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Role of Procrastination as a Mediator of Self-Efficacy and Emotional State in Academic Situations

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Abstract: The need to analyze the relationship between procrastination, self-efficacy and emotional state lies on its impact on productivity, academic performance, and mental health. This research examined the role of academic procrastination as a mediator between self-efficacy and emotional state. A total of 531 university students (59.1% female) participated, with an average age of 21.69 years. The results identified that self-efficacy has a negative influence on procrastination. Likewise, the model was able to corroborate that self-efficacy decreases procrastination and produces a positive affective state. At the same time, a person with high self-efficacy can decrease their negative feelings; however, when procrastinating their negative feelings increase. Furthermore, this model did not vary between gender and academic semester groups, which shows that the results can be interpreted equivalently between these groups.

Keywords: behavior, self-efficacy, emotional states, college students, educational psychology

Papel da Procrastinação como Mediador da Auto-Eficácia e do Estado Emocional em Situações Acadêmicas

Resumo: A necessidade de analisar a relação entre a procrastinação, a autoeficácia e o estado emocional está no seu impacto sobre a produtividade, o desempenho acadêmico e a saúde mental. Esta pesquisa teve como objetivo examinar o papel da procrastinação acadêmica como mediadora entre a autoeficácia e o estado emocional. Participaram 531 estudantes universitários (59,1% do sexo feminino), com idade média de 21,69 anos. Os resultados identificaram que a autoeficácia tem uma influência negativa sobre a procrastinação. Da mesma forma, o modelo foi capaz de corroborar que a autoeficácia diminui o comportamento procrastinador e produz um estado afetivo positivo. Ao mesmo tempo, uma pessoa com alta autoeficácia pode diminuir seu estado emocional negativo, porém, ao procrastinar, seu estado emocional negativo aumenta. Além disso, esse modelo foi invariável entre os grupos de gênero e semestre acadêmico, o que mostra que os resultados podem ser interpretados de forma equivalente entre esses grupos.

Palavras-chave: comportamento, autoeficácia, estados emocionais, estudantes universitários, psicologia educacional

Rol de la Procrastinación como Mediador de la Autoeficacia y el Estado Emocional en Situaciones Académicas

Resumen: La necesidad de analizar la relación entre procrastinación, autoeficacia y estado emocional radica en su impacto en la productividad, rendimiento académico y salud mental. Esta investigación examinó el rol de la procrastinación académica como elemento mediador entre la autoeficacia y el estado emocional. Participaron 531 estudiantes universitarios (59.1% mujeres), con edad promedio de 21.69 años. En los resultados se identificó que la autoeficacia influye negativamente en la procrastinación. Asimismo, el modelo pudo corroborar que la autoeficacia disminuye la conducta procrastinadora y produce un estado afectivo positivo. Al mismo tiempo, una persona con alta autoeficacia puede disminuir su emocionalidad negativa, no obstante, cuando procrastina su estado emocional negativo incrementa. Además, este modelo fue invariante entre grupos de sexo y semestres académicos, lo que demuestra que se puede interpretar los resultados de forma equivalente entre estos grupos.

Palabras clave: conducta, autoeficacia, estados emocionales, estudiantes universitarios, psicología educacional

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Psychology conceptualizes the human being as an entity whose nature is manifested through its behavior, presenting habits and customs influenced by underlying emotional and psychological factors. (Díaz-Morales, 2019). In the educational context, academic procrastination is one of the most prominent behaviors. It is defined as the propensity to systematically and unjustifiably postpone several academic

activities to avoid unpleasant feelings (Limone et al., 2020). This behavior is the result of poor self-regulation (Klingsieck et al., 2012) that is reinforced by obtaining immediate or short-term rewards, thus mitigating the feeling of guilt derived from procrastination (Alegre-Bravo & Benavente-Dongo, 2020).

Based on Tuckman (1990), procrastination is focused on the exploration of the psychological and cognitive mechanisms underlying the postponement of tasks or activities, especially in the education context. This theory is structured around two core elements: "self-efficacy expectancy" and "task valuation." The former refers to the individual's perception of their own ability to successfully complete a task, while the latter involves the subjective evaluation of the importance and relevance of a task compared with other obligations. When students perceive that their abilities are insufficient to successfully address a task and, at the same time, view the task as important and challenging, they are more likely to resort to procrastination as a coping strategy to deal with the anxiety arising from the self-perceived gap between their abilities and the demands of the task. By procrastinating, they experience a calmness and momentary well-being, understanding this behavior as rewarding, and thus facilitating its reproduction (Bickel & Athamneh, 2020). The consequences, however, are emotional and cognitive distress.

Tuckman (1990) also addressed the importance of self-regulation to reduce procrastination. In other words, the ability to plan, manage time, and regulate one's own behavior are essential to resist procrastination. Low levels of self-regulation can lead to a greater tendency to procrastinate, as the individual may not have a clear focus to efficiently address academic responsibilities. Perception of available time, performance anxiety, and patterns of negative emotion avoidance are other factors influencing procrastination.

On the other hand, exploring procrastination behavior demands considering the individual's level of self-efficacy (Bandura et al., 1977; Tuckman, 1990). Self-efficacy, defined as the set of beliefs about one's own abilities and capabilities to perform tasks (Bandura, 1997), encompasses both cognitive and motivational components (Voica et al., 2020). The cognitive component refers to the realistic assessment of one's abilities, while the motivational component relates to the willingness and desire to undertake the task despite challenges. In this context, self-efficacy not only influences the perception of one's own abilities, but also the confidence to face and overcome obstacles (Sari & Fakhruddiana, 2019). As aforementioned, when students have confidence in their abilities to solve problems and face obstacles, the feeling of loss of control is mitigated and procrastination tends to be reduced and even disappear.

Emotions also play an important role in the development of procrastination, because they are useful as a bridge or intermediary between thoughts and behavior (Eckert et al., 2016). Procrastination originates from the subjects' inability to manage their emotions. In other words, they have difficulties in evaluating their own and other people's emotions(Guo et al., 2019). However, other findings have shown that there are two phases: the first one where procrastination is adopted to reduce distress, and the second, where the emotional distress increase considerably as a consequence of procrastination. That is, some feelings such as anger, boredom, guilt, hope, and anxiety emerge from procrastination (Rahimi et al., 2023). Moreover, procrastinating important tasks can lead to a cycle of anxiety and stress as individuals face increasing pressure as deadlines approach.

The emotional state influenced by procrastination not only has psychological implications, but can also impact academic performance. Negative emotions may hinder concentration and focus, affecting the final quality of the work. This interaction between procrastination and emotional state can bring about a cycle where procrastination leads to negative affect, which in turn reinforces procrastination.

This dynamic between self-efficacy, procrastination, and emotional state is essential to understand the experience of undergraduate students in their academic environment. Banduras' (1977) social cognitive theory highlights procrastination as a crucial mediating element. When students perceive low self-efficacy to actively approach academic tasks, they are more likely to procrastinate as a way to avoid the anxiety and stress resulting from the discrepancy between their perceived abilities and task demands. Although procrastination may initially provide momentary relief, postponing the task often leads to a gradual escalation of anxiety due to time pressure. Thus, procrastination acts as a mediating factor, intensifying the effect of low self-efficacy in generating and amplifying negative emotions such as anxiety.

On the other hand, studies in the literature on procrastination and self-efficacy are inconclusive as to the differences between men and women. Some studies argue that men procrastinate more than women (Steel & Ferrari, 2013), whereas other studies state the opposite (Li et al., 2020). A similar process can be found regarding self-efficacy, where men have higher average self-efficacy than women (Huang, 2013). Therefore, it is worth questioning whether an explanatory model including procrastination and self-efficacy could be functional for both groups. For that, invariance techniques are required to establish if the model can be interpreted equally for gender-related variables; likewise, other variables should be evaluated so that the invariance of the model presents a more robust evidence.

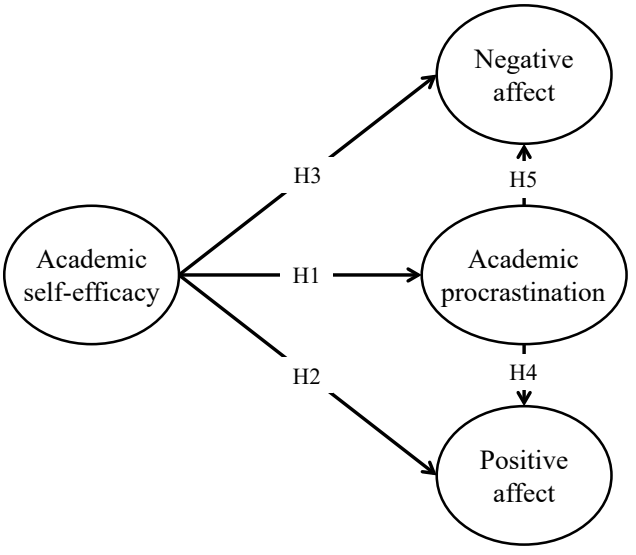
As a result of what has been found in the literature on the association between procrastination, self-efficacy and emotional state, this article aimed to investigate the role of academic procrastination as a mediating factor between self-efficacy and emotional state. A set of hypotheses was established delineating the expected relationships: (H1) high academic self-efficacy negatively influences academic procrastination; (H2) high academic self-efficacy positively influences positive affect; (H3) high academic self-efficacy negatively influences negative affect; (H4) high academic procrastination negatively affects positive affect; and, (H5) high academic procrastination positively affects negative affect (Figure 1).

To evaluate the mediation of procrastination, the hypotheses of indirect and total effects of the hypothesized model were suggested: (H6) high academic procrastination negatively mediates the effect of academic self-efficacy on positive affect; (H7) high academic procrastination positively mediates the effect of academic self-efficacy on negative affect; (H8) the total effect of academic self-efficacy on positive affect is statistically significant; and, (H9) the total effect of academic self-efficacy on negative affect is statistically significant.

Finally, hypotheses were posed where the model showed to be invariant across different groups: (H10) the explanatory model does not vary between men and women; and, (H11) the explanatory model does not vary between initial and advanced semesters.

Figure 1

Hypothesized model



Method

Participants

The study, framed in an explanatory design through regressions with latent variables, was carried out with a non-probabilistic convenience sampling. Data were obtained from 531 Peruvian university students from different regions of Peru and who belonged to different careers in the areas of Health Sciences (55%), Engineering (25%), Social Sciences and Humanities (18%) and Basic Sciences (1%). Regarding sociodemographic data, 59.1% were women and 40.9% were men. For age, the minimum value evaluated was 15 and the maximum 69 (M = 21.69; SD = 3.81); 40.9% of those evaluated were in the initial semesters (first to third year) and 59.1% in the advanced semesters (fourth to seventh year).

Instruments

Academic Situations Specific Perceived Self-efficacy Scale (*Escala de Autoeficacia Percibida Específica de Situaciones Académicas* – EAPESA). It is composed of 9 items. The response format corresponded to a 5-point Likert scale (1 – never to 5 – always). Thus, by an exploratory factor analysis (EFA), item 9 was eliminated for presenting a corrected homogeneity index (CHI) lower than .20; it also presents a unidimensional structure with an explained variance of 55.26%. On the other hand, reliability was high (α = .89 [CI = .87 – .91])(Navarro-Loli & Dominguez-Lara, 2019). An alpha of .94 and omega of .94 were obtained in this study.

The Scale of Positive and Negative Experience (SPANE) main objective is to assess positive (PA) and negative affect (NA). In fact, the scale is composed of 12 items equally divided into 6 PA and 6 NA items with a 5-point Likert scale (1 – very rarely or never to 5 – very often or always). The Spanish adaptation developed by Espejo et al. (2020)it is necessary to measure affects and emotions correctly and to explore the independence of positive and negative affect. This cross-sectional study adapts and validates the Scale of Positive and Negative Experience (SPANEdemonstrated a good fit for the two-factor model with correlated errors (χ^2 = 204.42; CFI = .95; RMSEA = .06 [CI = .05 – .07]; SRMR = .04). For this research, alpha coefficients of .90 and omega coefficients of .90 were obtained for the assessment of positive affect, while values of .79 for the alpha coefficient and .79 for the omega were obtained when measuring negative affect.

The *Tuckman Procrastination Scale* (TPS) has the main objective of measuring academic procrastination, and has been translated into Spanish and adapted to the Peruvian context by Alegre-Bravo y Benavente-Dongo (2020). It is composed of 15 items with a 5-point Likert scale (1 – it never happens to me to 5 – it always happens to me). Thus, the unidimensional structure with 12 items was the one that showed the best fit (χ^2 = 184.12; CFI = .97; GFI = .98; RMSEA = .05), while reliability showed adequate values (α = .85; ω = .86). For this study, alpha (.77) and omega (.84) of the TPS were calculated.

Procedure

Data collection. Considering the heterogeneity of the sample, it was decided to apply the instruments via Google Form virtual platform. The form contained an invitation letter to participants explaining the research, its objectives and its rationale. An informed consent form was presented, expressing their voluntary participation; the sociodemographic form; and the instruments to be evaluated. The research group was in charge of distribution throughout June 2022.

Data analysis. Firstly, null responses, duplicates and missing data were excluded, cleaning the database. The second step was to process data in the statistical environment of R Studio v. 4.2.2, starting with the descriptive analysis of the items, evaluating the univariate normality according to the criterion of skewness and kurtosis within ±1.5. Then, psychometric properties of the instruments were reviewed to evaluate their structure and to avoid statistical mistreatment in the structural regressions. These were evaluated with a confirmatory factor analysis and the factor loadings were analyzed, and which should be greater than .40. At the same time, the reliability of the instruments was estimated by the Omega coefficient (ω) given its recommended use for diverse populations, decrease of reliability overestimation, and because tau-equivalence was not necessary. For cases where the factorial structure did not adjust adequately, modification indexes were used to re-evaluate its structure and thus ensure that the instruments have adequate psychometric properties.

Afterwards, the associations between latent variables were reviewed by correlation matrix. Correlations were interpreted based on the criterion that values of .10 are considered weak associations, scores above .30 are moderate, and above .50, strong. Then, the average variance extracted (AVE) was calculated to evaluate the discriminant validity between the variables and ensure their independence.

Structural equations with latent variables were used to evaluate the hypothesized model. The variables were considered to be continuous, and it was decided to use the maximum likelihood estimator (MLE) with normality corrections. The specified model was evaluated via goodness-of-fit indices such as Shi-square (χ^2), degrees of freedom (*df*), CFI, TLI, RMSEA and their confidence intervals. The criteria of CFI < .90, TLI < .90, RMSEA > .08 were followed to define the proper fit. The multiple regressions were analyzed by the beta (β) and beta-standardized (β) statistics to determine the level of impact of the constructs within the model analyzed in relation to the dependent variable. In turn, the explained variance of the dependent variables (R^2) was estimated. Effect sizes of the model regressions (f^2) were calculated, considering the small (.02), medium (.15) and large (.35) effect criteria.

Finally, direct, indirect, and total effects were evaluated. To provide greater consistency to the final model, an invariance analysis of the model was performed according to gender (men and women) and semesters (initial and advanced). The fit of the models was evaluated using the fit indices specified in the previous paragraph. For measuring invariance, an unrestricted model (M1) was evaluated, then the factor loadings (M2), intercepts (M3), residuals (M4) were restricted as equal. For structural invariance, variances and covariances (M5) and structural regressions (M6) were restricted. Models were compared using differences between ΔCFI<.01 and ΔRMSEA>.01.

Ethical Considerations

The study was approved by the Research Ethics Committee of the *Universidad de Ciencias y Humanidades* (CEI Act No. 029; Code-043-22). Data were collected after each participant signed the informed consent form.

Results

Preliminary Data Analysis

The descriptive statistics of the items of academic procrastination (AP), self-efficacy (SE), positive affect (PA), and negative affect (NA) were analyzed. Results evinced mean values ranging from 2.7 to 3.71, which shows that the sample responds positively to each construct. Consequently, univariate normality was analyzed based on the skewness and kurtosis coefficients, which were within the expected ±1.5.

The confirmatory factor analysis of the instruments was performed as a preliminary analysis to the regressions. Some difficulties were found regarding items with factor loadings lower than .40, which is in line with previous studies of the instrument. The modification indices were reviewed and it was found that the items with problems required error associations with other items, which did not allow an adequate psychometric treatment. It was decided to extract item 7 from the AP, item 1 from the PA and item 3 from the NA, which improved the fit indices.

Correlations of latent variables and mean variance explained

Table 1 describes the correlations between the latent variables studied and the average variance explained (AVE) of the overall data, by gender and academic semesters. In the model, procrastination has a strong and positive correlation with negative affect (r = .597), while moderate-negative correlations are evident with self-efficacy (r = -.435) and positive affect (r = -.485). As part of the AVE analysis, the √AVE was calculated and compared with the correlations between variables. When the correlations are less than the √AVE of a variable, it is considered an adequate analysis of the model. In this investigation, the √AVE meets the aforementioned criterion. Thus, it is an indicator that each variable shared more variance with itself than with other factors. The same is true for the gender and academic semester groups.

Table 1

Correlations of latent variables and mean variance explained

	1	2	3	4
Overall				
1. Academic procrastination	.68			
2. Self-efficacy	-.43**	.79		
3. Positive affect	- .48**	.61**	.80	
4. Negative affect	.59**	-.53**	-.72**	.67
Gender				
1. Academic procrastination	.63 / .70	-.51**	-.52**	-.57**
2. Self-efficacy	-.27**	.77 / .79	.62**	-.59**
3. Positive affect	-.41**	.57**	.80 / .80	-.78**
4. Negative affect	.60**	-.38**	-.63**	.63 / .67
Academic semesters				
1. Academic procrastination	.66 / .67	-.44**	-.48**	.56**
2. Self-efficacy	-.41**	.76 / .80	.64**	-.51**
3. Positive affect	-.48**	.55**	.79 / .81	−.69**
4. Negative affect	.63**	-.55**	-.76**	.67 / .68

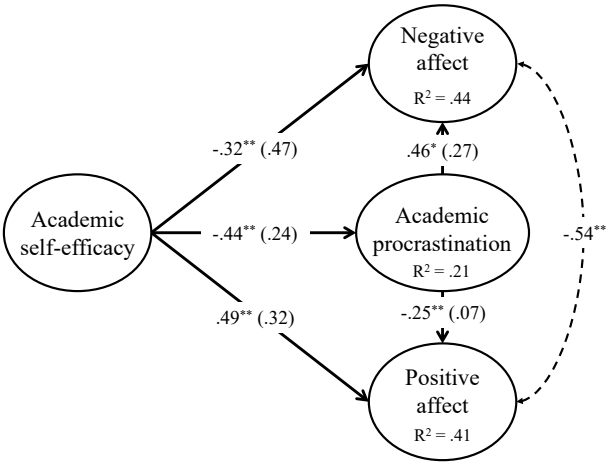
Note: AVE = average variance explained (italics and diagonal); in gender and semesters, the first AVE value is for men and initial semesters; whereas the second is for women and advanced semesters. Correlation results for males and initial semesters are located after the vertical bar; females and advanced semesters are located before the vertical bar of each section; $^{**}p < .01$.

Model evaluation

According to the results, the first analysis of the hypothesized model was performed, which obtained adequate fit indices ($\chi^2 = 1004.5$; $df = 489$; CFI = .940; TLI = .936; RMSEA = .045; 90% CI = .041 – .048) (Table 2). The regressions proposed were graphically observed, where a stable regression of self-efficacy on procrastination was obtained ($\beta = -.44$; $p < .001$), supporting H1. Self-efficacy was found to influence negative ($\beta = -.32$; $p < .001$) and positive affect ($\beta = .49$; $p < .001$), thus supporting H2 and H3. A stable regression of procrastination on negative ($\beta = .46$; $p < .001$) and positive ($\beta = -.25$; $p < .001$) affect was obtained, confirming H4 and H5 (Figure 2).

The indirect effects obtained from the model demonstrate that self-efficacy in negative affect was $\beta = -.20$ ($p < .001$), and in positive affect was $\beta = .11$ ($p < .001$); both were statistically significant and confirm H6 and H7. The total effect of self-efficacy toward negative affect was $\beta = -.52$ ($p < .001$) and toward positive affect was $\beta = .60$ ($p < .001$); demonstrating a strong degree of regression (H8 and H9). On the other hand, the explained variance of positive and negative affect was high ($R^2 = .43$, $R^2 = .45$; respectively), and their effect sizes were large ($f^2 = .76$, $f^2 = .82$; respectively). In turn, a model invariance analysis was performed to establish comparisons between groups and ensure that the model has the same interpretation and functionality (Table 3). Initially, invariance between gender was assessed, and found that the model is invariant between both groups in both measurement and structural restrictions (ΔCFI<.01; ΔRMSEA>.01). Similarly, the initial and advanced semester groups proved to be invariant in the established structural model.

Figure 2
Standardized regressions and effect sizes



Note: standardized regression coefficients (β) and beside, in parentheses, their effect sizes (f^2); ** $p < .001$.

Table 2
Multi-group invariance of the model

Model	χ^2	*df*	CFI	TLI	RMSEA	90%CI	ΔCFI	ΔRMSEA
Hypothesized model	1004.5	489	.940	.936	.045	.041 - .048		
Invariance according to gender								
Men	59.2	489	.945	.941	.030	.020 - .038		
Women	649.6	489	.944	.940	.033	.026 - .040		
M1: Configuration	1632.4	978	.926	.920	.050	.046 - .054	-	-
M2: Factor loading	1665.0	1007	.926	.922	.050	.046 - .054	.000	.001
M3: Intercepts	1728.5	1036	.922	.920	.050	.046 - .054	.004	.001
M4: Residues	177.3	1069	.921	.922	.050	.046 - .054	.001	.000
M5: Covariances and variances	1776.9	1074	.921	.922	.050	.046 - .054	.000	.000
M6: Regressions	1794.8	1079	.919	.921	.050	.046 - .054	.001	.000
Initial and advanced semesters								
Initial	729.5	489	.931	.925	.048	.041 - .054		
Advanced	833.2	489	.937	.932	.047	.042 - .053		
M1: Configuration	1561.9	978	.935	.929	.047	.043 - .052	-	-
M2: Factor loading	1593.9	1007	.934	.931	.047	.043 - .051	.000	.001
M3: Intercepts	1638.9	1036	.932	.931	.047	.043 - .051	.002	.000
M4: Residues	167.3	1069	.933	.933	.046	.042 - .050	.000	.001
M5: Covariances and variances	1676.0	1074	.934	.934	.046	.042 - .050	.001	.000
M6: Regressions	1676.8	1079	.934	.934	.046	.042 - .050	.001	.000

Discussion

The main purpose of this study was to examine the role of academic procrastination as a mediator between self-efficacy and emotional state. The results found show a negative and moderate correlation between procrastination and self-efficacy, in line with previous research (Burgos-Torre & Salas-Blas, 2020; da Silva et al., 2020). Notably, previous studies indicated a correlation of lower intensity. One study reported that the reduction of procrastinating behaviors arises from a strengthening in the individual's confidence to face and overcome academic challenges in the higher education environment (Sari

& Fakhruddiana, 2019). Furthermore, a moderate and negative correlation is observed between academic procrastination and positive affect, in contrast to a strong and positive correlation between procrastination and negative affect. These results are consistent with the presented theory, since university students who lacks the ability to regulate their emotional responses to challenging situations are more likely to procrastinate tasks, despite the emotional distress at later stages (Eckert et al., 2016; Moreta-Herrera et al., 2018).

In another sense, it is worth noting that high self-efficacy exerts a negative influence on procrastination. This finding is supported by previous research indicating that individuals with high self-efficacy express a positive attitude towards their goals, and are therefore able to self-regulate negative behaviors such as procrastination (Burgos-Torre & Salas-Blas, 2020; Estrada-Araoz, 2021; Yupanqui-Lorenzo et al., 2023)2018. However, certain levels of procrastination may be considered a functional strategy employed by students to achieve success (da Silva et al., 2020).

Moreover, the literature corroborates the association of procrastination and emotional self-regulation. Students with high levels of procrastination experience difficulties in managing and adapting emotionally to novel situations (Mohammadi Bytamar et al., 2020). Thus, students with high levels of self-esteem and determination have low levels of procrastination (Brando-Garrido et al., 2020). An additional study evaluated the impact of emotional state on procrastination, concluding that negative emotions tend to foster procrastination behaviors (Rahimi & Vallerand, 2021), and procrastination may further worsen these negative emotions (Rahimi et al., 2023).

In this context, the model has validated the mediating role of procrastination in the relationship between self-efficacy and both positive and negative affective states. The model also postulates that an individual with high self-efficacy can attenuate the expression of negative affective states. In the case of a student with low levels of self-efficacy and a marked propensity toward procrastination, however, they are more likely to experience increased levels of negative affect. On the other hand, a student with high levels of self-efficacy and positive affect who begins to procrastinate is likely to experience a decrease in their affective state.

The literature show evidence on differences in self-efficacy and procrastination between men and women (Hanham et al., 2021). Conversely, the literature presents some studies that found no significant differences (Aydoğan & Akbarov, 2018; Liu et al., 2020). Based on this, hypothetical model invariance between men and women was observed, thus confirming its indistinct applicability in both groups. As observed in the model by Yupanqui-Lorenzo et al. (2023), the effect of self-efficacy on procrastination was found to be invariant between men and women. This observation suggests that the model works for both genders, without diverging interpretations regarding the relationship between self-efficacy and procrastination.

Similarly, by finding the invariance of the model in terms of basic and advanced semesters, it was possible to broaden the degree of interpretation of the model. This finding allows further interpretation of how the relationship between self-efficacy and procrastination evolves along the academic trajectory. Consequently, when planning and implementing an intervention program based on the proposed model, one can be confident that the program will have the same effect on both men and women, and that its impact will remain consistent throughout the professional training.

To summarize, this study has established significant correlations between academic self-efficacy, affect and procrastination. Furthermore, it has been confirmed that procrastination works as a mediator in the relationship between academic self-efficacy and positive and negative affects. A student with low self-efficacy who procrastinates is more likely to experience a substantial increase in negative affect, which may be manifested as anxiety or stress. On the other hand, those with high self-efficacy experience an increase in positive affect, which is impacted if the student begins to procrastinate.

Notably, the model has proved to be invariant for both men and women, as well as for initial and advanced semesters. This invariance ensures that the interpretations of the model are not influenced by differences in gender and academic years. This model has both theoretical and empirical implications. Firstly, it offers a new perspective on how procrastination mediates the influence of self-efficacy on a person's affective state. Secondly, it could be used in intervention programs to reduce the effects of procrastination and foster the development of self-efficacy, in order to diminish levels of procrastination, thus increasing positive emotions.

It is important to recognize that this study has certain limitations. The most notable one lies in the difficulty of generalizing the results due to the use of non-probability sampling. In addition, data collection was hampered by the implementation of virtual forms, which extended the time needed to conduct the research. The use of self-report instruments could have introduced social desirability biases in the participants' responses. Future research should focus on replicating these outcomes and contrasting them with the findings of this study.

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