Academic stressors and their impact on emotional eating in university students: Implications for physical health and well-being

Estresores académicos y su impacto en la alimentación emocional en estudiantes universitarios: Implicaciones para la salud física y el bienestar

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Abstract

Introduction: nowadays, academic demands affect the physical and emotional health of university students, who often resort to emotional eating as a coping mechanism in response to academic stress.
Objective: to determine the academic stressors that predict emotional eating in a sample of students from a private university in the Peruvian Amazon.
Methodology: a quantitative approach was adopted, with a non-experimental predictive design. The sample consisted of 310 university students who completed the Academic Stressors Questionnaire and the Emotional Eating Questionnaire, both with adequate psychometric properties.
Results: The regression model was statistically significant (F= 7.817, p<0.05), explaining 24% of the variance in emotional eating (R^2= 0.240). Among the academic stressors, those that significantly predicted higher levels of emotional eating were: bearing economic costs related to courses (β= 0.261), balancing work and courses (β= 0.236), balancing study and family life (β= 0.206), and relating to classmates (β= 0.176).
Discussion: Although some studies support the idea that academic stressors can predict emotional eating, there is a lack of research that specifically identifies which of these factors have the greatest impact. This highlights the need to further explore this type of analysis within the university context.
Conclusions: Difficulties in relating to classmates, balancing work and course-work, harmonizing study with family life, and facing the economic costs associated with education are academic stressors that significantly predict emotional eating.

Keywords

Academic stress; emotional eating; physical health; university students; well-being.

Resumen

Introducción: en la actualidad, las exigencias académicas afectan la salud física y emocional de los estudiantes universitarios, quienes recurren con frecuencia a la alimentación emocional como forma de afrontamiento ante el estrés académico.
Objetivo: determinar los estresores académicos que predicen la alimentación emocional en una muestra de estudiantes de una universidad privada de la Amazonía peruana.
Metodología: se adoptó un enfoque cuantitativo, con un diseño no experimental de tipo predictivo. La muestra estuvo conformada por 310 estudiantes universitarios, quienes respondieron el Cuestionario de Estresores Académicos y el Cuestionario sobre Alimentación Emocional, instrumentos con adecuadas propiedades psicométricas.
Resultados: El modelo de regresión fue estadísticamente significativo (F= 7.817, p<0.05), explicando el 24% de la varianza en la alimentación emocional (R^2= 0.240). Entre los estresores académicos, los que predijeron significativamente mayores niveles de alimentación emocional fueron: asumir costos económicos relacionados con los cursos (β= 0.261), equilibrar el trabajo y los cursos (β= 0.236), equilibrar el estudio y la familia (β= 0.206) y relacionarse con los compañeros (β= 0.176).
Discusión: Si bien algunos estudios respaldan que los estresores académicos pueden predecir la alimentación emocional, son escasas las investigaciones que identifican de forma específica cuáles de estos factores tienen mayor impacto. Esto evidencia la necesidad de profundizar en este tipo de análisis dentro del contexto universitario.
Conclusiones: las dificultades para relacionarse con los compañeros, equilibrar el trabajo con los cursos, armonizar el estudio con la vida familiar y afrontar los costos económicos asociados a la educación son estresores académicos que predicen significativamente la alimentación emocional.

Palabras clave

Alimentación emocional; bienestar; estrés académico; estudiantes universitarios; salud física.

Introduction

Physical health and well-being among young people constitute fundamental pillars for full and comprehensive development (Ruggeri et al., 2020). During this stage of life, adopting healthy habits—such as a balanced diet, regular physical activity, and adequate emotional management—not only helps prevent diseases, but also strengthens psychological and social well-being (Bin et al., 2023). Young individuals in good physical health tend to exhibit higher levels of energy, self-esteem, and life satisfaction, as well as a better capacity to cope with environmental challenges (Knox & Muros, 2017). Therefore, fostering well-being during this stage is essential, as it lays the foundation for an active, resilient lifestyle committed to long-term self-care (Dray, 2021).

However, various contextual factors can compromise this balance, especially during demanding periods such as university life. This stage represents a complex and challenging period in students' lives (Sotelo, 2024). At this level, they face not only high academic demands, but also new personal, social, and often economic responsibilities (Zou et al., 2024). The transition toward greater autonomy, the pressure to achieve good academic results, adapting to new environments, and making decisions about their professional future are all significant sources of stress (Duche et al., 2020). This set of factors can significantly impact students' mental and emotional health, affecting various aspects of their lives, including eating habits (AlJaber et al., 2019). In this context, emotional eating must be evaluated as a potential response to these academic demands.

Emotional eating is defined as the act of eating in response to emotions rather than physiological hunger (Frayn et al., 2018). Individuals who engage in this type of eating tend to use food as a means of regulating negative emotions such as anxiety, sadness, boredom, or frustration (Dakanalis et al., 2023). This behavior may serve as a coping mechanism in stressful or emotionally overwhelming situations (Ljubičić et al., 2023). Among university students, exams, academic overload, or interpersonal conflicts may trigger episodes of emotional eating (Estrada et al., 2025), suggesting a direct relationship between emotional well-being and eating patterns.

Numerous studies have shown that emotional eating is linked not only to individual factors such as low self-esteem or poor emotional regulation, but also to contextual factors such as the academic environment (Chamberlin et al., 2018). Moreover, emotions influence the type of foods selected, the amount consumed, and the subjective experience of eating (Ha & Lim, 2023). For instance, high-calorie and sugary foods are commonly preferred during episodes of stress due to their ability to produce a temporary sense of relief (Estrada et al., 2020). However, this behavior may result in negative health outcomes, including weight gain, feelings of guilt, and increased vulnerability to eating disorders (Bemanian et al., 2021; Van Strien, 2018).

Given the above, it is essential to explore the factors that may trigger emotional eating in the university context. Academic stressors are among the main sources of tension, due to their direct influence on students' emotional balance (Silva et al., 2025). These are defined as demands from the educational environment that are perceived as threatening, difficult to manage, or overwhelming relative to one's personal resources (Estrada et al., 2024a). They may include constant pressure to obtain high grades, task and exam overload, fear of academic failure, poor time management, or challenges in maintaining adequate organization (Abarca et al., 2022). Additional individual aspects such as excessive self-demand, self-doubt, or constant comparison with peers may further intensify these stressors (Gonçalves et al., 2024).

The consequences of academic stressors are wide-ranging, affecting both performance and overall well-being (Barbayannis et al., 2022). These include chronic fatigue, sleep disturbances, irritability, anxiety, demotivation, and in many cases, the development of maladaptive behaviors such as emotional eating (Pérez et al., 2025). When students experience high levels of academic stress, their emotional balance is compromised (Wong et al., 2024). In many instances, food becomes a quick and accessible means of managing such discomfort (Choi et al., 2020). The factors that can mitigate the impact of academic stress include coping strategies, social support, and time management skills (Restrepo et al., 2023). In this regard, implementing techniques such as planning, organization, and prioritization enables students to better cope with academic demands (Valente et al., 2024). Likewise, having support from friends, family, and faculty members significantly contributes to reducing stress and enhancing emotional well-being (McLean et al., 2023). Finally, being able to manage time effectively and maintain a balance between

academic and personal responsibilities is key to reducing stress and optimizing academic performance (Adams & Blair, 2019).

In this context, although several studies have assessed the predictive power of academic stress on emotional eating, very few have identified the specific stressors that influence this behavior. This limits a deeper understanding of the mechanisms that trigger emotional eating responses within the university setting. In this regard, a recent study conducted in the United States found that academic stress significantly predicts emotional eating, and that emotional eating mediates the effect of stress on the consumption of unhealthy foods, such as sweets (Ling & Zahry, 2021). Similarly, in Indonesia, a predictive study revealed that higher levels of academic stress predicted emotional eating behaviors such as uncontrolled eating, emotional eating, seeking pleasure in food, and using food as a reward (Ramadhani & Mahmudiono, 2021). Moreover, a study in Malaysia reported that academic stress influences students' emotional eating behaviors, highlighting the need to raise awareness about healthy coping mechanisms to ensure a positive impact on students' lives (Mohammad et al., 2022).

This research is highly relevant in the current context of growing interest in understanding how academic factors affect the emotional, physical, and behavioral health of university students. One of the mechanisms through which this impact manifests is emotional eating, understood as a coping strategy that can compromise both psychological well-being and the physical health of young people. While the aforementioned studies have assessed the link between academic stress and emotional eating, few have delved into the identification of specific academic stressors that trigger such behaviors. In the Peruvian university context, this relationship has been even less explored, underscoring the need for studies that address this issue in greater depth. Identifying these factors will contribute to the design of preventive and intervention strategies that foster the development of emotional and adaptive coping skills, thereby promoting a healthier and more balanced university life. In addition, the findings obtained may be useful to university authorities by providing evidence to support decision-making that fosters a more empathetic and student-centered academic environment conducive to holistic well-being.

Therefore, the objective of this study was to determine which academic stressors predict emotional eating among students at a private university in the Peruvian Amazon.

Method

This study was framed within a quantitative approach, which facilitated the collection and analysis of numerical data to objectively evaluate the variables. A non-experimental design was adopted, since the variables were not intentionally manipulated but rather observed in their natural context. Furthermore, the study employed a predictive design, as its objective was to determine whether academic stressors can predict emotional eating.

Participants

The sample consisted of 310 students enrolled in the 2024-II semester at a branch campus of a private university in southern Peru, selected through a simple random probabilistic sampling method with a 95% confidence level and a 5% significance level. A greater participation of female students was observed, predominantly between 16 and 19 years of age, who were employed and did not have a stable romantic partner.

Procedure

Data collection was carried out through a structured and systematic procedure. First, the corresponding authorization was obtained from university authorities. Subsequently, students were contacted via the WhatsApp messaging platform through a message that included the link to the questionnaire, a clear description of the study's objective, and the necessary instructions to complete it properly. Once the required participation of 310 students was reached, access to the survey was deactivated to conclude the data collection process.

Instrument

Regarding the instruments used for data collection, a structured form was employed through the Google Forms platform. In the first section, students were asked to provide sociodemographic information such as sex, age, employment status, and marital status.

Academic Stressors Questionnaire

This unifactorial instrument consists of 12 items that assess students' perceptions of various sources of stress in the academic context. It uses a Likert-type scale with five response options ranging from "no stress" to "too much stress," allowing for the identification of different levels of perceived intensity. In a previous study conducted among Peruvian university students (Estrada et al., 2024b), the questionnaire demonstrated adequate psychometric properties, with content validity supported by an Aiken's V index of 0.925 and high internal consistency, reflected in a Cronbach's alpha coefficient of 0.900.

Emotional Eating Questionnaire

This instrument consists of 10 items designed to assess the tendency of individuals to eat in response to negative emotions. The responses are structured on a four-point Likert-type scale, ranging from "never" (0) to "always" (3), allowing the frequency of this behavior to be captured. In a previous study conducted with a Peruvian population (Saintila et al., 2024a), the questionnaire demonstrated acceptable reliability, with a Cronbach's alpha coefficient of 0.750, supporting its utility in identifying eating behaviors influenced by emotional factors in similar contexts.

Data analysis

Data analysis was conducted using the statistical software SPSS, version 25. In the first stage, descriptive statistics of the variables involved were calculated, including the mean, standard deviation, skewness, and kurtosis. Subsequently, the Student's t-test for independent samples was applied to compare the variables according to sociodemographic characteristics. To complement this analysis, the effect size was calculated using Cohen's d coefficient, interpreting values of 0.20, 0.50, and 0.80 as small, medium, and large effects, respectively (Dominguez, 2018). Next, Pearson's correlation coefficient was used to explore significant relationships between the variables, considering a significance level of $p<0.05$. Finally, a multiple linear regression analysis was conducted to evaluate whether stressors act as significant predictors of emotional eating.

Ethical considerations

The present research was conducted in strict compliance with the ethical principles established in the Declaration of Helsinki. Participants were provided with clear and detailed information about the objectives, scope, and conditions of the study, ensuring that their participation was entirely voluntary and informed. Moreover, their right to withdraw at any time without facing negative consequences was guaranteed. To protect the students' privacy, rigorous confidentiality measures were implemented, ensuring the anonymous processing and proper safeguarding of the data, thereby preserving the ethical integrity of the research process in all its stages.

Results

Table 1 shows that the academic stressors categorized at a moderate level were taking too many courses (M= 2.90; SD= 1.054), completing exams and classroom assignments (M= 2.68; SD= 1.055), and bearing the economic costs related to the courses (M= 2.68; SD= 1.182). These three aspects had the highest means among all the stressors evaluated, indicating that they occurred with greater intensity or frequency compared to the others. Therefore, they can be considered the main academic stressors perceived by university students. Regarding emotional eating, the mean score was 19.50 (SD= 5.633), which allows the classification of participants as low emotional eaters, meaning they have a tendency to resort to food in response to negative emotions. Likewise, the skewness and kurtosis coefficients in all cases fall within the acceptable range of ±2, suggesting that the data distribution approximates normality (Gravetter & Wallnau, 2014).

Table 1. Descriptive results of academic stressors and emotional eating

Variable and dimensions	Mean	SD	Category	Skewness	Kurtosis
Taking too many courses	2.90	1.054	Moderate	0.128	-0.437
Taking exams and classroom assignments	2.68	1.055	Moderate	0.275	-0.475
Doing assignments outside the classroom	2.52	1.069	Low	0.468	-0.434
Working in teams	2.23	1.046	Low	0.698	-0.043
Interacting with professors	1.82	0.941	Low	1.071	0.684
Interacting with classmates	1.90	1.066	Low	1.098	0.560
Balancing work and coursework	2.59	1.136	Low	0.180	-0.822
Balancing study and family life	2.45	1.110	Low	0.482	-0.417
Balancing study and romantic relationships	2.22	1.007	Low	0.507	-0.324
Balancing study and leisure time	2.23	1.027	Low	0.617	-0.164
Balancing study and extracurricular activities	2.35	1.029	Low	0.431	-0.396
Covering course-related economic expenses	2.68	1.182	Moderate	0.150	-0.958
Emotional eating	19.50	5.633	Low emotional eater	0.748	0.906

Table 2 shows that there are statistically significant differences between men and women in some academic stressors. Women reported higher levels of stress when completing group work (M= 2.40; SD= 1.036) compared to men (M= 2.06; SD= 1.032), balancing study and family responsibilities (M= 2.61; SD= 1.146 vs. M= 2.29; SD= 1.054), and covering course-related economic costs (M= 2.88; SD= 1.170 vs. M= 2.49; SD= 1.165), with these differences being statistically significant ($p<0.05$) and presenting small to moderate effect sizes. In addition, a statistically significant difference was found in emotional eating, where women (M= 21.13; SD= 5.904) showed a greater tendency to eat in response to negative emotions compared to men (M= 17.98; SD= 4.914), with a moderate effect size. These findings suggest that, in general, women tend to experience certain academic stressors more intensely, as well as a greater propensity for emotional eating.

Table 2. Comparative analysis by participants' sex

Variable and dimensions	Male		Female		t	p	d
	M	SD	M	SD			
Taking too many courses	2.81	1.029	3.00	1.074	1.569	0.118	0.181
Taking exams and classroom assignments	2.58	1.061	2.79	1.040	1.772	0.077	0.200
Doing assignments outside the classroom	2.43	1.025	2.63	1.109	1.664	0.097	0.187
Working in teams	2.06	1.032	2.40	1.036	2.872	0.004	0.329
Interacting with professors	1.74	0.921	1.91	0.958	1.585	0.114	0.181
Interacting with classmates	1.84	1.092	1.97	1.036	1.122	0.263	0.122
Balancing work and coursework	2.50	1.052	2.69	1.215	1.500	0.135	0.168
Balancing study and family life	2.29	1.054	2.61	1.146	2.607	0.010	0.291
Balancing study and romantic relationships	2.18	1.000	2.27	1.014	0.801	0.424	0.089
Balancing study and leisure time	2.26	0.974	2.19	1.083	-0.649	0.517	0.068
Balancing study and extracurricular activities	2.34	0.951	2.37	1.109	0.305	0.761	0.029
Covering course-related economic expenses	2.49	1.165	2.88	1.170	2.958	0.003	0.334
Emotional eating	17.98	4.914	21.13	5.904	5.131	0.000	0.582

Table 3 shows that students over the age of 19 reported significantly higher levels in stressors related to balancing study and family responsibilities (M = 2.58; SD = 1.167) and covering course-related economic costs (M = 2.91; SD = 1.225), compared to students aged between 16 and 19 years (M = 2.32; SD = 1.043 and M = 2.47; SD = 1.104, respectively). These differences were statistically significant ($p < .05$) and presented small to moderate effect sizes. This suggests that older students face greater intensity in family and financial demands associated with their academic life. Regarding emotional eating, no statistically significant differences were found between age groups ($p > .05$), indicating that age did not have a relevant effect on this eating behavior.

Table 3. Comparative analysis according to participants' age

Variable and dimensions	Between 16 and 19 years old		Over 19 years old		t	p	d
	M	SD	M	SD			
Taking too many courses	2.89	0.959	2.92	1.152	-0.248	0.804	0.028
Taking exams and classroom assignments	2.78	1.092	2.57	1.004	1.759	0.080	0.200
Doing assignments outside the classroom	2.56	1.034	2.49	1.110	0.567	0.571	0.065
Working in teams	2.14	0.902	2.32	1.179	-1.570	0.118	0.173
Interacting with professors	1.80	0.855	1.84	1.031	-0.330	0.742	0.042
Interacting with classmates	1.91	1.060	1.89	1.076	0.179	0.858	0.019
Balancing work and coursework	2.51	1.116	2.69	1.154	-1.419	0.157	0.159
Balancing study and family life	2.32	1.043	2.58	1.167	-2.072	0.039	0.236

Balancing study and romantic relationships	2.12	1.014	2.32	0.991	-1.761	0.079	0.199
Balancing study and leisure time	2.31	1.041	2.14	1.008	1.488	0.138	0.166
Balancing study and extracurricular activities	2.36	0.988	2.35	1.075	0.057	0.955	0.010
Covering course-related economic expenses	2.47	1.104	2.91	1.225	-3.297	0.001	0.378
Emotional eating	19.30	5.443	19.73	5.844	-0.674	0.501	0.076

Table 4 shows that students who did not work reported significantly higher levels in academic stressors related to taking exams and completing in-class assignments (M= 2.81; SD= 1.045), working in teams (M= 2.35; SD= 1.068), and interacting with peers (M= 2.07; SD= 1.174), compared to students who worked (M= 2.55; SD= 1.051; M= 2.11; SD= 1.016; and M= 1.75; SD= 0.932, respectively). These differences were statistically significant ($p<0.05$) and showed small to moderate effect sizes. On the other hand, working students reported greater difficulty balancing work and coursework (M= 2.73; SD= 1.143), compared to non-working students (M= 2.45; SD= 1.115), also with a statistically significant difference ($p<0.05$). Regarding emotional eating, no significant differences were found between both groups, indicating that employment status is not notably associated with this eating behavior.

Table 4. Comparative analysis according to the employment status of the participants

Variable and dimensions	Employed		Unemployed		t	p	d
	M	SD	M	SD			
Taking too many courses	2.84	1.033	2.97	1.074	1.135	0.257	0.123
Taking exams and classroom assignments	2.55	1.051	2.81	1.045	2.211	0.028	0.248
Doing assignments outside the classroom	2.45	1.027	2.60	1.111	1.235	0.218	0.140
Working in teams	2.11	1.016	2.35	1.068	1.979	0.049	0.230
Interacting with professors	1.76	0.955	1.88	0.926	1.099	0.273	0.128
Interacting with classmates	1.75	0.932	2.07	1.174	2.639	0.009	0.303
Balancing work and coursework	2.73	1.143	2.45	1.115	-2.116	0.035	0.248
Balancing study and family life	2.49	1.076	2.40	1.147	-0.693	0.489	0.081
Balancing study and romantic relationships	2.30	1.057	2.13	0.946	-1.465	0.144	0.169
Balancing study and leisure time	2.26	1.049	2.19	1.006	-0.649	0.517	0.068
Balancing study and extracurricular activities	2.36	1.019	2.35	1.043	-0.135	0.893	0.010
Covering course-related economic expenses	2.79	1.151	2.56	1.207	-1.699	0.090	0.195
Emotional eating	19.54	5.174	19.47	6.103	-0.110	0.912	0.012

Table 5 shows that students with a stable romantic partner reported significantly higher levels in several academic stressors. Specifically, these students reported greater difficulties in managing a heavy course load (M= 3.19; SD= 0.972), balancing work and coursework (M= 2.94; SD= 0.956), balancing studies and family responsibilities (M= 2.90; SD= 0.936), and covering course-related expenses (M= 3.03; SD= 1.318), compared to students without a stable partner. These differences were statistically significant ($p<0.05$) with moderate effect sizes. However, students without a stable partner reported greater difficulties in interacting with their instructors (M= 1.88; SD= 0.982) compared to those with a partner (M= 1.58; SD= 0.714), a difference that was also statistically significant ($p<0.05$). Regarding emotional eating, students with a stable partner showed a higher mean (M= 21.26; SD= 5.867) compared to those without a stable partner (M= 19.06; SD= 5.498), and this difference was significant ($p<0.05$) with a moderate effect size.

Table 5. Comparative analysis according to the marital status of the participants

Variable and dimensions	With a stable partner		Without a stable partner		t	p	d
	M	SD	M	SD			
Taking too many courses	3.19	0.972	2.83	1.063	-2.445	0.015	0.353
Taking exams and classroom assignments	2.84	0.772	2.64	1.112	-1.668	0.098	0.208
Doing assignments outside the classroom	2.55	0.953	2.52	1.098	-0.231	0.818	0.029
Working in teams	2.16	0.995	2.24	1.060	0.542	0.588	0.077
Interacting with professors	1.58	0.714	1.88	0.982	2.247	0.025	0.349
Interacting with classmates	1.84	0.814	1.92	1.121	0.643	0.522	0.082
Balancing work and coursework	2.94	0.956	2.51	1.163	-3.008	0.003	0.404
Balancing study and family life	2.90	0.936	2.33	1.122	-4.132	0.000	0.551
Balancing study and romantic relationships	2.39	0.837	2.18	1.042	-1.470	0.143	0.222
Balancing study and leisure time	2.35	0.832	2.19	1.070	-1.284	0.202	0.167
Balancing study and extracurricular activities	2.55	0.918	2.31	1.051	-1.661	0.098	0.243
Covering course-related economic expenses	3.03	1.318	2.59	1.131	-2.669	0.008	0.358
Emotional eating	21.26	5.867	19.06	5.498	-2.772	0.006	0.387

Table 6 presents the correlations between academic stressors and emotional eating. Overall, academic stressors are positively correlated with emotional eating, with highly significant correlations ($p<0.01$). Among the academic stressors showing the strongest correlations with emotional eating are covering course-related expenses (r= 0.383), balancing studies and family responsibilities (r= 0.370), and balancing studies with affective relationships (r= 0.351).

Table 6. Correlation matrix between academic stressors and emotional eating

	AE1	AE2	AE3	AE4	AE5	AE6	AE7	AE8	AE9	AE10	AE11	AE12	EE
AE1	1	-	-	-	-	-	-	-	-	-	-	-	-
AE2	0.618**	1	-	-	-	-	-	-	-	-	-	-	-
AE3	0.372**	0.362**	1	-	-	-	-	-	-	-	-	-	-
AE4	0.443**	0.395**	0.444**	1	-	-	-	-	-	-	-	-	-
AE5	0.380**	0.417**	0.403**	0.383**	1	-	-	-	-	-	-	-	-
AE6	0.337**	0.312**	0.345**	0.577**	0.498**	1	-	-	-	-	-	-	-
AE7	0.454**	0.366**	0.261**	0.377**	0.397**	0.358**	1	-	-	-	-	-	-
AE8	0.518**	0.411**	0.207**	0.459**	0.406**	0.420**	0.704**	1	-	-	-	-	-
AE9	0.466**	0.366**	0.278**	0.340**	0.247**	0.285**	0.525**	0.625**	1	-	-	-	-
AE10	0.397**	0.324**	0.358**	0.296**	0.404**	0.298**	0.528**	0.564**	0.622**	1	-	-	-
AE11	0.498**	0.458**	0.366**	0.388**	0.434**	0.338**	0.650**	0.672**	0.681**	0.689**	1	-	-
AE12	0.505**	0.435**	0.262**	0.384**	0.424**	0.283**	0.586**	0.657**	0.566**	0.465**	0.611**	1	-
EE	0.243**	0.250**	0.201**	0.227**	0.200**	0.273**	0.205**	0.370**	0.351**	0.330**	0.323**	0.383**	1

**p<0.01

As shown in Table 7, the regression model was statistically significant (F= 7.817, $p<0.05$), explaining 24% of the variance in emotional eating (R^2= 0.240). Among the academic stressors, those that significantly predicted higher levels of emotional eating were: covering course-related expenses (β= 0.261), balancing work and coursework (β= 0.236), and balancing studies with family responsibilities (β= 0.206). A significant effect, though of smaller magnitude, was also identified for interacting with classmates (β= 0.176). These findings indicate that students who experience greater difficulties with the aforementioned academic stressors tend to show higher levels of emotional eating, possibly as a coping strategy in response to perceived stress.

Table 7. Predictors of emotional eating

Predictors	B	SE	β	t	p
(Constant)	12.619	1.015		12.426	0.000
Taking too many courses	0.308	0.386	0.058	0.799	0.425
Taking exams and classroom assignments	0.400	0.364	0.075	1.100	0.272
Doing assignments outside the classroom	0.371	0.331	0.070	1.120	0.263
Working in teams	0.279	0.375	0.052	0.744	0.458
Interacting with professors	0.465	0.403	0.078	1.152	0.250
Interacting with classmates	0.928	0.359	0.176	2.586	0.010
Balancing work and coursework	1.168	0.382	0.236	3.061	0.002
Balancing study and family life	1.046	0.455	0.206	2.301	0.022
Balancing study and romantic relationships	0.498	0.438	0.089	1.136	0.257
Balancing study and leisure time	0.771	0.416	0.141	1.852	0.065
Balancing study and extracurricular activities	0.089	0.491	0.016	0.180	0.857
Covering course-related economic expenses	1.244	0.358	0.261	3.477	0.001
R^2			0.240		
Adjusted R^2			0.209		
F			7.817 (p<0.01)		

Discussion

University life represents a complex stage for the integral development of young individuals, where multiple academic, social, and personal demands converge (Cassaretto et al., 2021). These demands can significantly affect students' physical health and psychological well-being, impacting their lifestyle habits, including eating behaviors (Arpi et al., 2024). Various studies have shown that constant exposure to stressful situations can trigger emotional responses that negatively influence the relationship with food, promoting behaviors such as emotional eating (Cortés et al., 2018). Therefore, this study focused on identifying the academic stressors that predict emotional eating in a sample of students from a private university in the Peruvian Amazon.

The analysis of academic stressors revealed that those related to academic overload, evaluation demands, and financial difficulties generated the greatest pressure on university students. These factors

reflect not only the demands inherent to the educational environment but also structural conditions that may hinder student well-being, such as the need to assume multiple academic responsibilities simultaneously and concerns about the costs associated with professional education. Similar results were reported in some studies (Estrada et al., 2024a; Gonçalves & Carlotto, 2024).

When comparing academic stressors by sex, it was found that women tended to experience certain academic stressors with greater intensity than men, such as working in teams, balancing studies with family responsibilities, and covering course-related expenses. This may be due to the fact that, in many contexts, women assume greater responsibilities in the domestic and family spheres, which increases their emotional and time burden (Vidal et al., 2018). When comparing academic stressors by age, it was observed that students over the age of 19 reported greater difficulties in balancing studies with family life, compared to students aged 17 to 19. This could be explained by the increased likelihood of older students taking on family, work, or relationship responsibilities that interfere with their academic activities.

The analysis by employment status revealed that unemployed students experienced higher levels of academic stress related to immediate academic demands, such as taking exams, working in teams, and interacting with classmates. This suggests that their constant exposure to the university environment might intensify these demands. In contrast, working students reported greater difficulty in balancing work with coursework, reflecting the challenge of managing both work and academic responsibilities. This was corroborated in a previous study (Drăghici & Cazan, 2022). On the other hand, it was found that students in stable relationships perceived higher levels of academic stress, particularly related to course overload, balancing work and studies, family responsibilities, and financial demands. This suggests that being in a relationship may entail additional responsibilities that interfere with academic management. Conversely, students without a stable partner reported more difficulties interacting with professors, possibly reflecting less developed social skills in academic contexts. This was reported in a previous investigation (Selvam et al., 2023).

Regarding emotional eating, it was found that participants were characterized as low emotional eaters, meaning that they occasionally turned to food as a way to cope with negative emotions such as stress, anxiety, or sadness. This result indicates a lower tendency toward this behavior compared to other contexts. For instance, a study conducted in Peru found that nearly half of university students tend to eat in response to negative emotions rather than actual hunger (Estrada et al., 2025). Similarly, in Poland, 37.9% of students were identified as emotional eaters (Grajek et al., 2022). These differences could be influenced by cultural, social, or personal factors that modulate how young people manage their emotions.

When comparing emotional eating by sex, it was found that women displayed a greater propensity toward this behavior. This suggests that, more frequently than men, they may resort to food as a strategy for coping with negative emotions. Previous research has reported the same pattern (Saintila et al., 2024b; Thompson & Romeo, 2015; Camilleri et al., 2014) and suggests that this difference may be related to biopsychosocial factors, such as greater emotional internalization, higher levels of reported anxiety among women, and cultural patterns that influence emotional regulation. Additionally, it was observed that students in stable relationships were more likely to turn to food to manage negative emotions, possibly due to the emotional demands of cohabitation and the need to balance academic and personal life. This finding contrasts with that of Elran et al. (2021), who did not find a significant relationship between marital status and emotional eating, suggesting that factors such as relationship quality or daily stress may mediate this association.

A relevant finding reveals that the stressors that significantly predict emotional eating among university students are difficulties in relating to peers, balancing work and coursework, harmonizing studies with family life, and coping with the financial costs associated with education. This means that students who face greater tensions in these areas may turn more frequently to food as an emotional coping mechanism. These stressors, by generating high levels of anxiety and stress, may trigger the need to use eating as a strategy to mitigate negative emotions. Furthermore, the combination of academic and personal factors, such as workload and family responsibilities, can intensify stress, leading students to seek comfort in food as a form of emotional regulation.

The findings of the present research are consistent with previous studies. For example, Ling & Zahry (2021), in a study conducted in the United States, found that academic stress not only predicts emotional eating, but also that emotional eating can mediate the effect of stress on the consumption of unhealthy foods, such as sweets. Similarly, studies conducted in Asian contexts, such as those by Ramadhani & Mahmudiono (2021) in Indonesia, and by Mohammad et al. (2022) in Malaysia, also support this association, highlighting how academic stress can trigger a variety of emotional eating behaviors. However, unlike those studies, the present work delves into the specific stressors that act as predictors, such as difficulties in balancing academic, work, and family responsibilities, as well as social interaction problems and financial pressures. In this regard, this study allows for a more accurate understanding of the sources of stress that influence emotional eating.

This phenomenon can be explained through the Coping Theory of Lazarus & Folkman (1984), which states that individuals resort to coping mechanisms when they perceive their resources as insufficient to manage stress. In the case of university students, academic and personal stressors may lead them to use food as a strategy to alleviate emotional discomfort, especially when they feel they lack more adaptive tools. Additionally, Gross's (1998) Emotion Regulation Theory suggests that individuals attempt to modulate their emotions through various strategies, some more functional than others. From this perspective, students facing high levels of stress may turn to food as an immediate, though unhealthy, response to manage negative emotions such as anxiety, frustration, or sadness. Thus, emotional eating would be configured as a dysfunctional emotional regulation strategy in the face of an inability to adequately manage distress.

This research highlights how academic stressors not only affect academic performance but can also have a significant impact on the physical health and emotional well-being of university students. The use of food as a coping strategy for stress reveals a form of emotional regulation that, although immediate, may become harmful if sustained over time. This pattern of emotional eating, linked to academic, social, and personal pressures, could contribute to the development of unhealthy eating habits, weight gain, metabolic problems, and emotional imbalance. Therefore, these findings not only provide a better understanding of students' eating behavior, but also underscore the need for interventions that promote healthy coping skills, foster adaptive emotional regulation, and contribute to the development of more balanced lifestyles that support physical and mental well-being throughout university life.

Finally, it is important to acknowledge certain limitations of this research that should be considered when interpreting the results. First, the study was conducted at a single university, which limits the ability to generalize the findings to other academic institutions or different student populations. Additionally, the use of self-administered instruments may have introduced bias in responses, particularly due to the effect of social desirability. Furthermore, since the study design was cross-sectional, the data collected represent only a snapshot in time, without the ability to identify changes or trends over a longer period. These limitations highlight the importance of interpreting the findings with caution and suggest that future research should adopt longitudinal designs, incorporate more representative samples, and use complementary data collection methods. This will allow for a more comprehensive, dynamic, and in-depth understanding of the variables studied.

Conclusions

Based on the findings obtained, it is concluded that difficulties in relating to peers, balancing work with coursework, harmonizing studies with family life, and coping with the financial costs associated with education are academic stressors that significantly predict emotional eating among university students. These results demonstrate that the distress arising from social, family, work, and financial demands directly influences the adoption of dysregulated eating behaviors as a coping mechanism. Consequently, emotional eating in this population does not only respond to personal factors, but is deeply linked to the academic and socioeconomic context in which students develop.

It is essential to remember that persistent emotional eating, especially when associated with chronic stress, not only affects psychological well-being but can also have significant repercussions on physical health. The risk of developing problems such as overweight, metabolic or digestive disorders increases, reinforcing the importance of addressing academic stressors and promoting emotional well-being. In

this way, not only is academic performance improved, but a healthier and more holistic university life is also fostered.

Therefore, it is recommended to implement psychoeducational support programs that help students manage academic stress more effectively by promoting healthy coping strategies. Furthermore, it is necessary to encourage the creation of spaces for social interaction among students, as well as to offer resources that strengthen their emotional well-being, enabling them to balance academic and personal demands. In this manner, the impact of academic stress on their eating habits can be mitigated and their quality of life improved.

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