



Academic Burnout and Resilience as predictors of psychological well-being in university students
Burnout académico y resiliencia como predictores del bienestar psicológico en estudiantes universitarios

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Authors:

Apaza-Calla Emanuel Humberto¹ - <https://orcid.org/0009-0005-7909-5173>

Aquize-Anco Eddy Wildmar¹ - <https://orcid.org/0000-0002-4820-9570>

Affiliation:

¹Peruvian Union University, Professional School of Psychology, Juliaca, Peru

Correspondence:

Emanuel Humberto Apaza Calla, Peruvian Union University, Professional School of Psychology, Juliaca, Peru, Email: emanuelapaza@upeu.edu.pe, Phone: +51 964452571, Address: Jr. Gonzáles Prada 674, Juliaca, Puno, Peru, Postal Code: 02804, Peru

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ABSTRACT

This research aimed to determine whether academic Burnout and Resilience predict psychological well-being among university students. The study employed a predictive cross-sectional associative strategy and included a sample of 571 university students from Juliaca, with an average age of 20 ($M = 20.23$), of whom 74.4 % were male. The Maslach Burnout Inventory Student Survey (MBI-SS), the Connor Davidson Resilience Scale (CD-RISC 10), and the Psychological Well-being Scale (PWB) were used. The results indicate that the variables academic Burnout ($\beta = -0.376$; $p < 0.001$) and Resilience ($\beta = 0.187$; $p < 0.001$) together explain 23.9 % of the variance in psychological well-being. It is concluded that academic Burnout and Resilience are significant predictors of psychological well-being in university students. Specifically, it was found that cynicism and ineffectiveness dimensions are negative factors for well-being, while exhaustion and age were not predictive.

Keywords: Burnout, Psychological Resilience, Psychological Well-Being, Student Health.



RESUMEN

La presente investigación tuvo por objetivo determinar si el burnout académico y la resiliencia actúan como predictores del bienestar psicológico en estudiantes universitarios. El estudio responde a una estrategia asociativa de tipo predictivo transversal y contó con una muestra de 571 estudiantes universitarios de Juliaca, con una edad promedio de 20 años ($M = 20.23$), donde el 74.4 % fueron varones. Se utilizó el inventario de Maslach Burnout Encuesta Estudiantil (MBI-SS), la escala breve de Resiliencia Connor Davidson (CD-RISC 10) y la escala de Bienestar Psicológico (BIEPS-A). Los resultados indican que la variable burnout académico ($\beta = -0.376$; $p < 0.001$) y resiliencia ($\beta = 0.187$; $p < 0.001$) explican en conjunto el 23.9 % de la varianza del bienestar psicológico. Se concluye que el burnout académico y la resiliencia son variables predictoras significativas del bienestar psicológico en estudiantes universitarios. De manera específica, se encontró que las dimensiones de cinismo e ineficacia constituyen factores negativos para el bienestar, mientras que el agotamiento y la edad no resultaron ser variables predictoras

Palabras clave: burnout, resiliencia psicológica, bienestar psicológico, salud del estudiante.

INTRODUCTION

The university environment is characterized by multiple academic, social, and individual demands that constantly challenge students. In this setting, university students are increasingly exposed to various stressors that can overwhelm their coping skills and trigger mental health problems. In the United States, it has been revealed that up to 14% of university students have considered suicide at some point, and more than 40 % showed positive symptoms of depression.⁽¹⁾ In countries in Europe, Asia, and the Americas, it has been reported that young people between the ages of 18 and 24 constitute 43 % of the population affected by mental illness, with women registering higher rates.⁽²⁾ In Latin America and the Caribbean, it is estimated that around 16 million young people and adolescents have some mental disorder, among which depression, anxiety, and stress are the most prevalent.⁽³⁾ Peru is not exempt from this problem, as 42,000 cases of acute stress have been treated, of which 11,400 correspond to young people. In light of this, it is noted that inadequate stress management, associated with psychosocial risk factors, can trigger mood disorders and leave this population without coping resources.⁽⁴⁾

Regarding the concepts of the variables, academic Burnout is a state in which a student is exhausted due to the demands of their environment.⁽⁵⁾ This syndrome represents the highest level of stress in the educational context and arises as a response to stressful stimuli that exceed the individual's coping capacity.⁽⁶⁾ Resilience is conceptualized as the capacity for adaptation that a person possesses in the face of adverse situations that arise in a specific context.⁽⁷⁾ It is a dynamic competence that is reinforced through the continuous interaction between the person and their environment.⁽⁸⁾ In relation to psychological well-being, it is understood as a state in which a human being genuinely experiences happiness and satisfaction with their life journey.⁽⁹⁾ Burnout, emotional exhaustion, Resilience, psychological well-being, university students.⁽¹⁰⁾



In the scientific literature, the following studies were identified as the main precedents for this study. In Korea, an explanatory study was conducted on 170 medical students. The results indicated that academic Burnout reflected an inverse influence on psychological well-being ($\beta = -0.59$, $p < 0.001$), with an explanatory power of 35 %. Furthermore, it was identified that Resilience acted as a partial mediator, as its inclusion reduced the negative relationship between academic Burnout ($\beta = -0.17$, $p < 0.05$) and well-being.⁽¹¹⁾ In India, a study of 173 university students found that distress and Resilience explained 30.8% of the variability in psychological well-being ($R^2 = 0.308$), with this variance being more influenced by coping skills in the face of stressful stimuli.⁽¹²⁾ In Portugal, a predictive model of psychological well-being showed greater variance based on the negative influence of emotional exhaustion and depression ($R^2 = 0.54$), and also observed a greater impact of these factors on women.⁽¹³⁾ Similarly, in university students in Murcia, emotional exhaustion and Resilience predicted psychological well-being by 25.5 %, with academic efficacy acting as the main protective factor for well-being.⁽¹⁴⁾ In Canada, positive associations were found between psychological well-being, Resilience, and satisfaction with autonomy, with a predictive power of 66 % ($R^2 = 0.66$).⁽¹⁵⁾ In university students in Guatemala, high levels of Resilience were found to explain up to 26.20 % of the increase in psychological well-being ($R^2 = 0.26$).⁽¹⁶⁾ In the Canary Islands, 475 university students demonstrated moderate to high levels of academic Burnout (ME = 33.49), indices that were significantly associated with the intention to drop out of their studies ($r = 0.710$).⁽¹⁷⁾ Furthermore, in Spain, predictors of subjective well-being were identified from the perspective of positive psychology, highlighting that feelings of self-efficacy and intrinsic motivation best explained the three indicators of psychological well-being, representing a variance of 18.5 % ($R^2 = 0.185$).⁽¹⁸⁾

In the Peruvian context, a predictive model was proposed for university students in Lima, finding that academic stress and procrastination were associated with lower levels of subjective well-being ($R^2 = 0.56$); consequently, students with a higher perception of stress tended to see themselves as less effective at coping with their academic demands.⁽¹⁹⁾ In Madre de Dios, it was found that the methodological migration process from virtual to face-to-face education exacerbated levels of academic Burnout, significantly affecting the psychological well-being of university students ($r = -0.601$).⁽²⁰⁾ In descriptive studies, it was found that 31.4 % of 341 Peruvian university students showed high levels of Burnout, with no significant differences found in terms of gender and age.⁽⁶⁾ Similarly, in Puerto Maldonado, 850 university students registered high levels of emotional exhaustion (39.4 %). These indicators showed a significant association with age, with first-year students experiencing the highest rates.⁽²¹⁾ In contrast, the southern region of Peru provides little literature regarding studies that explain the interaction between these variables. In Puno, a descriptive study with 161 university students reported high levels of emotional exhaustion, with 35.8 % reporting it.⁽²²⁾ Likewise, at the National University of Puno, it was found that 70 students showed high levels of Resilience (74.29 %), indices that were directly related to academic commitment.⁽²³⁾ In Juliaca, academic Burnout was observed to be a constant among university students, as 67.7 % reflected moderate levels.⁽²⁴⁾

Considering the above, it is essential to note that higher education students face a heavy curricular load and high demands during their field placements. Therefore, stressful stimuli in their environment are a source of



risk that negatively impacts their sense of well-being.⁽²⁵⁾ Consequently, it is necessary to employ a predictive model that explains the variance in the well-being of university students, since there is no empirical evidence at the national level, and specifically in the Southern Region, that associates these variables. From this perspective, the objective of this research was to determine whether academic Burnout and Resilience predict the psychological well-being of university students in Juliaca. Specifically, the study sought to assess the predictability of psychological well-being based on a model composed of the dimensions of academic Burnout and age.

METHOD

Type and design of research

An empirical study was developed using an associative strategy and a cross-sectional predictive design. Following the predictive-explanatory approach, the study sought to predict psychological well-being as the response variable, based on the independent variables of academic Burnout and Resilience.⁽²⁶⁾

Participants

The sampling method used was non-probabilistic convenience sampling.⁽²⁷⁾ The sample consisted of 571 university students from the Faculty of Engineering and Architecture at a university located in the city of Juliaca. The average age of the participants was 20.23 years (SD = 2.37). Regarding gender, 425 were male, and 146 were female. Furthermore, 487 students reported having regular enrollment status, while 84 reported irregular enrollment status. Regarding their place of origin, 439 indicated they came from urban areas, compared to 132 from rural areas. Finally, regarding their academic program, 280 students indicated they were studying Civil Engineering, making it the most represented program (Table 1).

Table 1. Sociodemographic characteristics of the participants

	M	OF
Age	20,23	2.37
	N	%
Gender		
Male	425	74.4
Female	146	25.6
Study condition		
Regular	487	85.5
Irregular	84	14.7



Area of origin

Urban	439	76.9
Rural	132	23.1

Professional school

Civil Engineering	280	49.0
Systems Engineering	89	15.6
Food Engineering	54	9.5
Environmental engineering	43	7.5
Architecture	105	18.4

M = Mean, SD = Standard deviation, n = frequency

Tools

To assess academic Burnout, the Maslach Burnout Inventory - Student Survey (MBI-SS) was used in its Peruvian context-adapted version among university students in Lima.⁽²⁸⁾ The inventory consists of 15 items distributed across three dimensions (emotional exhaustion, cynicism, and academic inefficacy). Its measurement scale is a Likert-type scale with six response options where (never = 0; almost never = 1; sometimes = 2; regularly = 3; often = 4; almost always = 5; and every day = 6). The instrument demonstrated adequate psychometric properties for use, with KMO = 0.813 and Bartlett's test of sphericity = 1007.5 ($p < 0.01$), indicating construct validity. It also demonstrated its reliability through an $\alpha = 0.794$.

Resilience was measured using the Connor-Davidson Resilience Scale (CD-RISC-10), adapted for Peruvian university students.⁽²⁹⁾ The instrument consists of 10 items that form a unidimensional structure. Scoring is based on a five-point Likert scale (never = 0; rarely = 1; sometimes = 2; almost always = 3; and always = 4). Regarding its psychometric properties, construct validity was demonstrated through an exploratory factor analysis (EFA), with a KMO of 0.890, a Bartlett's test of 1344.8, and a significance value of $p < 0.01$. Internal consistency reliability was also demonstrated, with an α coefficient of 0.827.

To measure psychological well-being, the Psychological Well-being Scale (PWB) was used, adapted to the Peruvian student context.⁽³⁰⁾ The scale consists of 13 items distributed across four factors (acceptance/control of situations, autonomy, social bonds, and projects). It uses a Likert-type response category with three options: (disagree = 1; neither agree nor disagree = 2; and agree = 3). Regarding its psychometric properties, confirmatory factor analysis showed acceptable fit indices (CFI = 0.961; GFI = 0.895; AGFI = 0.839; RMR = 0.032) and an internal consistency reliability of $\alpha = 0.960$, indicating an adequate factor structure and excellent instrument reliability.



Ethical aspects

The research was reviewed and subsequently approved by the Ethics Committee of the Faculty of Health Sciences of the Peruvian Union University through certificate No. 2024-CE-FCS – UPeU-021-2024. Likewise, the ethical principles of research outlined in the Declaration of Helsinki were respected, including those of autonomy, justice, beneficence, and non-maleficence.⁽³¹⁾

Data analysis

At the univariate level, frequency and percentage analyses were used for categorical variables. In contrast, for numerical variables, measures of central tendency and dispersion were estimated from the distributions (skewness and kurtosis). Subsequently, univariate normality was verified using the Kolmogorov-Smirnov test. At the bivariate level, non-parametric correlation coefficients were used, considering a margin of error $p < 0.05$. To complete the processing, at the multivariate level, the statistical assumptions of linear regression were first verified and met,⁽³²⁾ and then the variables were subjected to multiple regression analysis to obtain standardized coefficients and coefficients of determination that explain the proposed model.

RESULTS

Descriptive analysis of numerical variables revealed that the burnout variable had a mean (M) of 32.34 and a standard deviation (SD) of 14.58. The skewness (-0.082) and kurtosis (-0.731) values were negative, indicating a slight concentration of scores above the mean and a slightly flat distribution. On the other hand, Resilience showed a mean (M) of 27.51 ± 6.92 , with negative skewness (-0.496) and positive kurtosis (0.664), indicating a distribution concentrated around the mean. As for the psychological well-being variable, it had a mean (M) of 33.62 ± 4.78 , with negative skewness (-1.428) and positive kurtosis (2.732), indicating a leptokurtic distribution.⁽³³⁾ Regarding normality, the Kolmogorov-Smirnov test showed significance values < 0.05 for all variables, indicating non-normality; therefore, non-parametric correlation coefficients were chosen (Table 2).

Table 2. Descriptive analyses and normality tests for the variables of interest

Variables	M	SD	Ace	K	Kolmogorov Smirnov	
					Statistical	p
Academic Burnout	32,34	14.58	-0.082	-0.731	0.070	<0.05
Resilience	27.51	6.92	-0.496	0.664	0.071	<0.05
Psychological Well-being	33.62	4.78	-1,428	2,732	0.153	<0.05

M = Mean, SD = Standard deviation, p = P-value





In the correlation analysis, an inverse, highly significant, moderate-intensity relationship was evident between academic Burnout and psychological well-being ($\rho = -0.462$; $p < 0.001$). On the other hand, Resilience showed a positive and significant association with psychological well-being ($\rho = 0.423$; $p < 0.001$) (Table 3).

Table 3. Correlations for the variables of interest

	Psychological well-being	
	ρ	p
Academic Burnout	-0.462**	< 0.001
Resilience	0.423**	< 0.001

ρ = Spearman's ρ , p = P value

The linear regression analysis confirmed the predictive power of two models of psychological well-being. The first model presented academic Burnout and Resilience as predictors of psychological well-being. In contrast, the second model tested the predictive relationships between the dimensions of academic Burnout (emotional exhaustion, cynicism, and academic inefficacy) and age on psychological well-being. The first model achieved an intervariate correlation coefficient ($R = 0.491$) and an adjusted coefficient of determination ($R^2 = 0.239$), indicating that it could explain up to 23.9 % of the variance in psychological well-being. The second model achieved an intervariate correlation coefficient ($R = 0.502$) and an adjusted coefficient of determination ($R^2 = 0.245$), indicating that it explained 24.5 % of the variance in psychological well-being (Table 4).

Table 4. Prediction of the proposed models in the psychological well-being variable

Model	R	R^2	adjusted R^2	p
1	0.491	0.241	0.239	<0.001
2	0.502	0.252	0.245	<0.001

Predictors: (Model 1) Academic Burnout, Resilience. (Model 2) Emotional exhaustion, Cynicism, Academic ineffectiveness, Age. b. Dependent variable: Psychological well-being, R = multiple correlation coefficient, adjusted R^2 = coefficient of determination squared, adjusted R^2 = adjusted coefficient of determination squared, p = P value.

The multivariate analysis shows that academic burnout ($\beta = -0.376$; $p < 0.001$) and Resilience ($\beta = 0.187$; $p < 0.001$) are significant predictors of psychological well-being, with Burnout explaining well-being better. On the other hand, the model that included burnout dimensions as predictors identified cynicism ($\beta = -0.282$;



$p < 0.001$) and academic ineffectiveness ($\beta = -0.145$; $p < 0.001$) as predictors of psychological well-being, noting that, of all the independent variables, Resilience is the only one that acts as a protective factor. It is essential to mention that the emotional exhaustion dimension and the age variable did not reach significance to be considered predictors of well-being (> 0.05) (Table 5).

Table 5. Multiple linear regression analysis

Preacher	B	p	β	95 % CI
Constant	34,058	<0.001		[31,953 – 36,162]
Academic Burnout	-0.124	<0.001	-0.376	[-0.150 – -0.097]
Resilience	0.130	<0.001	0.187	[0.074 – 0.185]
Emotional exhaustion	-0.045	0.161	-0.070	[-0.09 – 0.018]
Cynicism	-0.235	<0.001	-0.282	[-0.318 – -0.152]
Academic ineffectiveness	-0.105	<0.001	-0.145	[-0.168 – -0.042]
Age	-0.015	0.843	-0.007	[-0.08 – 0.08]

p = P value, B = unstandardized regression coefficient, β = standardized regression coefficient, CI = 95% confidence interval

DISCUSSION

The main objective of this study was to determine whether academic Burnout and Resilience predict the psychological well-being of university students. The results showed that psychological well-being can be explained by up to 23.9 % (adjusted $R^2 = 0.239$) by both variables together. Initially, the burnout variable negatively and significantly predicted psychological well-being ($\beta = -0.376$; $p < 0.001$). These findings are consistent with studies among university students in Korea, where academic Burnout was found to predict psychological well-being negatively ($\beta = -0.59$; $p < 0.001$). (11) Similarly, in students from Pakistan, the burnout variable was a significant inverse predictor ($\beta = -0.60$, $p < 0.005$).⁽³⁴⁾ In this sense, and considering that academic Burnout is the variable with the most significant explanatory power, these results could be attributed to the adaptive process that students undergo both at the time of university entry and in the methodological reintegration after the pandemic. These processes involve facing significant challenges that are often highly demanding and exhausting.⁽³⁵⁾

Likewise, risk factors such as disorganized time management, unhealthy leisure activities, and irregular sleep schedules aggravate the likelihood that the student will experience alterations in their organic, social, and cognitive functioning. These conditions tend to reinforce the symptoms of academic Burnout and, in turn, create difficulties across various spheres of their performance.⁽³⁶⁾



Regarding the resilience variable, a direct effect was found on psychological well-being ($\beta = 0.187$; $p < 0.001$), indicating that higher resilience indices correlate with improved well-being among university students. This finding is consistent with results reported for Iranian students ($\beta = 0.549$; $p < 0.000$) and Filipino university students ($\beta = 0.39$; $p < 0.001$).^(37,38) This evidence can be explained by the resilience capacity that students develop as they gain experience throughout their university studies. This implies that as students progress through their degree programs, they produce more effective adaptation and coping strategies, enabling them to meet academic demands more effectively.⁽³⁹⁾ This process reflects constant maturational development in the brain's prefrontal structures, which are involved in decision-making, emotional regulation, and problem-solving in the face of adversity.⁽⁴⁰⁾ In this sense, Resilience is understood as a dynamic process that involves the brain's plasticity, as well as the learning experiences that individuals acquire throughout their lives. University education plays an essential role in consolidating resilient competencies, specifically when the learning environment implements positive reinforcement. In this context, the teacher emerges as an agent of change, capable of fostering and enhancing students' strengths and resources. Through positive interactions, they will promote greater emotional balance and improved coping skills, ultimately translating into increased psychological well-being and life satisfaction for the student.⁽⁴¹⁾

Regarding the specific objectives, the dimensions of academic Burnout were proposed as predictors of psychological well-being. In particular, the cynicism dimension ($\beta = -0.282$; $p < 0.001$) and the ineffectiveness dimension ($\beta = -0.145$; $p < 0.001$) were found to have an inverse predictive capacity for psychological well-being in the study population. These findings are similar to those observed in students from China ($\beta = -0.15$; $p < 0.05$).⁽⁴²⁾ The explanation for this phenomenon can be attributed to the academic overload to which engineering students are subjected, given that their curriculum, field practices, and high teaching demands generate a decrease in their ability to achieve their goals. This situation intensifies feelings of frustration and ineffectiveness, leading some students to consider academic dropout as a coping mechanism.⁽²¹⁾

Furthermore, because Burnout depletes students' coping strategies, cynicism emerges as a maladaptive response that allows them to distance themselves from their academic responsibilities, generating a momentary, illusory sense of relief.⁽⁴³⁾

Contrary to the above, it was found that the emotional exhaustion dimension ($\beta = -0.070$; $p = 0.161$) does not significantly influence psychological well-being; these results differ from other research conducted on nursing students, where it was found that emotional exhaustion significantly influences well-being ($\beta = 0.22$; $p < 0.001$).⁽⁴⁴⁾ Regarding the non-predictability of the exhaustion dimension, from a theoretical perspective, emotional exhaustion can be considered the core of academic Burnout, since it summarizes the process of physical and psychological wear and tear on the individual; however, due to its more insidious and intense nature, it may not be constant over time, since the student feels exhausted at specific moments and due to specific stimuli.⁽²¹⁾ On the other hand, the age factor ($\beta = -0.007$; $p = 0.843$) proved not to be a predictor variable. This result is consistent with findings in Mexican adults ($\beta = 0.02$; $p > 0.005$), in which years of life were not



a significant predictor.⁽¹⁶⁾ This can be explained from the perspective of the life course, where young people between 18 and 29 years of age tend to reflect similar levels of psychological well-being, characterized by the pursuit of personal growth, the development of autonomy, and the construction of a life project. In this sense, human beings reach specific milestones in the different stages of their development, so well-being behaves similarly in different populations depending on the life stage they are in.⁽⁴⁵⁾

Given the above, it is necessary to mention the limitations of this research; the first is the sampling technique, since it is not probabilistic. This resulted in a lack of randomness in the sample. Furthermore, because it was a cross-sectional study, the association between variables was analyzed only at a single point in time, potentially biasing the results. Despite these considerations, we cannot dismiss the fact that this research provides relevant information on the interaction of these variables, as these results can, methodologically, be replicated in other contexts.

CONCLUSIONS

Regarding the general objective, Model 1, composed of academic Burnout and Resilience as independent variables, showed that both variables predict psychological well-being, accounting for 23.9 % of the variance ($R^2 = 0.239$). It is important to note that academic Burnout is a risk factor ($\beta = -0.376$, $p < 0.001$), and Resilience promotes well-being ($\beta = 0.187$, $p < 0.001$). As for the specific objective, it was found that dimensions such as cynicism and academic inefficacy negatively affect well-being. Furthermore, emotional exhaustion and age were not found to be explanatory factors for well-being.

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