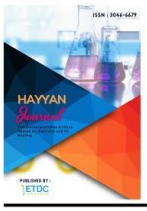

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The Relationship Between Skipping Breakfast and Stress Levels Among Physics Students at Universitas Negeri Makassar

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ABSTRACT

Breakfast is an essential part of a healthy diet that contributes to physical and mental health. This study aims to analyze the relationship between the habit of skipping breakfast and stress levels among physics students at Universitas Negeri Makassar. The research employs a quantitative method with a cross-sectional design, involving 20 students selected through purposive sampling. Breakfast frequency data were collected using a questionnaire, while stress levels were measured using the Depression Anxiety Stress Scale-21 (DASS-21). The analysis was conducted using Pearson's correlation test. The results show that the majority of students (65%) skipped breakfast 3-4 times a week, while 20% skipped breakfast every day. Pearson's correlation test revealed a significant negative relationship between breakfast skipping frequency and stress levels ($r = -0.60$, $p < 0.05$), indicating that the more frequently breakfast is skipped, the higher the stress levels experienced. These findings highlight the importance of breakfast in maintaining emotional stability and reducing stress, particularly among students facing academic pressures.The conclusion of this study emphasizes the need for regular breakfast habits to support students' mental health. Further research is recommended to explore other factors influencing stress and to increase the sample size to strengthen the generalizability of the findings.

Keywords: breakfast, stress levels, DASS-21, physics students, Pearson correlation

I. INTRODUCTION

The Importance of Breakfast in Maintaining Physical and Mental Health. Breakfast has become a primary focus in various health and nutrition literatures as it not only replenishes energy after an overnight fast but also plays a significant role in supporting cognitive functions, emotional stability, and individual performance throughout daily activities. Breakfast is defined as the first meal or drink consumed after waking up, usually in the morning, to restore the body's energy after a fasting period during sleep (Rampersaud et al., 2005).

A nutritious breakfast has been proven to help stabilize blood sugar levels, contributing to mood stability, concentration, and logical thinking skills. Hoyland et al. (2009) stated that morning nutrient intake positively correlates with improved brain functions, including memory and problem-solving abilities. Furthermore, Adolphus et al. (2013) found that breakfast habits can help individuals manage stress more effectively, thereby enhancing productivity and academic performance. On the contrary, skipping breakfast can trigger metabolic disorders

such as hypoglycemia, which affects physical and mental performance and increases stress hormones like cortisol (Timlin & Pereira, 2007).

Among university students, skipping breakfast is a common phenomenon, driven by various factors such as time constraints, irregular sleeping patterns, disregard for the importance of breakfast, and limited access to healthy food (Rampersaud et al., 2005). Physics students, in particular, face intense academic challenges such as complex theoretical lectures, laboratory work, and scientific research. These demands require high levels of concentration, focus, and physical endurance. The combination of heavy academic burdens and unhealthy lifestyles, such as staying up late, can worsen students' physical and mental health. Sadeghi et al. (2016) highlighted that such lifestyles are often associated with increased risks of stress and fatigue.

Stress is defined as the physiological and psychological response of the body to perceived demands or pressures (Lovibond & Lovibond, 1995). For students, stress is frequently caused by academic pressures, such as assignment deadlines, exams, and heavy study loads. This condition can be exacerbated when students fail to maintain healthy eating habits, including regular breakfast. Research by Mellor et al. (2009) reported that individuals who skip breakfast are more prone to stress, fatigue, and cognitive impairments, which can adversely affect their academic performance. Moreover, prolonged stress can increase the risk of mental health issues such as anxiety and depression, reducing the ability to process information optimally (Pritchard et al., 2007).

Although numerous studies have highlighted the benefits of breakfast for general physical and mental health, there is limited research specifically examining the relationship between skipping breakfast and stress levels among physics students. A deeper understanding of this relationship is essential, given the complexity of challenges faced by physics students in their academic activities. This study aims to fill this gap by exploring the relationship between breakfast-skipping habits and stress levels among physics students at Universitas Negeri Makassar.

This research is expected to provide new insights into the impact of breakfast habits on the psychological well-being of physics students, serving as a foundation for interventions aimed at improving their physical, mental, and academic well-being. Additionally, the findings are anticipated to act as a reference to promote healthier eating habits among students.

II. METHODS

A. Research Design

This study uses a quantitative approach with a cross-sectional design. The details of the design are as follows:

1. Quantitative Approach

The quantitative approach is used to measure the relationship between variables objectively. In this case, the study focuses on the relationship between the habit of skipping breakfast (independent variable) and stress levels among students (dependent variable). Quantitative data allows for statistical analysis that provides valid and reliable results.

2. Cross-Sectional Design

The cross-sectional design involves data collection at a specific point in time, representing the relationship between variables at that moment. This design is chosen because:

- It is efficient in terms of time and resources.
- It is suitable for identifying initial relationships between variables.

- It allows data collection from respondents in a specific population, namely physics students at Universitas Negeri Makassar.

This research uses a correlational design, aiming to identify the relationship between breakfast-skipping habits and stress levels among physics students at Universitas Negeri Makassar. A correlational design is used because the researcher seeks to understand the extent to which one variable is related to another without manipulating the variables directly (Cohen, Manion, & Morrison, 2017). This study is conducted with a quantitative approach, where data is collected through questionnaires and analyzed to determine the correlation between the two studied variables (Fink, 2013).

B. Population and Sample

The population of this study is all students of the Physics Study Program at the Faculty of Mathematics and Natural Sciences, Universitas Negeri Makassar. The sample for this study is selected using purposive sampling, meaning that respondents are chosen based on certain criteria relevant to the research objectives. The purposive sampling technique allows the researcher to select individuals with specific characteristics or experiences, in line with the research focus (Etikan, Musa, & Alkassim, 2016). The sample selection criteria include: active physics students aged between 18 and 25 years, and willing to participate in the study. The total sample size is 20 students.

Table 1. sample selection criteria

No	Sample Selection Criteria	Sample Size
1	Active students in the Physics Study Program, Faculty of MIPA, UNM	20
2	Aged between 18 and 21 years	20
3	Students willing to participate in the study	20

C. Research Instruments

1. Breakfast Skipping Questionnaire:

This questionnaire is designed to measure the frequency of skipping breakfast over the past week. Respondents are asked to select the number of days they skipped breakfast in the past week (0 to 7 days). The scale used is a Likert scale with 5 response options:

- 0 = Never
- 1 = 1-2 times a week
- 2 = 3-4 times a week
- 3 = 5-6 times a week
- 4 = Every day

Using a Likert scale to measure habits or behavior frequencies is a common method in quantitative research as it allows for more structured and quantitative measurement (Likert, 1932).

a. **Additional Variables:**
In addition to frequency, the questionnaire may include several additional questions to enrich the data, such as:

- Reasons for skipping breakfast (optional: limited time, not hungry, no food, economic reasons, others).
- Type of activity after skipping breakfast (lectures, academic assignments, sports, others).
- Type of food/beverage consumed during breakfast (if any), to identify potentially relevant breakfast habits.

b. **DASS-21 (Depression, Anxiety, Stress Scale):**

The DASS-21 scale is used to measure respondents' stress levels. This scale consists of 21 items divided into three subscales (depression, anxiety, and stress). The DASS-21 scale has been proven valid and reliable for measuring stress and other emotional conditions in adult populations (Lovibond & Lovibond, 1995). Respondents are asked to score each statement based on their experiences over the past week using a 4-point Likert scale (0 = Never, 1 = Sometimes, 2 = Often, 3 = Very Often).

◆ **Additional Analysis:**
To support data interpretation, the researcher may categorize stress levels based on the following DASS-21 guidelines:

- Normal (0-14)
- Mild (15-18)
- Moderate (19-25)
- Severe (26-33)
- Very Severe (>33)

D. Data Collection Procedure
The data collection procedure is carried out in several stages as follows:

1) **Preparation of Questionnaires:** The questionnaires regarding breakfast skipping frequency and the DASS-21 scale are prepared and disseminated to students via an online platform.
2) **Questionnaire Completion:** Students are asked to complete the questionnaire independently in an online format via Google Forms, with a completion time of approximately 15-20 minutes.
3) **Data Collection:** The collected data is reviewed to ensure completeness and accuracy. Incomplete or invalid data will be excluded from the analysis.
4) **Data Analysis:** The data is analyzed using Pearson's correlation test to examine the relationship between breakfast skipping frequency and DASS-21 stress scores. The correlation found will be analyzed for statistical significance and whether it aligns with the research hypothesis.

E. Data Analysis Techniques

The collected data will be analyzed using statistical techniques with statistical software (Microsoft Excel). The test used is Pearson’s correlation to examine the linear relationship between two variables, namely breakfast skipping frequency and DASS-21 stress scores, with

a p-value < 0.05 to determine the significance of the relationship (Cohen, 1988). The following analysis steps will be performed:

- **Normality Test:** Assess the data distribution using a normality test to ensure the data meets the assumptions for Pearson's correlation analysis.
- **Pearson's Correlation Test:** Calculate the correlation value between the two variables, breakfast skipping frequency and DASS-21 stress scores, with a p-value < 0.05 to determine the statistical significance of the relationship.
- **Result Interpretation:** The correlation results will be interpreted to determine whether there is a significant relationship between skipping breakfast and stress levels among physics students.

III. RESULTS AND DISCUSSION

This study aims to examine the relationship between breakfast skipping habits and stress levels among Physics students at Universitas Negeri Makassar. Based on data collected from 20 students, the results of the study are as follows:

1. **Frequency of Skipping Breakfast**

Based on the questionnaire results, breakfast skipping habits among Physics students at Universitas Negeri Makassar varied. It was found that the majority of students skipped breakfast 3-4 times a week (65%), while 20% reported skipping breakfast every day. The remaining 15% skipped breakfast 1-2 times a week.

2. **Stress Levels**

The stress scores obtained from the DASS-21 measure showed that nearly 50% of the respondents had high stress scores (over 20), while 30% had low stress scores (below 10), and the remaining had moderate stress scores (between 10-20).

3. **Pearson Correlation Test Results**

To examine the relationship between breakfast skipping habits and stress levels, a Pearson correlation test was conducted. The results of the test showed a significant negative relationship between breakfast skipping habits and stress levels ($r = -0.60$, $p < 0.05$). This indicates that the more frequently students skip breakfast, the higher the stress levels they experience.

Table 2. Frequency of Skipping Breakfast and Stress Levels among Physics Students

No	Frequency of Skipping Breakfast	Number of Respondents	Stress Score (DASS-21)	Stress Category
1	Never (0 days)	3	8, 7, 6	Low
2	1-2 Times a Week	2	10, 12	Moderate
3	3-4 Times a Week	13	18, 20, 22, 25, 19, 21, 23, 24, 22, 20, 19, 20, 21	Moderate to High
4	Every Day (7 days)	2	28, 30	High

Table 2 shows the relationship between breakfast skipping frequency and stress levels, measured using DASS-21. It is evident that students who skip breakfast more frequently (3-4 times a week or more) tend to have higher stress levels.

Table 3. Pearson Correlation Test Results between Skipping Breakfast and Stress Levels

Variable A	Variable B	Pearson Correlation (r)	p-value
Frequency of Skipping Breakfast	Stress Level (DASS-21)	-0.60	< 0.05

Table 3 presents the results of the Pearson correlation test measuring the relationship between breakfast skipping frequency and stress levels. A significant negative correlation ($r = -0.60$, $p < 0.05$) indicates that the more frequently students skip breakfast, the higher their stress levels.

Based on Table 2, it was found that students who frequently skip breakfast, especially those who do so every day, tend to have higher stress levels compared to those who do not skip breakfast. This is supported by the Pearson correlation test results, which show a significant negative relationship between breakfast skipping habits and stress levels ($r = -0.60$, $p < 0.05$).

These findings align with previous research suggesting that skipping breakfast can lead to metabolic imbalance, which in turn can increase stress hormones like cortisol (Timlin & Pereira, 2007). A decrease in blood glucose levels due to skipping breakfast may also disrupt brain function, contributing to increased stress (Hoyland et al., 2009).

However, although a significant correlation was found, it is important to note that correlation does not indicate causation. Other factors such as sleep patterns, physical activity levels, and social support may also influence stress levels. Therefore, further research with a larger sample size and a longitudinal design is needed to explore the causal relationship between breakfast skipping and stress.

IV. CONCLUSION

This study reveals a significant negative relationship between breakfast skipping habits and stress levels among Physics students at Universitas Negeri Makassar. Based on the data analysis, it was found that students who frequently skip breakfast, especially those who do so every day, tend to have higher stress levels compared to those who rarely or never skip breakfast.

The Pearson correlation test results showed a correlation coefficient of $r = -0.60$ with $p < 0.05$, indicating that the more often an individual skips breakfast, the higher their stress levels tend to be. This can be explained by the impact of breakfast on the body's metabolism and the stability of blood glucose levels, which play an essential role in cognitive and emotional function.

From these findings, it can be concluded that breakfast is not just a eating habit, but also an important factor in maintaining the mental health of students, especially in an academic environment that is often stressful. A healthy and regular breakfast can help reduce stress levels and improve productivity, concentration, and overall well-being.

However, this study has some limitations, such as a relatively small sample size and a cross-sectional study design. Therefore, further research with a larger sample size and a longitudinal approach is needed to strengthen these findings and explore the causal relationship between skipping breakfast and stress levels.

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