



The Effect of Academic Stress, Emotional Eating, and Meal Skipping on the Nutritional Status of Primary School Teacher Education Students

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ABSTRACT

This study aims to analyze the relationship between academic stress, emotional eating, and meal skipping with nutritional status in undergraduate students majoring in Primary School Teacher Education at the Faculty of Education, Universitas Negeri Surabaya. This study used a cross-sectional design with a quantitative observation approach. The research involved 84 students from the 2022 cohort who were selected using a simple random sampling technique. Data were collected through the Perception of Academic Stress Scale (PASS) questionnaire, the Eating Appraisal Due to Emotions and Stress (EADES) questionnaire, a meal skipping questionnaire, as well as direct measurements of body weight and height. The data were analyzed using descriptive and inferential statistical analysis techniques. Based on the results of the descriptive analysis, the majority of respondents experienced high academic stress (82.1%), did not engage in emotional eating (76.2%), rarely skipped meals (65.5%), and had a normal nutritional status (66.7%). Furthermore, the bivariate analysis using chi-square tests indicated that there was no significant relationship between academic stress and nutritional status (p -value = 0.871), and no significant relationship between meal skipping and nutritional status (p -value = 0.146). However, a significant relationship was found between emotional eating and nutritional status (p -value = 0.012). Therefore, proper stress management and emotional control are essential for students to prevent unhealthy eating behaviors, ensuring that their nutritional status remains optimal despite the academic pressures of their final year of study.

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A. Conception and design of the study;
B. Acquisition of data;
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INTRODUCTION

University life presents students with various challenges and demands that require significant adaptation and change throughout their academic journey. These demands relate to academic and personal targets that students must fulfill (Mutia, 2016), such as a heavy lecture schedule, the need to complete assignments on time, examinations with higher levels of difficulty, the completion of the final thesis, and high expectations from



parents. In reality, while some students successfully manage these demands, many fail, resulting in psychological pressure commonly known as stress (Bedewy & Gabriel, 2015). Stress is a state of mental or emotional tension that affects individuals regardless of their developmental stage (Malinauskas & Saulius, 2022). It can emerge when the burdens placed on an individual exceed their available coping capacity (Sharma, 2018). Generally, the stress experienced by university students is academic stress, which is triggered by academic activities during their time in higher education. Academic stress is rooted in unpleasant situations that occur due to numerous demands placed on students in the form of examinations, maintaining health and academic life, competition with peers, ambition in fulfilling the academic expectations of lecturers and parents, as well as one's own academic expectations (Aihie & Ohanaka, 2019).

Stress is an individual's response derived from their interaction with an environment perceived as overly demanding or burdensome (Syed, 2021). Consequently, stressors are not only physical such as loss of appetite, sleep disturbances, and digestive issues but also cognitive and psychological. Cognitively, stress can lead to difficulties in concentration, forgetfulness, and a tendency to be pessimistic or think negatively. Psychologically, stress can trigger mood swings, feelings of irritability or frustration, and even depression (Segal et al., 2016). When an individual experiences stress, the body's physiological balance can be disrupted, particularly functions related to food intake and regulation. This occurs because elevated cortisol levels during stress slow down the metabolism, reducing calorie burning, which results in difficulty losing weight and a tendency for weight gain (Manginte, 2015). Various coping mechanisms are generally used to manage stress, one of which involves eating behaviors. In this context, the eating behavior often manifests as negative patterns, such as emotional eating. Emotional eating is defined as a change in dietary habits as a reaction to emotional states, rather than physical hunger or satiety (Chawner & Filippetti, 2024). It serves as an escape mechanism to find comfort and alleviate stress. Emotional eating encompasses two main aspects: overeating due to emotions and undereating due to negative emotions (Alalwan et al., 2019).

In addition to emotional eating, another negative eating behavior caused by stress is meal skipping. The phenomenon of delaying or skipping meals is frequently observed among youth and adolescents. Meal skipping involves missing one or more main meals, whether breakfast, lunch, or dinner. Missing at least one main meal can affect total daily intake and reduce the daily Healthy Eating Index score. Meal skipping is often caused by irregular academic schedules, busyness with coursework, decreased appetite due to psychological stress, financial constraints, and limited food literacy, and it has been linked to various adverse health outcomes (El Zein et al., 2019). This problem generally occurs among university students due to lifestyle changes, financial constraints, and stress factors associated with university life (Ravikumar et al., 2022). If practiced in the long term, this eating behavior can significantly alter an individual's nutritional status.

The link between eating behavior and nutritional status was highlighted in previous literature (Afrina, 2019), which stated that an individual's eating habits can affect their nutritional status. During episodes of emotional eating, individuals tend to choose high-

energy and high-fat foods to cope with their emotional state. If this habit is continuously practiced, it will lead to significant weight gain, resulting in overweight or obesity (Wijayanti et al., 2019). Furthermore, meal skipping or irregular food consumption can negatively impact health and nutrition, leading to conditions such as metabolic syndrome. The increased risk of metabolic syndrome in individuals who skip breakfast is driven by three main mechanisms, namely increased insulin resistance, increased fat oxidation, and mild chronic systemic inflammation (Wennberg et al., 2015).

Academic stress is prevalent among students, as indicated by researchers who found that a significant portion of university students experience high academic stress (Musikhah & Nastiti, 2022). The level of academic stress among first-year nursing students reached a very high percentage of severe stress compared to students in later academic years (Rosyidah, 2020). Previous research at the Faculty of Education of Universitas Negeri Surabaya found that nearly half of the surveyed students experienced moderate academic stress (Dewi et al., 2022). These results are consistent with studies conducted on students from various programs who were completing their final projects in the form of scientific articles, revealing that moderate stress was most commonly experienced by elementary school teacher education students, reaching a percentage of nearly seventy-nine percent (Yuananda & Laksmiwati, 2022). In-depth interviews conducted with respondents to obtain an overview of the characteristics of students across different academic years indicated that final-year students experience higher stress levels than those in previous semesters. This is attributed to curriculum changes that relocate certain courses to the seventh semester, the heavy burden of thesis writing, the repetition of proficiency tests, completing non-academic assessment systems, and other academic commitments. During the thesis-writing process, students often face challenges such as finding a research topic, repeated revisions, limited time, and difficulty meeting with academic advisors (Wulandari et al., 2017). These factors act as stressors for final-year students, with reported data showing that a large percentage of students experience severe stress while working on their theses.

Previous studies have several research gaps, particularly regarding subject limitations, local context, and methodology concerning academic stress, emotional eating, and meal skipping among final-year students. Final-year students are highly vulnerable to stress, which affects their eating behaviors and nutritional status. Maintaining good nutrition is essential for their academic performance and quality of life. The Primary School Teacher Education program at Universitas Negeri Surabaya is chosen because it represents a demographic with high stress and a significant need for nutritional interventions. The purpose of this study is to analyze the relationship between academic stress, emotional eating, and meal skipping with the nutritional status of undergraduate students majoring in Primary School Teacher Education at the Faculty of Education, Universitas Negeri Surabaya. It is hypothesized that there is a significant relationship between academic stress, emotional eating, meal skipping, and nutritional status among these students.

METHODS

This study is a quantitative observational study utilizing a cross-sectional design to analyze the relationships between academic stress, emotional eating, meal skipping, and nutritional status. This approach allows for the simultaneous collection of data to provide a comprehensive snapshot of the population's profile (Nursalam, 2019). The independent variables include academic stress, emotional eating, and meal skipping, while the dependent variable is nutritional status. The research was conducted at the Primary School Teacher Education program, Faculty of Education, Universitas Negeri Surabaya, in September 2025. The population consisted of 311 students from the 2022 cohort. The sample size was calculated using Slovin's formula with an error tolerance of $e = 10\%$. To anticipate potential dropouts, a 10% addition was included (Lemeshow et al., 1997), resulting in a total sample of 84 respondents selected based on specific inclusion and exclusion criteria. Data on academic stress, emotional eating, and meal skipping were collected using validated questionnaires, while nutritional status was determined through direct anthropometric measurements of body weight and height.

RESULTS AND DISCUSSION

Result

Academic Stress

The grouping of respondents' academic stress levels can be seen in the following table 1.

Table 1.
Frequency Distribution of Academic Stress

Academic Stress Levels	n	%
Low	15	17,9
High	69	82,1
Total	84	100

It can be seen that the frequency of academic stress levels among the 2022 intake of Elementary School Teacher Education (PGSD) undergraduate students shows a varied distribution. The majority of respondents experienced high levels of academic stress (69 students)(82.1%), while 15 respondents experienced low levels of academic stress(17.9%).

Emotional eating

Level grouping of emotional eating respondents can be seen in the following table 2.

Table 2
Frequency Distribution of Emotional Eating

Level Emotional Eating	N	%
TEE*	64	76,2
EE**	20	23,8
Total	84	100

It can be seen that the frequency of emotional eating. The distribution of data for the 2022 intake of S1 Elementary Teacher Education students showed varied results. Based on

the analysis of Table 2, it was found that 64 respondents (76.2%) did not experience any emotional eating, and as many as 20 respondents (23.8%) experienced emotional eating.

Meal skipping

Level grouping, meal skipping, and respondents can be seen in the following table 3.

Table 3.

Frequency Distribution of Meal Skipping

Level Meal Skipping	N	%
Never	1	1,2
Seldom	55	65,5
Often	28	33,3
Total	84	100

Source: Based on data taken from respondents

It can be seen that the level of meal skipping. The distribution of data for the 2022 intake of S1 Elementary Teacher Education students showed varying degrees. Based on the analysis results in Table 4.5, it was found that 55 respondents (65.5%) experienced meal skipping with a rare level (1-3x/week).

Nutritional Status

The grouping of respondents' nutritional status levels can be seen in the following table 4.

Table 4.

Frequency Distribution of Nutritional Status

Nutritional Status Level	N	%
Undernutrition	11	13,1
Normal	56	66,7
Overweight	17	20,2
Total	84	100

It can be seen that the frequency of nutritional status levels among the 2022 intake of Elementary School Teacher Education (PGSD) undergraduate students shows a varied distribution. The majority of respondents, 56 (66.7%), had normal nutritional status.

The Relationship between Academic Stress and Nutritional Status

The results of the bivariate analysis between academic stress and nutritional status of respondents can be seen in the following table 5.

Table 5.

Relationship between Academic Stress and Nutritional Status

Academic Stress	Nutritional Status						R	p-value
	Undernutrition		Normal		Overweight			
	n	%	n	%	n	%		
Low	1	9,1	11	19,7	3	17,65	-0,018	0,871
High	10	90,9	45	80,3	14	82,35		
Total	11	100	56	100	17	100		

Table 5, it shows that most of the high stress levels have a normal nutritional status, with 45 respondents (80.3%). The results of the statistical test using rank *Spearman* show p-value $0.871 > 0.05$, which means that there is no significant relationship between academic stress and nutritional status in UNESA PGSD undergraduate students, class of 2022.

Connection Emotional Eating with Nutritional Status

The results of the bivariate analysis between emotional eating and the nutritional status of respondents can be seen in the following table 6.

Table 6
 Relationship between emotional eating and nutritional status

Emotional eating	Nutritional Status						r	p-value
	Undernutrition		Normal		Overweight			
	n	%	n	%	n	%		
TEE	8	72,8	46	82,1	10	58,9	0,272	0,012
EE	3	27,2	10	17,9	7	41,1		
Total	11	100	56	100	17	100		

Based on Table 6, it shows that the majority of respondents did not experience emotional eating and have a normal nutritional status, with 46 respondents (82.1%). The results of the statistical test using rank *Spearman* show *p-value* 0.012 < 0.05, which means that there is a significant relationship between emotional eating and nutritional status in UNESA Elementary School Teacher Education (PGSD) undergraduate students, class of 2022. The *r* value or correlation coefficient was 0.272, indicating a weak positive relationship. This value indicates that the higher the tendency towards emotional eating, the nutritional status tends to increase, but the effect is small because nutritional status is also influenced by many other factors besides emotional eating.

Connection Meal Skipping with Nutritional Status

The results of the bivariate analysis between meal skipping and the nutritional status of respondents can be seen in the following table 7.

Table 7.
 Relationship between Meal Skipping and Nutritional Status

Emotional eating	Nutritional Status						r	p-value
	Undernutrition		Normal		Overweight			
	n	%	n	%	n	%		
Never	0	0	1	1,8	0	0	0,160	0,146
Seldom	9	81,9	36	64,3	10	58,83		
Often	2	18,1	19	33,9	7	41,17		
Total	11	100	56	100	17	100		

Table 7, it shows that most respondents experienced meal skipping with rare frequency. The results of statistical tests using rank *Spearman* show a *p-value* of 0.146 > 0.05, which means that there is no significant relationship between meal skipping and nutritional status in UNESA PGSD S1 students, class of 2022.

Discussion

Academic Stress

The academic stress level of the respondents was measured using the Perception of Academic Stress Scale (PASS) questionnaire, which was developed by (Bedewy & Gabriel, 2015). The classification of the respondents' stress levels is categorized according to their total questionnaire scores, divided into two primary categories: low stress, corresponding to a score between 18 and 45, and high stress, representing a score

between 46 and 90. The results of the study indicate that the majority of respondents experienced high levels of academic stress, comprising 69 individuals or 82.1% of the sample. This finding is consistent with previous research conducted by (Musikhah & Nastiti, 2022), who observed that a significant proportion of university students experience high academic stress, while a smaller subset falls into the low-stress category. Respondents in this study are final-year students experiencing stress primarily triggered by thesis pressures, including formulating research proposals, time constraints, and scheduling difficulties. Survey results reveal that time management and a lack of confidence in decision-making are major contributors to academic pressure. Many students adopted a neutral stance on the challenges of their assignments, highlighting the significant academic stress caused by the thesis writing process.

Emotional Eating

Emotional eating levels were measured using the Eating Appraisal Due to Emotions and Stress (EADES) questionnaire. The classification was based on the total score, with respondents categorized as not exhibiting emotional eating if their score was less than 72.6, and as exhibiting emotional eating if their score exceeded 72.6. The results demonstrate that the majority of the respondents did not exhibit emotional eating behavior, accounting for 64 individuals or 76.2% of the total sample. Emotional eating is characterized as an eating pattern triggered by emotional states, particularly negative emotions such as stress, anxiety, or academic pressure. Research has shown that academic stress can act as a trigger for emotional eating, where individuals tend to consume food not in response to physiological hunger, but as a coping mechanism to manage emotional distress. Survey responses regarding stress and eating behaviors indicated that most respondents did not predominantly rely on emotional eating. In response to questions about overeating when stressed or using food to manage emotions, the majority of the students provided neutral or disagreeing responses. This suggests that even though final-year students face substantial academic pressure, their tendency to use food as an emotional outlet was not strongly pronounced (Djafar et al., 2026).

Meal Skipping

Based on the univariate analysis of the meal skipping variable, the study categorized the frequency of skipping meals into "rarely" and "frequently." The results showed that the majority of the respondents skipped meals with low frequency, comprising 55 individuals or 65.5%, while 28 individuals, or 33.3%, fell into the frequent category. This distribution indicates that while meal skipping occurs among university students, the majority engage in it rarely. When analyzing which meals were most frequently skipped, the dominant choice was breakfast, accounting for 54.3% of the responses, followed by lunch at 21.9% and dinner at 23.8%. This finding aligns with a study conducted in Brazil, which reported that approximately 68.7% of adolescents skipped breakfast, making it the most frequently omitted meal compared to lunch and dinner (da Silva Almeida et al., 2023). The primary causes of breakfast omission among students include lack of time, irregular morning routines, and a lack of appetite upon waking.

Nutritional Status

To determine the nutritional status of the respondents, measurements of body weight and height were taken using a digital scale and a microtoise, respectively. The Body Mass Index (BMI) was then calculated to classify the nutritional status of the participants. The results indicate that the majority of the respondents had a normal nutritional status, comprising 56 individuals or 66.7%. Furthermore, 17 students or 20.2% were classified as overweight, while 11 students or 13.1% were categorized as underweight. These findings suggest that the nutritional status of nearly half of the students is influenced by factors such as daily dietary intake, physical activity, and sleep duration (Harun et al., 2020).

The Relationship Between Academic Stress and Nutritional Status

Academic stress is defined as the physical and psychological changes experienced by students as they navigate academic demands. These demands vary according to the stage of the academic program. Final-year students typically experience stress related to thesis preparation, the advising process, and anxiety regarding their future careers (Sagita & Rhamadana, 2021). Based on the bivariate analysis using the Spearman correlation test, a p-value of 0.871 was obtained, which is greater than 0.05. This indicates that there is no significant relationship between academic stress and the nutritional status of the students. This result is consistent with (Wijayanti et al., 2019), who found that stress does not directly affect nutritional status, as students' coping mechanisms vary. The study found that male respondents experienced higher stress levels, which can be attributed to biological and hormonal differences in stress responses (Kudielka & Kirschbaum, 2005). Furthermore, (Torres et al., 2025) noted that about 20% of individuals do not show changes in eating habits during stress. The normal nutritional status of the respondents suggests effective coping strategies, such as engaging in hobbies or relaxation techniques (Andhayani et al., 2023). Students with good nutritional knowledge are better able to maintain a balanced diet even during stressful periods.

The Relationship Between Emotional Eating and Nutritional Status

Emotional eating is defined as an eating disturbance caused by excessive stress or negative emotions. The analysis revealed that the majority of respondents did not experience emotional eating, while 20 individuals (23.8%) did. The Spearman correlation test yielded a p-value of 0.012 ($p < 0.05$), indicating a significant relationship between emotional eating and nutritional status. This finding aligns with the study by (Djafar et al., 2026), which showed that final-year students experiencing emotional eating tend to be overweight. Chronic stress and negative emotions can trigger an increase in appetite for high-energy and high-fat foods due to the reward system in the brain, leading to weight gain (Gonçalves et al., 2024). This behavior serves as an emotion-focused coping strategy that does not align with physiological hunger cues. The correlation coefficient (r) was calculated to be 0.272, indicating a very weak positive correlation between the two variables. This means that while an increase in emotional eating scores is followed by a slight increase in nutritional status, the relationship's strength is low. Therefore, controlling emotional eating is essential to maintaining a normal nutritional status.

The Relationship Between Meal Skipping and Nutritional Status

Meal skipping is defined as the omission of breakfast, lunch, or dinner due to irregular schedules or decreased appetite caused by psychological stress. The analysis showed that the majority of the students fell into the "rarely skip meals" category (65.5%). The Spearman correlation test resulted in a p-value of 0.146 ($p > 0.05$), indicating no significant relationship between meal skipping and nutritional status. This finding is consistent with the reported no significant relationship between skipping breakfast and nutritional status. This lack of significance occurs because individuals who skip a meal often compensate by consuming more food during subsequent meals, maintaining their total daily energy intake (Malinauskas & Saulius, 2022). Furthermore, variations in physical activity, daily routines, and sleep patterns influence nutritional status independently of meal skipping habits (Sievert et al., 2019).

CONCLUSION

Based on the research findings and discussion regarding the academic stress, eating behaviors, and nutritional status of final-year undergraduate students at Universitas Negeri Surabaya, the conclusions and their scientific contributions are summarized as follows: Before assessing correlations, the majority of students experienced high academic stress levels and rarely skipped meals, mostly omitting breakfast, while emotional eating was generally not prevalent. This highlights a critical balance where final-year academic pressures do not automatically translate into severe eating disorders but do pose a constant mental and physiological burden. After evaluating the statistical outcomes, there was no significant relationship between academic stress and nutritional status, and no significant relationship between meal skipping and nutritional status. However, a significant relationship was found between emotional eating and nutritional status, proving that emotional eating significantly affects student weight management and health during the final year of study. The scientific contribution of this study lies in demonstrating that among final-year education students, stress and eating patterns do not uniformly disrupt nutritional status, as most individuals maintain a normal weight. However, emotional control remains an essential indicator of physiological outcomes, requiring adaptive stress management techniques to prevent unhealthy dietary behaviors. For future studies, researchers should implement longitudinal designs to track how nutritional status evolves as students progress through the academic year. Researchers should also investigate qualitative factors, such as academic workloads and mental well-being, to bridge the gap between academic pressure and actual dietary behaviors.

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