experimental, predictive, and cross-sectional study was conducted. The sample consisted of 301 students who were administered the Academic Stress Coping Scale, the General Self-Efficacy Scale, and the Academic Satisfaction Scale, all instruments with adequate psychometric properties.

**Results:** preliminarily, it was found that academic satisfaction correlated significantly and directly with coping with stress ( $r = 0,449$ ;  $p < 0,05$ ) and self-efficacy ( $r = 0,521$ ;  $p < 0,05$ ). Likewise, coping with stress was found to correlate significantly and directly with self-efficacy ( $r = 0,438$ ;  $p < 0,05$ ). Regression analysis demonstrated a suitable fit for the model ( $F = 53,128$ ;  $p < 0,05$ ), where coping with stress ( $B = 0,302$ ;  $p < 0,05$ ) and self-efficacy ( $B = 0,491$ ;  $p < 0,05$ ) explained 27,3 % of the total variance of the academic satisfaction variable.

**Conclusions:** coping with stress and self-efficacy predict the academic satisfaction of university students. Therefore, the implementation of specific strategies is recommended, thus fostering a more conducive academic environment for student well-being and academic success.

**Keywords:** Coping With Stress; Self-Efficacy; Academic Satisfaction; Mental Health; Higher Education.

#### RESUMEN

**Introducción:** la satisfacción académica es un componente fundamental que influye en la experiencia educativa de los estudiantes y repercute directamente en su rendimiento académico y bienestar general.

**Objetivo:** determinar si el afrontamiento al estrés y la autoeficacia predicen la satisfacción académica de los estudiantes universitarios.

**Métodos:** estudio cuantitativo, no experimental, predictivo y de corte transversal. La muestra estuvo conformada por 301 estudiantes a quienes se les administró la Escala de Afrontamiento del Estrés Académico, la Escala de Autoeficacia General y la Escala de Satisfacción académica, instrumentos con adecuadas propiedades psicométricas.

**Resultados:** se halló, preliminarmente, que la satisfacción académica se correlacionó de manera directa y significativa con el afrontamiento al estrés ( $r = 0,449$ ;  $p < 0,05$ ) y la autoeficacia ( $r = 0,521$ ;  $p < 0,05$ ). Del mismo

modo, se halló que el afrontamiento al estrés también se correlacionó de manera directa y significativa con la autoeficacia ( $r = 0,438$ ;  $p < 0,05$ ). Por otro lado, el análisis de regresión múltiple demostró un ajuste adecuado para el modelo ( $F = 53,128$ ;  $p < 0,05$ ), donde el afrontamiento al estrés ( $\beta = 0,302$ ;  $p < 0,05$ ) y la autoeficacia ( $\beta = 0,491$ ;  $p < 0,05$ ) explicaron el 27,3 % de la varianza total de la variable satisfacción académica.

**Conclusiones:** el afrontamiento al estrés y la autoeficacia predicen la satisfacción académica de los estudiantes universitarios. Por ello, se recomienda la implementación de estrategias específicas fomentando así un ambiente académico más propicio para el bienestar estudiantil y el éxito académico.

**Palabras clave:** Afrontamiento al Estrés; Autoeficacia; Satisfacción Académica; Salud Mental; Educación Superior.

## INTRODUCTION

University life, with its inherent dynamism and challenges, offers students an opportunity for academic and personal growth.<sup>(1)</sup> However, this period is not exempt from demands and requirements that can significantly influence the student experience.<sup>(2)</sup> In this sense, the transition to university life, in addition to causing an increase in academic responsibilities, also involves a series of social, economic and emotional pressures that can profoundly affect the mental health of young people.<sup>(3)</sup> Two psychological constructs that have gained relevance in understanding the adaptation of university students are stress coping and self-efficacy. Both variables emerge as factors that could have an impact on students' perception of academic satisfaction in this context.

### Coping with stress

Stress is conceptualized as an interactive process between the person and his or her environment. In the university context there is a greater susceptibility for students to suffer from stress due to the various stressors they face, such as exams, presentations, academic overload and time constraints for their development, among others.<sup>(4)</sup> However, the influence of stressful events on physical and psychological well-being can be determined by coping.<sup>(5)</sup> From a widely accepted transactional approach, coping can be defined as the cognitive and behavioral efforts employed in response to external or internal demands that the individual considers threats to his or her well-being.<sup>(6)</sup>

How students respond to the same stressful situation may differ. Some become alert, others try to deny the situation by ignoring it or trying to forget it, or, on the contrary, act directly and actively try to change the situation or accept it.<sup>(7)</sup> Lazarus and Folkman<sup>(5)</sup> define two categories of stress coping within the framework of their theory. The first is problem-oriented, which involves modifying the dynamics of the person-environment relationship through actions directed at the environment or oneself. On the other hand, the second is emotion-oriented, which consists of altering the way in which the stressful relationship with the environment or the meaning attributed to the situation is approached, with the purpose of mitigating the state of tension.

In the face of academic stress, there are several strategies to address the problem. Among these are systematic and organized study, playing sports, getting involved in music, or taking up a hobby that provides mental respite.<sup>(8)</sup> Although these actions do not eliminate stress completely, they are effective methods of managing it and preventing it from becoming a more significant problem.<sup>(9)</sup>

### Self-efficacy

Currently, academic self-efficacy is considered one of the important factors influencing academic performance.<sup>(10)</sup> It refers to students' beliefs and attitudes toward their abilities to achieve academic success, as well as the belief in their ability to accomplish academic tasks and successful learning.<sup>(11)</sup> It presents two categories of expectations: efficacy expectations, which refer to the subjective judgment of personal abilities to organize and plan activities. On the other hand, outcome expectancies, which are linked to personal beliefs that certain courses of action will produce the expected results.<sup>(12)</sup>

Self-efficacy is grounded in expectancy-value theory and the social cognitive perspective of motivation.<sup>(13)</sup> Psychologists who adhere to this current argue that the choice, persistence and energy deployed by individuals in performance can be predicted and explained by two components: achievement expectations and the value attributed to a task.<sup>(14)</sup> In other words, these beliefs about anticipated performance and the valuation of a task are key determinants that influence individuals' decision making and dedication.<sup>(15)</sup> In addition to the components noted above, some theorists in this tradition have introduced a third construct related to the feelings that students experience when performing a task, which is referred to as process expectancy.<sup>(16)</sup>

Students pursuing university studies face learning challenges and other difficult circumstances; therefore, research on self-efficacy has focused on the field of higher education.<sup>(17)</sup> Some research has shown that academic

self-efficacy functions as a protective factor that creates motivation to achieve goals and fosters emotional balance and academic progress.<sup>(18)</sup> Under that premise, students who show high levels of self-efficacy are more likely to trust themselves when facing complex issues to find a solution to the problem, in addition to being patient during the process, making more effort and persisting longer to overcome obstacles or challenges.<sup>(19)</sup> In contrast, students with low levels of self-efficacy are more prone to experience fear before tasks, avoiding them, procrastinating and abandoning them prematurely.<sup>(21)</sup>

### Academic satisfaction

In higher education, there is a growing interest in studying academic satisfaction, which is perceived by researchers as a key variable in explaining both academic success and the main problems of university students.<sup>(21)</sup> It is conceptualized as the ability of students to evaluate and compare the expected benefit with the reality experienced in the educational service.<sup>(22)</sup> This comparison results in a perception of enjoyment and contentment on the part of the student with respect to his or her learning environment.<sup>(23)</sup> This evaluation process reflects not only the student's prior expectations, but also the perceived quality of the educational experience, thus contributing to the formation of a comprehensive view of his or her learning environment.

Some research related to self-determination theory found that there are three psychological conditions necessary to feel satisfied with the educational environment<sup>(24)</sup>: autonomy (the experience of freedom of choice in learning), competence (perceived self-efficacy and the ability to master the learning environment) and relatedness (feeling connected to peers, teachers and administrators). If these conditions are not met, the student often experiences academic stress or thoughts of dropping out.<sup>(25)</sup>

Therefore, academic satisfaction is considered a critical variable in understanding students' academic experience.<sup>(26)</sup> Indeed, the literature shows that high academic satisfaction is associated with better student motivation toward learning, higher self-efficacy, positive learning outcomes, commitment to continuing studies, and lower levels of stress and dysfunctional behavior.<sup>(27,28,29)</sup> However, low academic satisfaction may increase the likelihood of college dropout.<sup>(30)</sup>

The present research arises from the need to understand the psychological factors that influence academic satisfaction in Peruvian university students. In that sense, we focus specifically on stress coping and self-efficacy, two widely studied constructs whose interaction and joint impact on the academic experience deserve a more detailed exploration. During the literature review, research has been identified that developed a predictive model relating academic stress and self-efficacy to academic satisfaction.<sup>(31)</sup> In this sense, the present study acquires relevance by addressing issues usually faced by university students.

This research is justified by virtue of its potential contribution to the improvement of psychological and academic support programs for university students. By better understanding how stress coping and self-efficacy interact and affect academic satisfaction, more targeted and effective interventions can be developed to promote a healthier college environment and enhance student well-being. In addition, the findings of this research may be relevant for the formulation of educational policies and student support strategies in the Peruvian university context and, possibly, in similar contexts internationally.

Finally, the aim of the present research was to determine whether stress coping and self-efficacy predict academic satisfaction in university students.

### METHODS

The research approach was quantitative, the design was non-experimental, and the type was predictive.<sup>(32)</sup> The sample consisted of 301 students enrolled in the branch of a private university located in the city of Puerto Maldonado, Madre de Dios region (Peru). It should be noted that this number was determined by probability sampling with 95 % confidence and 5 % significance.

The data collection technique was the survey, while the instruments were the Academic Stress Coping Scale, the General Self-Efficacy Scale and the Academic Satisfaction Scale. The three surveys, as well as some sociodemographic questions were structured using the Google Form.

Regarding the Academic Stress Coping Scale,<sup>(33)</sup> it assesses the strategies that university students use to manage potentially stressful academic demands and situations. It consists of 3 dimensions (positive reappraisal, support seeking and planning) distributed in 23 Likert-type items ranging from 1 (never) to 5 (always). Previous research conducted in the Peruvian context<sup>(34)</sup> determined that the scale had adequate psychometric properties ( $\alpha = 0,840$ ).

As for the General Self-Efficacy Scale,<sup>(35)</sup> it measures the degree to which a person believes in his or her ability to face and manage a variety of situations in daily life. It is a single factor instrument, is composed of 10 Likert-type items ranging from 1 (incorrect) to 4 (true) and can be administered individually or collectively. Its psychometric properties were determined in a previous investigation,<sup>(36)</sup> where it was found to have adequate levels of validity (Aiken's  $V = 0,807$ ) and reliability ( $\alpha = 0,839$ ).

Regarding the Academic Satisfaction Scale,<sup>(37)</sup> it assesses the degree to which students feel satisfied with

their academic experience and performance in an educational setting. It is also a single factor instrument, is composed of 8 Likert-type items ranging from 1 (never) to 4 (always) and is administered individually or in groups. In a previous research developed in Peru<sup>(38)</sup> it was determined that the scale had adequate psychometric properties ( $\alpha = 0,840$ ).

Data collection was carried out during the period between the months of October and December 2023 after obtaining the respective permits from the competent university authorities. To facilitate student participation, modern means of communication were used, such as the Whatsapp messaging application. Students were invited to participate, sent the survey link and provided with clear instructions for answering the questions of the three instruments. This process, which lasted approximately 20 minutes, concluded with the confirmed participation of all 301 students, after which access was disabled.

Initially, descriptive statistics were calculated for the variables stress coping, self-efficacy and academic satisfaction, including mean, standard deviation, skewness and kurtosis. Then, Student's t-test for independent samples was used and Cohen's d was used as a measure of effect size to find out if there were statistically significant differences in the variable scores between men and women. Subsequently, a Pearson correlation analysis was performed in order to examine the possible relationship between the aforementioned study variables. Finally, a multiple linear regression analysis was conducted to determine whether stress coping and self-efficacy had the predictive ability of students' academic satisfaction. This methodological approach was selected to provide an in-depth understanding of the relationships and possible predictors in the context of interest.

Regarding ethical issues, the present research was conducted in accordance with the ethical principles of the Declaration of Helsinki to protect the rights and integrity of the participants. The students were informed in detail about the purpose of the research, giving their consent voluntarily. Likewise, participation was anonymous, guaranteeing the confidentiality of their identities. In addition, their right to withdraw at any time without negative consequences was emphasized. These ethical measures were essential to preserve the integrity, rights and confidentiality of the data collected during the research process.

## RESULTS

Table 1 shows that, of the total number of participants, 62,1 % were women and 37,9 % were men. Regarding the age of the participants, 67,4 % were between 16 and 25 years old, while 32,6 % were between 26 and 35 years old. In terms of professional career, 38,2 % were studying law, 33,6 % were studying administration and 28,2 % were studying accounting.

Variables	Sociodemographic and academic characteristics	n= 301	%
Gender	Male	187	62,1
	Female	114	37,9
Age	Between 16 and 25 years old	203	67,4
	Between 26 and 35 years old	98	32,6
Professional Career	Administration	101	33,6
	Accounting	85	28,2
	Law	115	38,2

Table 2 shows the descriptive statistics of the variables academic satisfaction, stress coping and self-efficacy. In this sense, it is observed that the skewness and kurtosis coefficients of the three variables are within the range of  $\pm 1,5$ ; suggesting that the data tend to follow a normal distribution.

Variables	Media	Standard deviation	Asymmetry	Kurtosis
Academic satisfaction	26,93	4,294	0,494	0,706
Coping with stress	75,71	8,439	-1,386	0,937
Self-efficacy	33,56	5,048	-0,672	0,442

Table 3 describes the t-test for independent samples. It can be seen that there are statistically significant differences between men and women with respect to the variable self-efficacy ( $t = 2,403$ ;  $p < 0,05$ ) and the effect size was moderate ( $d = 0,414$ ). In this context, it is observed that men presented higher levels of self-efficacy than women. Regarding the variables academic satisfaction and stress coping, no statistically significant differences were reported ( $p > 0,05$ ).

Table 3. Academic satisfaction, stress coping and self-efficacy between men and women							
Variables	Men		Women		t	p	d
	M	DE	M	DE			
Academic satisfaction	26,87	4,096	28,17	5,405	3,325	0,115	0,112
Coping with stress	76,69	8,120	77,41	8,003	-1,689	0,064	0,041
Self-efficacy	35,23	5,269	32,16	4,862	2,403	0,025	0,414
Source: Surveys.							

Table 4 shows the results of the correlation analysis between the study variables. In that understanding, it was determined that academic satisfaction correlated directly and significantly with stress coping ( $r = 0,449$ ;  $p < 0,05$ ) and self-efficacy ( $r = 0,521$ ;  $p < 0,05$ ). Similarly, stress coping was also found to be directly and significantly correlated with self-efficacy ( $r = 0,438$ ;  $p < 0,05$ ).

Table 4. Correlation between academic satisfaction, stress coping and self-efficacy			
Variables	Academic satisfaction	Coping with stress	Self-efficacy
Academic satisfaction	1	-	-
Coping with stress	0,449**	1	-
Self-efficacy	0,521**	0,438**	1
** $p < 0,01$			

Table 5 shows that the adjusted coefficient of determination  $R^2$  was 0,273; which means that stress coping and self-efficacy are variables that explain 27,3 % of the total variance of the academic satisfaction variable. On the other hand, the F value was equal to 53,128 ( $p < 0,05$ ); which means that there is a significant linear relationship between stress coping and self-efficacy (predictor variables) and academic satisfaction (dependent variable).

Table 5. Multiple correlation coefficient R, $R^2$ , corrected $R^2$ , ES and F						
Model	R	$R^2$	$R^2$ corrected	EE	F	p
1	0,525 <sup>a</sup>	0,276	0,273	4,724	53,128	0,000 <sup>b</sup>
<sup>a</sup> Predictor variables: (Constant), Coping with stress and self-efficacy.						
<sup>b</sup> Dependent variable: Academic satisfaction						

Table 6 shows the multiple linear regression analysis using the stepwise method, in which academic satisfaction was included as the dependent variable and coping with stress and self-efficacy as independent or predictor variables. The B coefficients (0,302 and 0,491) indicate that stress coping and self-efficacy significantly predict academic satisfaction. In addition, the t-value of the beta regression coefficients of the predictor variables were found to be statistically significant ( $p < 0,05$ ).

Table 6. Multiple linear regression coefficients, B (unstandardized), B (standardized) and t-test					
Predictors	B	Standard error	B	T	p-value
(Constant)	5,748	0,865		8,573	0,000
Coping with stress	0,593	0,104	0,302	5,647	0,000
Self-efficacy	0,462	0,093	0,491	6,118	0,000
Dependent variable: Academic satisfaction.					



## DISCUSSION

Academic satisfaction, in the university setting, is a critical component that influences students' educational experience and directly impacts their academic performance and overall well-being. The transition to higher education brings with it a unique set of challenges and opportunities, marked by diversity of experience, increased academic autonomy, and exploration of specialized fields of study. In this dynamic context, understanding academic satisfaction takes on crucial relevance for designing educational environments that foster effective learning and holistic student development. Thus, the present research sought to determine whether stress coping and self-efficacy predict academic satisfaction in college students.

The descriptive results show that the means of the variables academic satisfaction, stress coping and self-efficacy were 26,93, 75,71 and 33,56, respectively. When contrasting these figures with the upper and lower values of each variable, it can be affirmed that the levels of academic satisfaction and self-efficacy were at a high level, while the stress coping variable was valued at a regular level. The above indicates that students reported high levels of satisfaction with their academic experience and a positive perception of their ability to face various challenges. However, they showed deficiencies regarding the use of strategies and skills to cope with academic stress. Relatively similar results were obtained in some studies.<sup>(31,34,39)</sup>

When contrasting the study variables according to the sex of the participants, it was found that there were statistically significant differences between men and women only in the case of self-efficacy. Furthermore, the effect size was moderate. In this sense, it was observed that men presented higher levels of self-efficacy than women. This result corroborates previous research.<sup>(40,41,42)</sup> A possible explanation for this difference could be related to gender roles. Traditionally, there are stereotypical beliefs that assign to girls and women roles associated with passivity and submission, while, for boys and men, they are more often linked to action and control.<sup>(40)</sup> This traditional assignment of roles could influence individual perception of self-efficacy, highlighting the importance of considering sociocultural factors when analyzing these differences.

According to the predictive model proposed, stress coping and self-efficacy predict academic satisfaction in college students. This implies that the ability to cope effectively with stress, as well as the belief in one's own efficacy in overcoming academic challenges, emerge as determining factors that directly influence the overall perception of academic satisfaction. Similar results were obtained in research that developed and corroborated a predictive model relating academic stress and self-efficacy to academic satisfaction.<sup>(31)</sup>

Our finding is consistent with Bandura's self-efficacy theory,<sup>(11)</sup> which indicates that self-efficacy influences the choice of activities and effort invested, thus impacting satisfaction in the academic setting. It is also supported by Lazarus and Folkman's stress theory,<sup>(5)</sup> which indicates that how individuals handle stress influences their overall well-being, i.e., adapting appropriate strategies could mitigate the negative effects of academic stress and promote greater satisfaction.

Taken together, our findings underscore the importance of considering self-efficacy and stress coping as key factors contributing to academic satisfaction in college students. Thus, it highlights the need for a holistic approach in higher education that values not only academic outcomes, but also mental health, perceived competence, and students' ability to cope with the challenges that characterize the university context. Consideration of these key factors can inform policies and practices that promote a university environment that is more enriching and conducive to students' holistic development.

It should be noted that the present study is not free of certain limitations that require consideration when interpreting the results. First, the number of participants in the study was relatively small, which could affect the representativeness of the sample and restrict the generalizability of the findings to larger populations. In addition, the methodology employed involved the self-administration of instruments by the participants, which could introduce biases and limitations in the measurement of the variables. For future research, it is suggested that multicenter studies covering more diversified and representative samples be conducted. In addition, it would be beneficial to complement data collection with the use of interview guides or other qualitative tools, in order to obtain a more complete and objective understanding of the phenomena studied.

## CONCLUSIONS

In a world in constant evolution, where higher education is facing new challenges, understanding and addressing academic satisfaction becomes a crucial task to improve the quality of teaching and prepare students to face the challenges of today's society. The exploration and understanding of this phenomenon allows not only to improve the university experience, but also to contribute to the integral development of individuals who will be future leaders and professionals in their respective disciplines.

In the present research, it was preliminarily determined that stress coping was directly and significantly related to self-efficacy and academic satisfaction of university students. On the other hand, the resulting explanatory model allowed us to identify that stress coping and self-efficacy were predictor variables of academic satisfaction. These two psychological variables become crucial in the university setting, where students face significant academic, social and emotional demands.

In view of the above, it is recommended that the university implement specific strategies to strengthen the study variables. The incorporation of programs for the development of stress coping skills is suggested, providing students with practical tools to manage academic demands. Likewise, the creation of interventions aimed at improving self-efficacy is proposed, including mentoring programs, constructive feedback and recognition for academic achievements. The promotion of a university environment that fosters collaboration among peers and the availability of educational resources is also presented as a fundamental measure. These recommendations seek not only to improve academic performance, but also to enrich the educational experience and promote greater satisfaction among the student community.

## REFERENCES

1. Estrada E, Farfán M, Lavilla W, Avendaño C, Quispe J, Yancachajlla L, Mamani M. Salud mental y satisfacción con la vida en estudiantes universitarios: Un estudio correlacional. *Gac Méd Caracas*. 2024;132(S1):125-133. <http://dx.doi.org/10.47307/GMC.2024.132.s1.17>
2. Farfán M, Estrada E, Lavilla W, Ulloa N, Calcina D, Meza L, et al. Mental health in the post-pandemic period: Depression, anxiety, and stress in Peruvian university students upon return to face-to-face classes. *Sustainability*. 2023;15(15):11924. <https://doi.org/10.3390/su151511924>
3. Ruiz J, Guillén Á, Pina D, Puente E. Mental health and healthy habits in university students: A comparative associative study. *Eur J Investig Health Psychol Educ*. 2022;12(2):114-126. <https://doi.org/10.3390%2Fjihpe12020010>
4. Estrada E, Paricahua J, Paredes Y, Quispe R. Prevalencia de trastornos mentales comunes en estudiantes universitarios. *Rev Cub Med Mil*. 2023;52(4):e02302968.
5. Lazarus R, Folkman S. Stress, appraisal, and coping. New York: Springer Publishing Company; 1984.
6. Freire C, Ferradás M, Regueiro B, Rodríguez S, Valle A, Núñez J. Coping strategies and self-efficacy in university students: A person-centered approach. *Front Psychol*. 2020;11:841. <https://doi.org/10.3389/fpsyg.2020.00841>
7. Enns A, Eldridge G, Montgomery C, Gonzalez V. Perceived stress, coping strategies, and emotional intelligence: A cross-sectional study of university students in helping disciplines. *Nurse Educ Today*. 2018;68:226-231. <https://doi.org/10.1016/j.nedt.2018.06.012>
8. Ramírez O, Estévez R, Pérez M, Sánchez A, Ángeles G, Basset I. Nivel de Afrontamiento al Estrés Académico de Estudiantes de la Licenciatura en Enfermería del Centro Universitario Valle de Chalco en el Periodo 2020. *Rev Cubana Enferm*. 2021;37(1):e4401.
9. Castillo C, Chacón T, Díaz G. Ansiedad y fuentes de estrés académico en estudiantes de carreras de la salud. *Investigación educ. médica*. 2016;5(20):230-237. <https://doi.org/10.1016/j.riem.2016.03.001>
10. Hayat A, Shateri K, Amini M, Shokrpour N. Relationships between academic self-efficacy, learning-related emotions, and metacognitive learning strategies with academic performance in medical students: a structural equation model. *BMC Med Educ*. 2020;20(1):76. <https://doi.org/10.1186/s12909-020-01995-9>
11. Bandura A. Autoeficacia: El ejercicio del Control. Nueva York, Nueva York: Freeman; 1997.
12. Bandura A, Caprara G, Barbaranelli C, Gerbino M, Pastorelli C. Role of affective self-regulatory efficacy in diverse spheres of psychosocial functioning. *Child Dev*. 2003;74(3):769-782. <https://doi.org/10.1111/1467-8624.00567>
13. Doménech F, Abellán L, Gómez A. Self-efficacy, satisfaction, and academic achievement: The mediator role of students' expectancy-value beliefs. *Front Psychol*. 2017;8:1193. <https://doi.org/10.3389%2Ffpsyg.2017.01193>
14. Wigfield A. Expectancy-value theory of achievement motivation: a developmental perspective. *Educ. Psychol. Rev*. 1994;6:49-78.
15. Wigfield A, Eccles J. The development of achievement task values: a theoretical analysis. *Dev. Rev*.

1992;12:265-310. [https://doi.org/10.1016/0273-2297\(92\)90011-P](https://doi.org/10.1016/0273-2297(92)90011-P)

16. Pintrich P, De Groot E. Motivational and self-regulated learning components of classroom performance. *J. Educ. Psychol.* 1990;82:33-40. <http://dx.doi.org/10.1037/0022-0663.82.1.33>

17. Fook C, Sidhu G. Investigating learning challenges faced by students in higher education. *Procedia Soc. Behav. Sci.* 2015;186:604-612.

18. Schöber C, Schütte K, Köller O, McElvany N, Gebauer M. Reciprocal effects between self-efficacy and achievement in mathematics and reading. *Learn Individ Differ.* 2018;63:1-11. <https://doi.org/10.1016/j.lindif.2018.01.008>

19. Sadi O, Uyar M. The relationship between self-efficacy, self-regulated learning strategies and achievement: A path model. *J Baltic Sci Educ.* 2013;12(1):21-33. <http://dx.doi.org/10.33225/jbse/13.12.21>

20. Schunk D, Ertmer P. Self-regulation and academic learning: Self-efficacy enhancing interventions. *Handbook Self-Regul.* 2000:631-649. <https://doi.org/10.1016/B978-012109890-2/50048-2>

21. Morelli M, Chirumbolo A, Baiocco R, Cattelino E. Self-regulated learning self-efficacy, motivation, and intention to drop-out: The moderating role of friendships at university. *Curr Psychol.* 2023;42(18):15589-15599. <https://doi.org/10.1007/s12144-022-02834-4>

22. Zalazar M, Moretti L, Medrano L. Contribution of Academic satisfaction judgments to subjective well-being. *Front Psychol.* 2022;13:772346. <https://doi.org/10.3389/fpsyg.2022.772346>

23. Gopal R, Singh V, Aggarwal A. Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19. *Educ Inf Technol (Dordr).* 2021;26(6):6923-6947. <https://doi.org/10.1007/s10639-021-10523-1>

24. Wang C, Liu W, Kee Y, Chian L. Competence, autonomy, and relatedness in the classroom: understanding students' motivational processes using the self-determination theory. *Heliyon.* 2019;5(7):e01983. <https://doi.org/10.1016/j.heliyon.2019.e01983>

25. Carranza R, Mamani O, Castillo R, Lingán S, Cabrera I. Influence of family and academic satisfaction on life satisfaction among Peruvian university students in the times of COVID-19: The mediating role of self-esteem. *Front Educ.* 2022;7:867997. <https://doi.org/10.3389/educ.2022.867997>

26. Testa S, Macagno A, Bertolino F, Cacciamani S, Grange T, Perrucci V, Piu A, Timpano G, Cattelino E. Academic satisfaction among university students during the COVID-19 pandemic: the influence of individual, social, and organizational variables. *Front Educ.* 2023;8:1268585. <https://doi.org/10.3389/educ.2023.1268585>

27. Jaradat S, Ajlouni A. Social presence and self-efficacy in relation to student satisfaction in online learning setting: A predictive study. *Int J Educ Pract.* 2020;8(4):759-773. <https://doi.org/10.18488/journal.61.2020.84.759.773>

28. Kapasia N, Paul P, Roy A, Das P, Ghosh T, Chouhan P. Perceived academic satisfaction level, psychological stress and academic risk among Indian students amidst COVID-19 pandemic. *Heliyon.* 2022;8(5):e09440. <https://doi.org/10.1016/j.heliyon.2022.e09440>

29. Wong W, Chapman E. Student satisfaction and interaction in higher education. *High Educ (Dordr).* 2023;85(5):957-978. <https://doi.org/10.1007/s10734-022-00874-0>

30. Estrada E, Gallegos N, Paredes Y, Quispe R, Córdova F. Satisfacción de los estudiantes peruanos con las clases virtuales durante la pandemia covid-19. *Univ Soc.* 2022;14(S6):678-685.

31. Shehadeh J, Hamdan A, Halasa S, Hani M, Nabolsi M, Thultheen I, Nassar O. Academic stress and self-efficacy as predictors of academic satisfaction among nursing students. *Open Nurs J.* 2020;14:92-99. <http://dx.doi.org/10.2174/1874434602014010092>



32. Hernández R, Mendoza C. Metodología de la investigación: las rutas cuantitativa, cualitativa y mixta. México: McGraw-Hill; 2018.
33. Cabanach R, Valle A, Rodríguez S, Piñeiro I, Freire C. Escala de Afrontamiento del Estrés Académico (A-CEA). Rev Iberoam Psicol Salud. 2010;1(1):51-64.
34. Alfaro R, Carranza R, Mamani O, Caycho T. Examining academic self-efficacy and perceived social support as predictors for coping with stress in Peruvian university students. Front Educ. 2022;7:881455. <https://doi.org/10.3389/feduc.2022.881455>
35. Baessler J, Schwarzer R. Evaluación de la autoeficacia: Adaptación española de la Escala de Autoeficacia general. Ansiedad estrés. 1996;2(1):1-8.
36. Estrada E, Farfán M, Lavilla W, Paricahua J, Quispe J. Burnout académico y autoeficacia en estudiantes de Enfermería en el contexto de la pospandemia. Rev Cubana Enferm. 2023;39(1):e5831.
37. Medrano L, Pérez E. Adaptación de la Escala de Satisfacción Académica a la población universitaria de Córdoba. Summa Psicol UST. 2010;7(2):5-14. <https://doi.org/10.18774/448x.2010.7.117>
38. Ventura J, Caycho T, Talledo K. Satisfacción académica en estudiantes de Ciencias de la Salud antes y durante la pandemia COVID-19. Rev Haban Cienc Méd. 2021;20(6):e4257.
39. Viladelbosch È, Calvo F. Satisfacción con la vida, satisfacción académica, autoeficacia y afrontamiento del estrés entre estudiantes del grado de educación social durante la pandemia por COVID-19. RES. 2021;33:525-540.
40. Rossi T, Trevisol A, Santos-Nunes D, Dapieve N, Hohendorff J. Autoeficacia general percibida y motivación para aprender en adolescentes de educación media. Acta Colomb Psicol. 2020;23(1):264-271. <https://doi.org/10.14718/ACP.2020.23.1.12>
41. Piergiovanni L, Depaula P. Estudio descriptivo de la autoeficacia y las estrategias de afrontamiento al estrés en estudiantes universitarios argentinos. Rev Mex Invest Educ. 2018;23(77):413-432.
42. Pozo D, Moreta R. Autoeficacia Académica y Procrastinación Académica en adolescentes de la ciudad de Quito, Ecuador. Puriq. 2023;5:e516. <https://doi.org/10.37073/puriq.5.516>

## FINANCING

The authors did not receive funding for the development of this research.

## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

## AUTHORSHIP CONTRIBUTION

*Conceptualization:* Edwin Gustavo Estrada-Araoz.

*Data curation:* Edwin Gustavo Estrada-Araoz, Guido Raúl Larico-Uchamaco.

*Formal analysis:* Edwin Gustavo Estrada-Araoz, Nelly Olinda Roman-Paredes.

*Acquisition of funds:* Guido Raúl Larico-Uchamaco, Nelly Olinda Roman-Paredes.

*Research:* Edwin Gustavo Estrada-Araoz, Nelly Olinda Roman-Paredes.

*Methodology:* Edwin Gustavo Estrada-Araoz, Guido Raúl Larico-Uchamaco.

*Project administration:* Edwin Gustavo Estrada-Araoz.

*Resources:* Guido Raúl Larico-Uchamaco, Euclides Ticona-Chayña.

*Software:* Nelly Olinda Roman-Paredes.

*Supervision:* Euclides Ticona-Chayña.

*Validation:* Guido Raúl Larico-Uchamaco, Euclides Ticona-Chayña.

*Visualization:* Guido Raúl Larico-Uchamaco, Euclides Ticona-Chayña.

*Editing - original draft:* Edwin Gustavo Estrada-Araoz.

*Writing - revision and editing:* Edwin Gustavo Estrada-Araoz.