OPEN ACCESS

Received: 17/02/25
Accepted: 10/04/25
Online: 15/04/25

ORIGINAL ARTICLE

Anxiety as a predictor of academic procrastination among pre-university students in Lima, Peru

Jeancarlo Joel Bolaños Rueda[1,a] | **Katherine Yessenia Bruggo Apaza**[1,b]

[1] Universidad Nacional Mayor de San Marcos, Lima, Peru.
[a] Master's Degree in Psychology with a specialization in Clinical and Health Psychology.
[b] Psychologist.

Keywords:
anxiety; procrastination; emotional self-regulation; students; trait anxiety (Source: MeSH - NLM).

ABSTRACT

Objective. To analyze the relationship and predictive capacity of both trait and state anxiety on academic procrastination among pre-university students in Metropolitan Lima, Peru. **Methods.** A quantitative, cross-sectional observational study was conducted with a sample of 558 students. The State-Trait Anxiety Inventory (STAI) and the Academic Procrastination Scale (APS) were administered. Data were analyzed through correlation and multiple linear regression techniques. **Results.** Trait anxiety significantly predicted overall academic procrastination (β = 0.25; p < 0.001), task postponement (β = 0.10; p < 0.001), and academic self-regulation (β = 0.15; p < 0.001). State anxiety showed no significant effects. **Conclusions.** Trait anxiety has a significant influence on academic procrastination, whereas state anxiety is not a relevant predictor. These findings underscore the importance of anxiety management and the reinforcement of academic self-regulation strategies in pre-university students.

La ansiedad como predictor de la procrastinación académica en estudiantes preuniversitarios de Lima, Perú

Palabras clave:
ansiedad; procrastinación; autorregulación emocional; estudiantes; ansiedad rasgo (Fuente: DeCS - BIREME).

RESUMEN

Objetivo. Analizar la relación y el poder predictivo de la ansiedad, tanto en su modalidad de estado como de rasgo, sobre la procrastinación académica en estudiantes preuniversitarios de Lima Metropolitana, en Perú. **Métodos.** Se realizó un estudio observacional, transversal, con enfoque cuantitativo. La muestra incluyó 558 estudiantes. Se aplicaron el Inventario de Ansiedad Rasgo-Estado (IDARE) y la Escala de Procrastinación Académica (EPA). Los datos fueron analizados mediante correlaciones y la regresión lineal múltiple. **Resultados.** La ansiedad rasgo predijo significativamente la procrastinación académica global (β = 0,25; p < 0,001), la postergación de actividades (β = 0,10; p < 0,001) y la autorregulación académica (β = 0,15; p < 0,001). La ansiedad estado no tuvo efectos significativos. **Conclusiones.** La ansiedad rasgo influye en la procrastinación académica, mientras que la ansiedad estado no es un predictor relevante. Estos hallazgos resaltan la importancia de gestionar la ansiedad y fortalecer la autorregulación académica en estudiantes preuniversitarios.

Cite as: Bolaños-Rueda JJ, Bruggo-Apaza KY. Anxiety as a predictor of academic procrastination among pre-university students in Lima, Peru. Rev Peru Cienc Salud. 2025; 7(2):104-12. doi: https://doi.org/10.37711/rpcs.2025.7.2.7

Correspondence:
Jeancarlo Joel Bolaños Rueda
jeancarlo.bolanos@unmsm.edu.pe

INTRODUCTION

In Peru, the existence of a significant academic gap compels many students who wish to apply to public universities to attend pre-university centers as an essential step toward accessing higher education. According to the National Superintendence of University Education (SUNEDU, by its Spanish acronym) [1], only about one in five applicants are admitted to a public university, revealing a context of high competitiveness and academic rigor. This scenario, coupled with social pressure to achieve academic success, may increase students' vulnerability to academic procrastination—defined as the intentional delay in completing important tasks despite being aware of its negative consequences [2]. Academic procrastination not only affects academic performance but also impacts emotional well-being and personal development, generating stress, guilt, and anxiety [3, 4].

One of the most relevant psychological factors associated with academic procrastination is anxiety, which, although it initially functions as an adaptive mechanism in response to perceived threats, becomes problematic when it exceeds the individual's cognitive and behavioral resources [5]. According to Spielberger et al. [6], there are two dimensions of anxiety: state anxiety, which represents a transient emotional reaction to specific situations, and trait anxiety, which refers to a stable predisposition to experience anxiety across various circumstances. These dimensions are interrelated, as individuals with high levels of trait anxiety tend to experience state anxiety more frequently in specific events, suggesting the influence of personality factors on anxious responses.

From a theoretical perspective, academic procrastination has been conceptualized as the irrational postponement of important tasks in favor of less urgent but more gratifying activities, often as an avoidance strategy for negative emotions such as anxiety and frustration [2, 7]. This behavior reflects difficulties in emotional and behavioral regulation, directly affecting academic performance [8]. In contrast, academic self-regulation refers to a student's ability to set goals, monitor progress, and adjust behavior based on academic objectives, enabling them to overcome momentary emotional impulses [9]. Thus, academic procrastination is not only understood as a time-management issue but also as an emotional manifestation [10, 11].

Several studies have reported a significant correlation between anxiety and academic procrastination among university students [12-15]. Similarly, research involving high school students has demonstrated a meaningful relationship between test anxiety and academic procrastination [16]. Moreover, it has been suggested that there is a bidirectional relationship between anxiety and academic procrastination, indicating that this behavior may not only result from anxiety but also contribute to it [17]. However, empirical evidence remains inconsistent, highlighting the need to further explore the relationship between specific dimensions of anxiety and academic procrastination. Furthermore, much of the literature has focused on university populations, leaving a gap in knowledge regarding this phenomenon among pre-university students, who face a context of high competitiveness and specific academic demands.

In the educational context of Metropolitan Lima, factors such as intense competition for university admission, long study hours in pre-university academies, and inequality in access to educational resources contribute to increased anxiety and academic procrastination among students. It has even been noted that academic stress generated by high educational demands can exacerbate anxiety, negatively affecting both academic performance and students' emotional well-being [18].

Therefore, the present study aims to analyze the relationship and predictive power of anxiety—in its state and trait dimensions—and overall academic procrastination among pre-university students in Metropolitan Lima, Peru.

METHODS

Study type and area

The research adopted an observational, cross-sectional design. A quantitative approach was used to analyze the explanatory power of anxiety—both in its state and trait dimensions—on academic procrastination, considering the latter both globally and in its specific dimensions [19]. The study was conducted between February and October 2024.

Population and sample

The total population consisted of 2,600 students enrolled in the review cycle of a pre-university academy in Metropolitan Lima, aimed at applicants to the Universidad Nacional Mayor de San Marcos

(UNMSM) and the Universidad Nacional de Ingeniería (UNI). The sample comprised 558 pre-university students selected through a non-probabilistic, purposive sampling method. Participants aged 16–19 years were included, while those outside this age range or enrolled in pre-university programs outside the region were excluded.

Variables and data collection instruments

For the first variable, *state and trait anxiety*, the State-Trait Anxiety Inventory (STAI) was used as the data collection instrument. Originally developed in English and later adapted into Spanish, this tool measures anxiety in its state and trait dimensions [6, 20]. Within it, the *State Anxiety Scale (S-Anxiety)* assesses transient anxiety in stressful situations, while the *Trait Anxiety Scale (T-Anxiety)* measures the stable tendency to experience anxiety. Each scale contains 20 items in a 4-point Likert format, with total scores ranging from 20 to 80 points, where higher scores indicate greater anxiety levels. In Peru, psychometric studies have reported adequate internal consistency (α = 0.90 for S-Anxiety and α = 0.87 for T-Anxiety) and factorial structures explaining 48.60% and 42.11% of variance, respectively [21].

To measure the second variable, *academic procrastination*, the Academic Procrastination Scale (APS) was used. Adapted and validated in various contexts [7, 22], this scale assesses the tendency to postpone academic tasks. It was later validated in a Peruvian university sample, proposing a two-factor structure: *academic self-regulation* (9 items) and *task postponement* (3 items). These were evaluated using a 5-point Likert scale (1 = "Never" to 5 = "Always"). Reliability was adequate, with α = 0.82 and omega = 0.82 for *academic self-regulation*, α = 0.75 and omega = 0.79 for *task postponement*, and α = 0.816 for the overall scale. Exploratory factor analysis indicated that this two-factor structure explained 49.55% of the total variance, with the first factor accounting for 34.41% and the second for 15.14% [8].

Data collection techniques and procedures

Prior to data collection, authorization was obtained from the General Directorate of the pre-university institution by submitting a project summary and activity schedule. Once approved, coordination was carried out with the Psychopedagogy Department and the coordinators of each branch to define application dates and schedules. During each session, the researcher explained the study's objectives, and informed consent was obtained from participants aged 18 and older, while assent was obtained from minors. For the latter, parental or guardian consent was additionally requested, in accordance with ethical principles ensuring voluntary participation and the protection of minors. Furthermore, psychological tests were coded to preserve confidentiality, assigning identification codes instead of real names.

Data analysis

Initially, data were validated to identify blank spaces and entry errors. Descriptive analyses were then performed, assessing univariate normality using skewness and kurtosis coefficients within a range of –1.5 to +1.5. Multivariate outliers were detected through Mahalanobis distances.

The assumptions required for multiple linear regression were verified, including linearity, independence of residuals, normality of errors, and homoscedasticity, using standardized residual plots, collinearity analysis, and normality tests.

Subsequently, simple and multiple linear regression analyses were performed to examine the effect of the anxiety dimensions (state and trait) on three dependent variables: overall academic procrastination, task postponement, and academic self-regulation. Categorical variables (age and gender) were included as covariates in the adjusted models, using 16-year-olds and male participants as reference groups.

Finally, the internal consistency of the applied instruments was confirmed through the ordinal alpha coefficient (α), supporting the adequate reliability levels previously reported in psychometric studies conducted in the Peruvian population.

Ethical aspects

Ethical considerations in this research were addressed from the planning stage through final approval, ensuring transparency in the results. Principles such as honesty, truthfulness, independence, competence, rigor, contextual adequacy, academic freedom, and reliability were prioritized. These guidelines, established by the Ethics Committee of the Universidad Nacional Mayor de San Marcos (UNMSM), guided the entire process and were formalized through Rectoral Resolution No. 012648-2023-R/UNMSM [24].

Table 1. Distribution of age and gender in the sample of pre-university students in Metropolitan Lima, Peru

General data	n = 558	
	fi	%
Age		
16 years	111	19.9
17 years	273	48.9
18 years	138	24.7
19 years	36	6.5
Gender		
Male	310	55.6
Female	248	44.4

RESULTS

A total of 558 pre-university students participated in the study. Regarding age, most participants were 17 years old (48.9%), followed by 18-year-olds (24.7%). In terms of gender, 55.6% identified as male (n = 310) (see Table 1).

To describe the psychological characteristics of the study variables, descriptive statistics were calculated for the dimensions of state anxiety, trait anxiety, task postponement, and academic self-regulation, disaggregated by age and gender (see Table 2).

To explore bivariate associations among the main study variables, Pearson correlation coefficients were calculated. This preliminary analysis identified the direction and strength of relationships between state anxiety, trait anxiety, task postponement, and academic self-regulation scores (see Table 3).

Table 3. Correlation matrix among study variables

	1	2	3	4
1. State anxiety	--			
2. Trait anxiety	0.76*	--		
3. Task postponement	0.21*	0.32*	--	
4. Academic self-regulation	0.19*	0.26*	0.48*	--

*$p < 0.01$

To analyze the relationship between the anxiety dimensions and academic procrastination, simple and multiple linear regression models were estimated. Table 4 presents the coefficients obtained from both the crude and adjusted analyses.

In the crude model, trait anxiety was significantly associated with higher levels of procrastination (β = 0.21; 95% CI [0.14, 0.28], p < 0.001), whereas state anxiety showed no significant association (β = -0.01; 95% CI [–0.09, 0.07], p = 0.773). This pattern persisted in the adjusted model, where trait anxiety retained its effect (β = 0.25; 95% CI [0.17, 0.32], p < 0.001) and state anxiety remained nonsignificant. Additionally, lower procrastination levels were identified among 18-year-old participants (β = -1.65; 95% CI [-3.03, -0.27], p = 0.019) and females (β = -2.26; 95% CI [-3.21, -1.30], p < 0.001) (see Table 4).

Table 2. Descriptive statistics for anxiety and academic procrastination dimensions, by age and gender, in pre-university students from Metropolitan Lima, Peru

Age	Gender	State anxiety		Trait anxiety		Task Postponement		Academic Self-Regulation	
		M*	SD*	M	SD	M	SD	M	SD
16	Male	40.55	7.87	43.68	8.5	8.95	2.52	21.16	5.01
	Female	44.44	9.37	49.88	10.58	8.87	1.93	20.27	5.03
17	Male	40.77	8.36	44.06	9.06	8.89	2.38	20.85	4.5
	Female	45.37	9.53	49.66	10.17	8.5	2.52	20.15	4.29
18	Male	41.99	7.83	45.96	8.95	8.81	2.49	20.0	4.24
	Female	46.63	10.3	51.91	9.56	8.81	2.08	19.4	4.69
19	Male	39.94	9.81	45.5	9.25	8.06	2.41	20.0	5.83
	Female	43.85	6.82	49.7	6.19	8.4	1.79	19.6	4.55

* M: mean, SD: standard deviation.

Table 4. Association between anxiety dimensions and overall academic procrastination. Crude and adjusted regression models

	Overall academic procrastination					
	Crude analysis			Adjusted analysis		
	B*	(95% CI)*	p-value	β	(95% CI)*	p-value
Anxiety						
State anxiety	-0.01	(-0.09; 0.07)	0.77	-0.01	(-0.09; 0.07)	0.83
Trait anxiety	0.21	(0.14; 0.28)	0.001	0.25	(0.17; 0.32)	0.001
Age (years)						
16	--	--	--	1.00		
17	--	--	--	-0.44	(-1.66; 0.78)	0.48
18	--	--	--	-1.65	(-3.03; -0.27)	0.02
19	--	--	--	-1.74	(-3.86; 0.38)	0.11
Gender						
Male	--	--	--	1.00		
Female	--	--	--	-2.26	(-3.21; -1.3)	0.001

* β = regression coefficient; 95% CI = 95% confidence interval.

The postponement of tasks was also evaluated as a dependent variable. Trait anxiety once again showed a significant effect in the crude model (β = 0.09; 95% CI [0.06, 0.11], p < 0.001), whereas state anxiety was not significant. In the adjusted model, the effects remained: trait anxiety (β = 0.10; 95% CI [0.07, 0.12], p < 0.001) and state anxiety (β = -0.01; 95% CI [–0.04, 0.02], p = 0.451). Female gender was also associated with lower postponement (β = -0.68; 95% CI [-1.06, -0.31], p < 0.001), with no statistically significant differences among age groups (see Table 5).

Lastly, Table 6 presents the results of the regression analysis for academic self-regulation. In the crude analysis, trait anxiety was a significant predictor (β = 0.12; 95% CI [0.07, 0.18], p < 0.001), whereas state anxiety showed no association (β = 0.00; 95% CI [-0.06, 0.06], p = 0.98).

In the adjusted model, trait anxiety maintained its statistical significance (β = 0.15; 95% CI [0.09, 0.21], p < 0.001), while state anxiety remained non-significant (β = 0.00; 95% CI [-0.06, 0.06], p = 0.91). Likewise, a significant association was observed for 18-year-old

Table 5. Association between "anxiety" dimensions and "task postponement" among pre-university students (crude and adjusted analyses)

	Task postponement					
	Crude analysis			Adjusted analysis		
	β	(95% CI)*	p-value	β	(95% CI)*	p-value
Anxiety						
State anxiety	-0.01	[-0.04; 0.02]	0.43	-0.01	(-0.04; 0.02)	0.45
Trait anxiety	0.09	[0.06; 0.11]	0.001	0.10	(0.07; 0.12)	0.001
Age (years)						
16	-	-	-	1.00		
17	-	-	-	-0.20	(-0.68; 0.28)	0.41
18	-	-	-	-0.29	(-0.83; 0.25)	0.30
19	-	-	-	-0.72	(-1.55; 0.11)	0.09
Gender						
Male	-	-	-	1.00		
Female	-	-	-	-0.68	(-1.06; -0.31)	0.001

* β = regression coefficient; 95% CI = 95% confidence interval.

Table 6. Association between "anxiety" dimensions and "academic self-regulation" among pre-university students (crude and adjusted analyses)

	Academic self-regulation					
	Crude analysis			Adjusted analysis		
	β	(95% CI)*	p-value	β	(95% CI)*	p-value
Anxiety						
State anxiety	0.00	(-0.06; 0.06)	0.98	0.00	(-0.06; 0.06)	0.91
Trait anxiety	0.12	(0.07; 0.18)	0.001	0.15	(0.09; 0.21)	0.001
Age (years)						
16	-	-	-	1.00		
17	-	-	-	-0.24	(-1.19; 0.70)	0.61
18	-	-	-	-1.36	(-2.43; -0.29)	0.01
19	-	-	-	-1.02	(-2.66; 0.62)	0.22
Gender						
Male	-	-	-	1.00		
Female	-	-	-	-1.57	(-2.31; -0.83)	0.001

* β = regression coefficient; 95% CI = 95% confidence interval.

students (β = -1.36; 95% CI [-2.43, -0.29], p = 0.013) and for female gender (β = -1.57; 95% CI [-2.31, -0.83], p < 0.001) (see Table 6).

DISCUSSION

The findings of this study confirm the existence of a positive and statistically significant relationship between trait anxiety and academic procrastination among pre-university students in Metropolitan Lima, Peru. In contrast, state anxiety did not show a significant effect, suggesting that stable tendencies to experience anxiety as a personality trait have a more relevant impact on procrastination than temporary episodes of anxiety.

Initially, multiple regression models showed that trait anxiety has a decisive effect on overall academic procrastination, which is consistent with previous studies [12, 14, 15]. These results suggest that students with a greater tendency to experience stable anxiety may be more prone to avoiding academic responsibilities by anticipating potential difficulties or emotional discomfort. Furthermore, trait anxiety significantly predicted task postponement, which may be explained by its impact on emotional self-regulation and academic organization skills. In this regard, a significant relationship was also found between trait anxiety and chronic procrastination [13]. This finding complements empirical evidence on the role of trait anxiety in the chronic tendency to delay academic tasks.

From a theoretical perspective, these findings reinforce the emotional self-regulation model of academic procrastination, according to which students may use delay as a strategy to minimize momentary stress, even if it results in long-term negative consequences [2, 11].

Moreover, the results indicate that trait anxiety has a negative impact on academic self-regulation, suggesting that students with high levels of trait anxiety experience difficulties in planning and managing their time. This finding aligns with previous research [13] showing that trait anxiety is related to deficits in planning and impulse control. Difficulties in self-regulation may be associated with a lack of adaptive coping strategies, increasing the tendency to procrastinate. These results support the need for interventions that strengthen active coping and academic planning as protective mechanisms against procrastination [25].

In addition, age-related differences were identified: 18-year-old students exhibited lower procrastination and greater academic self-regulation. This may be related to greater emotional and cognitive maturity, which typically consolidates toward the end of adolescence [26, 27]. Although anxiety levels

may increase between the ages of 16 and 18, this maturity may allow for better coping within the highly demanding and competitive pre-university academic environment [28, 29].

Similarly, significant gender differences were observed, with female students reporting lower tendencies to procrastinate and higher levels of academic self-regulation compared to males. This finding aligns with studies suggesting that adolescent females exhibit greater academic responsibility and planning [30, 31]. Moreover, females tend to show greater concern for performance, which could motivate them to avoid procrastination behaviors [32]. Gender socialization may also play a role, as women are more likely to use adaptive emotional strategies that promote better academic management [33].

Regarding state anxiety, it was not a significant predictor of academic procrastination or its dimensions. Although a positive correlation was observed, this effect disappeared when trait anxiety was included in the regression models, indicating that state anxiety does not have an independent impact on academic procrastination. This result is consistent with Spielberger's perspective, which posits that state anxiety is highly influenced by context [34]. Among pre-university students, factors such as internal pressure stemming from personal development and family expectations may temporarily intensify this anxiety [35, 36]. However, its short-term impact may affect specific situations, such as exams or interviews, underscoring the need for future research using longitudinal or event-based designs.

Among the strengths of this study is the use of robust statistical methods, such as multiple regression, which enabled a differentiated assessment of the effects of trait and state anxiety on various forms of academic procrastination. Additionally, by focusing on a sample from a highly competitive educational environment, the study provides valuable and context-specific insights useful for designing targeted intervention strategies.

Nevertheless, certain limitations were identified. The cross-sectional design prevents the establishment of causal relationships among variables. Similarly, the exclusive use of self-report questionnaires may introduce social desirability bias. Finally, because the sample was limited to students from Metropolitan Lima, the findings cannot be generalized with full certainty to other regions of the country.

Given the above, it is recommended that future research employ longitudinal designs that allow for the analysis of the evolution of the relationship between anxiety and procrastination over time. Likewise, it would be pertinent to expand the sample to other regions of the country to improve the generalizability of the findings.

In the educational sphere, it is suggested to implement emotional regulation programs and academic self-regulation training to reduce procrastination among pre-university students. Moreover, it is essential for pre-university academies to incorporate specialized psychological counseling, promoting effective coping strategies to manage anxiety.

Conclusions

In summary, the results of this study confirm that trait anxiety is a determining factor in academic procrastination, influencing both task postponement and academic self-regulation among pre-university students. In contrast, state anxiety did not show a significant effect, indicating that transient episodes of anxiety do not directly influence procrastination. These findings highlight the importance of considering emotional and personality factors when addressing this issue in highly competitive educational contexts, such as pre-university programs in Metropolitan Lima.

Acknowledgments

We express our sincere gratitude to our professors for their valuable guidance and advice throughout this research process. Their contributions were fundamental both in the theoretical and practical aspects of the study.

REFERENCES

1. Superintendencia Nacional de Educación Superior Universitaria (SUNEDU). Informe sobre la educación superior en el Perú [Internet]. Lima: SUNEDU; 2019 [cited 2024 Nov 10]. Available from: https://www.sunedu.gob.pe/wp-content/uploads/2019/11/Informe-educacion-superior-2019.pdf

2. Steel P. The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. Psychol Bull. [Internet]. 2007 [cited 2024 Nov 10];133(1):65-94. https://doi.org/10.1037/0033-2909.133.1.65

3. Ferrari JR, Johnson JL, McCown WG. Procrastination and task avoidance: Theory, research, and treatment. New York: Plenum Press; 1995.

4. Klassen RM, Krawchuk LL, Rajani S. Academic procrastination of undergraduates: Low self-efficacy to self-regulate predicts higher levels of procrastination. Contemp Educ Psychol.

[Internet]. 2008 [cited 2024 Nov 11];33(4):915-931. https://doi.org/10.1016/j.cedpsych.2007.07.001

5. Lazarus RS. Emotion and adaptation. New York: Oxford University Press; 1991.

6. Spielberger CD, Díaz-Guerrero R. IDARE: Inventario de Ansiedad Estado-Rasgo. México: Manual Moderno; 1975.

7. Busko DA. Causes and consequences of perfectionism and procrastination: a structural equation model [Internet]. Guelph: University of Guelph; 1998 [cited 2024 Nov 13]. Available from: https://hdl.handle.net/10214/20169

8. Domínguez-Lara S, Villegas M, Centeno E. Procrastinación académica: Validación de una escala en una muestra de estudiantes universitarios de Lima Metropolitana. Liberabit [Internet]. 2014 [cited 2024 Nov 14];20(2):153-161. https://doi.org/10.24265/liberabit.2014.v20n2.02

9. Zimmerman BJ. Becoming a self-regulated learner: An overview. Theory Pract. [Internet]. 2002 [cited 2024 Nov 14];41(2):64-70. https://doi.org/10.1207/s15430421tip4102_2

10. Lieberman MD. Social cognitive neuroscience: A review of core processes. Annu Rev Psychol. [Internet]. 2007 [cited 2024 Nov 14];58(1):259-289. https://doi.org/10.1146/annurev.psych.58.110405.085654

11. Tice DM, Baumeister RF. Longitudinal study of procrastination, performance, stress, and health: The costs and benefits of dawdling. Psychol Sci. [Internet]. 1997 [cited 2024 Nov 15];8(6):454-458. https://doi.org/10.1111/j.1467-9280.1997.tb00460.x

12. Altamirano Chérrez CE, Rodríguez Pérez ML. Procrastinación académica y su relación con la ansiedad. Rev. Eugenio Espejo [Internet]. 2021 [cited 2024 Nov 15];15(3):16-24. https://doi.org/10.37135/ee.04.12.03

13. Chávez E. Procrastinación crónica y ansiedad estado-rasgo en una muestra de estudiantes universitarios [Internet]. Lima: Pontificia Universidad Católica del Perú; 2015 [cited 2024 Nov 18]. Available from: http://hdl.handle.net/20.500.12404/6022

14. Mamani Guerra SE, Aguilar Angeletti A. Relación entre la procrastinación académica y ansiedad-rasgo en estudiantes universitarios pertenecientes al primer año de estudios de una universidad privada de Lima Metropolitana. Rev Psicol Herediana [Internet]. 2018 [cited 2024 Nov 18];11(2):33-41. https://doi.org/10.20453/rph.v11i2.3627

15. Pardo Bolívar D, Perilla Ballesteros L, Salinas Ramírez C. Relación entre procrastinación académica y ansiedad-rasgo en estudiantes de psicología. Cuadernos Hispanoamericanos de Psicología [Internet]. 2014 [cited 2024 Nov 20];14(1):31-44. Available from: https://dialnet.unirioja.es/servlet/articulo?codigo=5493101

16. Querevalú Nabarro F, Echabaudes Ilizarbe R. Procrastinación académica y ansiedad frente a los exámenes en estudiantes de 3° a 5° del nivel secundario en colegios de Lima. Rev Cient Cienc Salud [Internet]. 2020 [cited 2024 Nov 20];13(1):79-87. https://doi.org/10.17162/rccs.v13i1.1350

17. Rahimi S. Understanding academic procrastination: A longitudinal analysis of procrastination and emotions in undergraduate and graduate students [Internet]. Montreal: McGill University; 2019 [cited 2024 Nov 20]. Available from: https://escholarship.mcgill.ca/concern/theses/cj82kc70g

18. Cassaretto M, Vilela P, Gamarra L. Estrés académico en universitarios peruanos: importancia de las conductas de salud, características sociodemográficas y académicas. Liberabit [Internet]. 2021 [cited 2024 Nov 20];27(2):e482. http://dx.doi.org/10.24265/liberabit.2021.v27n2.07

19. Hernández Sampieri R, Fernández Collado C, Baptista Lucio P. Metodología de la investigación. 6ª ed. México: McGraw-Hill; 2014.

20. Spielberger CD, Gorsuch RL, Lushene RE. Manual for the State-Trait Anxiety Inventory. Palo Alto, CA: Consulting Psychologists Press; 1970.

21. Domínguez S, Villegas G, Sotelo N, Sotelo L. Revisión psicométrica del Inventario de Ansiedad Estado-Rasgo (IDARE) en una muestra de universitarios de Lima Metropolitana. Rev Peru Psicol Trab Soc. 2012;1(1):45-54.

22. Álvarez-Blas ÓR. Procrastinación general y académica en una muestra de estudiantes de secundaria de Lima metropolitana. Persona [Internet]. 2010 [cited 2024 Dec 10];13:159-177. https://doi.org/10.26439/persona2010.n013.270

23. Rosseel Y. lavaan: An R Package for Structural Equation Modeling. J Stat Softw [Internet]. 2012 [cited 2024 Dec 15];48(2):1-36. https://doi.org/10.18637/jss.v048.i02

24. Universidad Nacional Mayor de San Marcos. Código de ética en investigación de la UNMSM [Internet]. Lima: UNMSM; 2023 [cited 2024 Dec 20]. Available from: https://spsgd.unmsm.edu.pe/verifica/inicio.do

25. Figueroa MI, Contini N, Lacunza AB, Levín M, Estévez Suedan A. Las estrategias de afrontamiento y su relación con el nivel de bienestar psicológico: un estudio con adolescentes de nivel socioeconómico bajo de Tucumán (Argentina). An Psicol [Internet]. 2005 [cited 2024 Dec 22];21(1):66-72. Available from: https://revistas.um.es/analesps/article/view/27171

26. Rice PL. Adolescencia: desarrollo, relaciones y cultura. 9ª ed. Madrid: Prentice Hall; 2000.

27. Bolaños Rueda JJ. El rol mediador de la regulación emocional en la relación entre la ansiedad y procrastinación académica en estudiantes preuniversitarios de Lima Metropolitana [Internet]. Lima: Universidad Nacional Mayor de San Marcos; 2024 [cited 2024 Dec 22]. Available from: https://hdl.handle.net/20.500.12672/25060

28. Valdéz A, Becerra N, Melgarejo B, Huarancca J. Nivel de ansiedad en adolescentes de una institución preuniversitaria de Lima Norte. Peruvian Journal of Health Care and Global Health [Internet]. 2019 [cited 2024 Dec 22];3(1):12-16. Available from: https://revista.uch.edu.pe/index.php/hgh/article/view/31

29. Guerrero G. ¿Cómo afectan los factores individuales y escolares la decisión de los jóvenes de postular a educación superior? Un estudio longitudinal en Lima, Perú (Research document 69) [Internet]. Lima: GRADE; 2013 [cited 2025 Jan 8]. Available from: https://repositorio.minedu.gob.pe/handle/20.500.12799/2442

30. Vollmeyer R, Rheinberg F. Motivational effects on self-regulated learning with different tasks. Educ Psychol Rev. [Internet]. 2006 [cited 2025 Jan 8];18(3):239-253. https://doi.org/10.1007/s10648-006-9017-0

31. Klassen RM, Kuzucu E. Academic procrastination and motivation of adolescents in Turkey. Educ Psychol. [Internet]. 2009 [cited 2025 Jan 8];29(1):69-81. https://doi.org/10.1080/01443410802478622

32. Ferrari JR, Díaz-Morales JF. Procrastination: Different time orientations reflect different motives. J Res Pers. [Internet]. 2007 [cited 2025 Jan 8];41(3):707-14. https://doi.org/10.1016/j.jrp.2006.06.006

33. Burka JB, Yuen LM. Procrastination: Why you do it, what to do about it now [Internet]. Cambridge: Da Capo Press; 2008 [cited 2025 Jan 8]. Available from: https://www.perseusbooksgroup.com/basic/book/procrastination/9780738211701

34. Spielberger C. Tensión y ansiedad. Mexico City: Harla; 1979.

35. Álvarez J, Aguilar JM, Lorenzo JJ. La ansiedad ante los exámenes en estudiantes universitarios: relaciones con variables personales y académicas. Electron J Res Educ Psychol. [Internet]. 2012 [cited 2024 Dec 28];10(1):333-354. Available from: http://www.redalyc.org/articulo.oa?id=293123551017

36. Papalia DE, Martorell G. Desarrollo humano. 14ª ed. México: McGraw-Hill Interamericana; 2021.

Authorship contribution

BRJJ: Conceptualization, formal analysis, investigation, methodology, writing—original draft, supervision, writing—review and editing.

BAKY: Writing—original draft, formal analysis, methodology, supervision, writing—review and editing.

Funding sources

This research was conducted with the authors' own resources.

Conflict of interest statement

The authors declare no conflicts of interest.