The Relationship between Stress and Eating Behavior in Final Year Students Working on a Thesis at HKBP Nommensen University

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Abstract
This research aims to examine the relationship between stress and eating behavior among final-year students working on their theses at HKBP Nommensen University in Medan. The study employs a quantitative research method, with a sample of 145 final-year students who are currently completing their theses at HKBP Nommensen University. Based on the Pearson Product Moment correlation test, the results show a significant relationship, with a p-value of 0.000 (p<0.05). The study also reveals a negative correlation between stress and eating behavior, with r = -0.747. This indicates that as stress levels increase, eating behavior decreases, and conversely, as stress levels decrease, eating behavior increases.

Keywords: Stress; Eating Behavior; Students; Thesis.

INTRODUCTION

Students in the final semester stage face complex academic responsibilities, including choosing a research topic, collecting data, analyzing data, and preparing a thesis report According to most students, a thesis is certainly a task that is not light. Many students experience difficulties or problems in the process of preparing their thesis. They feel given a heavy burden which results in the difficulties they feel developing into stress and loss of enthusiasm, resulting in students procrastinating to work on their thesis. Stress is a condition experienced by humans when there is a mismatch between the demands they receive and the ability to cope with them (Looker & Gregson, 2005).

According to Ismiati (2015), stress is a condition of physical and psychological pressure due to demands in oneself and the environment. This means that individuals are said to experience stress when experiencing a condition that results in pressure within themselves as a result of demands that come from within themselves and also the environment. In his research, Ismiati (2015) explained that the causes of stress for students who are preparing a thesis can be broadly divided into two factors, namely: the first factor is an internal factor, which is caused because; new experiences, poor time management, pessimism. The second factor is external factors. External factors that cause stress for students in preparing a thesis are as follows; uncomfortable living environment, lack of availability of references or books related to research, and difficulty in meeting supervisors for consultation. A thesis is a scientific paper written by students at the end of their studies in the form of research results and literature reviews on a problem carried out during research (Darmono & Hasan, 2002). Thesis is one of the requirements that students must pass in completing their education to receive a bachelor's degree. Students who study at an institution or university are required to complete their study period within a predetermined period of time.

During the preparation of the thesis, students are trained to carry out a series of scientific activities that praise a scientific theory and are required to find solutions in solving problems with a critical mindset based on a literature review *(critical thinking)* (Afryan, Saputra & Lisiswanti, 2019). In these conditions, stress can arise as a natural response to high academic demands. Many final semester students feel burdened in preparing their thesis and make the demands a burden for them.

The word stress comes from the Latin term "stringere". means pressure and tension. There are various factors that can cause a person to experience stress, namely 1) Physical stress, for example excessive muscle contraction, long-term brain damage to thinking hard, etc.; 2) Psychological pressure, e.g. competition between colleagues, social relationships, moral ethics, etc.; 3) Socio-economic

pressures, for example economic barriers, racism, etc. (Wirawan, 2012). When a person is stressed, they can experience tension, an inability to think rationally which will cause a person to become irritable, sad, anxious, and can even result in depression. Stress is the body's response to mental stress or the burden of life. Stress can be caused by a variety of things, including social problems, emotional, academic, and financial problems and students are a certain age group that experiences a lot of stress (Wijayanti, et al. 2019). When experiencing stress, a person tends to lose appetite or on the contrary will overeat, which has an impact on changes in nutritional status (Nurkhopipah, 2017).

Stress can also trigger an increase in blood pressure, decreased or increased appetite, and decreased concentration (Sumarna et al., 2018). As a result, stress has the potential to affect students' eating behavior, both in terms of diet, nutritional intake, and the tendency to overeat or vice versa, namely the lack of food consumed. For students, the density of activities on campus such as meetings or specific programs on campus, strict lecture schedules, and empty lecture hours due to the absence of lecturers are factors that affect the diet of students (Surjadi et al., 2013).

The phenomenon that occurs among students in Indonesia, many students skip their meal hours just to work on their thesis, because they are under pressure to do the thesis they choose to postpone eating even when they already feel hungry, but choose to hold back their hunger. This will affect the health of the student's body. (Afryan 2019)

Stress when working on a thesis has an impact on students' eating behavior, where when students are stressed in working on a thesis they will do *coping* , one of which is overeating to regulate mood and thoughts. The type of food that is often consumed by students who are working on their thesis is generally fast food because it can save time and food sold around campus because it is close and has a fairly cheaper price, even students in consuming the food in one day is not enough just once. In fact, these types of food tend to be unhealthy because of the manufacturing process and the ingredients contained in them. (Pujiati 2015).
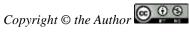
Eating behaviors that are carried out in response to signals from within the body are good and healthy eating habits, healthy eating behaviors are applied based on positive attitudes and self-control towards food and hunger, access to food, and psychological state (McGuire & Beerman, 2012). (Van Strien, Fritjers, Bergers & Defares 1986) classifies eating behavior into three aspects, including eating in response to negative emotions *(emotional eating)*, eating due to impulses arising from the food itself *(external eating)*, and eating in small portions caused by psychological urges *(restrained eating)*. According to Lazarevich, et al., (2016), food is considered a natural form or habit that is done for satisfaction can also reduce negative emotions without looking for other alternatives. Just like food advertisements that seem to stimulate a person's desire to eat, the behavior of eating from within the body stimulates a person to eat without feeling hungry in his body (Fassah & Retnowati, 2014).

According to Mayo Clinis (2002), there are eating behavior disorders that can be experienced in adolescents to the age of 20s, which can be in the form of eating less behavior to excessive eating behavior.

METHOD

This research was conducted using a quantitative method. There are two variables studied in this study, namely stress and eating behavior. In this study, stress was measured by a stress scale using biological aspects, psychological aspects consisting of cognition symptoms (thoughts), emotional symptoms, and behavioral symptoms proposed by Sarafino and Smith (2012), for the study of eating behavior measured by a scale of eating behavior using aspects *of emotional eating, external eating* and *restrained eating* proposed by (Van Strien, Fritjers, Bergers & Defares 1986). According to Sugiyono, (2017) the sample is part of the population that is the source of data in the study, where the population is part of the number of characteristics possessed by the population. The sampling technique was carried out using *a simple random sampling* technique. The sample was determined using G*Power where 145 final semester students who were working on skipsi at HKBP Nommensen University Medan were obtained

The data collection technique used to obtain data in this study is to use a psychological scale by distributing questionnaires or questionnaires online. The scale used in this study is the Likert scale. The Likert scale in measuring stress and eating behavior has 2 statements, namely favorable and unfavorable, with the choice of answers using the Likert scale consisting of four statements, namely Strongly Agree

(SS), Agree (S), Disagree (TS), Strongly Disagree (STS). The assessment criteria move from 4,3,2,1 for Favorable answers and 1,,2,3,4 for Favorable answers.

In searching for respondents, researchers distributed questionnaires through social media, sent messages to several group chats, and asked research friends for help to fill out and share questionnaires. This research was conducted in early adults in Medan City. The data analysis used by the author in this study is a normality test, a linearity test and a hypothesis test, the data is processed using the SPSS 20.0 for windows program.

RESULTS AND DISCUSSION
Result

This research was carried out from August 25, 2024 to September 5, 2024 which was carried out online until all data had been collected, and the subjects needed in this study were final year students who were working on their thesis at HKBP Nommensen University. Next, the researcher conducted data analysis but before the researcher first described the research respondents based on gender, age, faculty and monthly money. After that, assumption tests were carried out on stress variables and eating behavior variables by conducting normality tests, linearity tests and hypothesis tests.

Table 1. Overview of Research Subjects Based on Gender

Gender	Sum	Percentage
Woman	97	66,9%
Man	48	33,1%
Sum	**145**	**100%**

Based on the gender table, it can be seen that the female sample amounted to 97 people (66.9%) and the male sample amounted to 48 people (33.1%).

Table 2. Dispersion of Subjects by Age

Age	Sum	Percentage
21	32	22,1%
22	66	45,5%
23	42	29,7%
24	4	2,8%
Sum	**145**	**100%**

Based on the age results, it can be seen that the sample aged 21 years totaled 32 people (22.1%), the age of 22 years amounted to 66 people (45.5%), the age of 23 years amounted to 42 people (29.7%), and the age of 24 years amounted to 4 people (2.8%).

Table 3. Subject Distribution by Faculty

Faculty	Sum	Percentage
Language and Art	9	6,2%
Economics and Business	31	21,4%
Law	16	11%
Social and Political Sciences	4	2,8%
Medicine	7	4,8%
Teaching and Knowledge Education	13	9%
Agriculture	11	7,6%
Farm	12	8,3%
Psychology	31	21,4%
Technique	11	7,6%
Sum	**145**	**100%**

Based on the Faculty category, it can be seen that the subjects with the Faculty of Languages and Arts amounted to 9 people (6.2%), the Faculty of Economics and Business amounted to 31 people (21.4%), the Faculty of Law amounted to 16 people (11%), the Faculty of Social and Political Sciences amounted to 4 people (2.8%), the Faculty of Medicine amounted to 7 people (4.8%), and the Faculty of

Teacher Training and Education amounted to 13 people (9.0%). Agriculture amounted to 11 people (7.6%), the Faculty of Animal Husbandry amounted to 12 people (8.3%), the Faculty of Psychology amounted to 31 people (21.4%), the Faculty of Psychology amounted to 31 people (21.4%), and the Faculty of Engineering amounted to 11 people (7.6%).

Table 4. Subject Spread by Monthly Money

Monthly Money	Sum	Percentage
Below IDR 1,000,000	29	22,1%
IDR 1,000,000-IDR 2,000,000	84	29,7%
Above IDR 2,000,000	32	2,8%
Sum	**145**	**100%**

Based on Monthly Money, it can be seen that subjects with Monthly Money below IDR 1,000,000 totaled 29 people (20%), Monthly Money of IDR 1,000,000-IDR 2,000,000 totaled 84 people (57.9%), Monthly Money above IDR 2,000,000 totaled 32 people (22.1%)

On the Stress scale, the number of items used was 19 items with 4 answer choices. The value of each option is 1 to 4, so the minimum score is 19 and the maximum score is 76. Here's an overview of the categorization of subjects on the Stress scale:

Table 5. Categorization of stress in the Subject

Categorization	person	Percentage
Tall	72	49,7 %
Keep	56	38,6 %
Low	17	11,7%
Sum	**145**	**100%**

Based on the categorization criteria of stress variables above, it shows that Stress is in the high category as many as 72 people (49.7%), medium category 56 people (38.6%) and low as many as 17 people (11.7%).

In this study, to measure the variables of Eating Behavior using 17 Items. The score of each answer has a range from 1 to 4, so the minimum score is 17 and the maximum score is 68. The Eating Behavior Score can be seen in the following table 6:

Table 6. Categorization of Eating Behavior in Subjects

Categorization	person	%
Tall	0	0%
Keep	71	59,8%
Low	59	29,9%
Sum	**145**	**100%**

Based on the categorization criteria for eating behavior above, it shows that Eating Behavior is in the high category as many as 0 people (0%), medium category 71 people (54.6%) and low as many as 59 people (45.4%).

Classical Assumption Test
Normality Test

In this study, the normality test was used to determine whether the research data from the stress variable with distributed eating behavior was normal or abnormal. The normality test was carried out using *the Kolmogrov-Smirnov one-sample* test with the help of *SPSS for windows* 20.0. The category used in this normality test is if p>0.05 then the data is said to be normal and vice versa if p<0.05, then it is said to be abnormal. The results of the normality test in this study can be seen in the table below.

Table 7. Normality Test

Variable	Sig (2 tailed)
Stress and eating behavior	0,07

It is known that the significance value of the loneliness variable with *a quarter life crisis* of 0.07 which means .07 >0.05, it can be concluded that the data is normally distributed.

Linearity Test

The linearity test is useful for determining the linearity of the relationship between the Stress variable and eating behavior. The linearity test was carried out by looking at the value of the linearity

F calculated to be greater than the F table or p<0.05. The results of the linearity test can be seen in the following table:

Table 8. Linearity Test

Variable	F	Sig
Stress and eating behavior	1,087	.362

Based on the table above, it can be seen that the value of the coefficient F = 1.087 and the significance or p obtained is .362 or p>0.05 on the stress and eating behavior scale, so it can be concluded that the two scales have a linear relationship.

Hypothesis Test

The hypothesis test was carried out to test the relationship between variable X (stress) and variable Y (eating behavior). In this study, the hypothesis test uses *the Pearson Product Moment correlation analysis technique* where the results can show whether there is a relationship between the two variables. The results of the hypothesis test in the following table:

Table 9. Hypothesis Test

Variable	*Spearmen Correlation*	Sig (2 tailed)	N
Stress and eating behavior	-0.747	0,000	145

Based on the results of the table above, there is a significance value of the Stress scale and eating behavior has a value of r = -0.747. Therefore, the SIG value is 0.000<0.05, which means that there is a significant relationship between the *Loneliness* variable and *the Quarter Life Crisis*, thus it is conveyed that the hypothesis is accepted.

Discussion

The purpose of this study is to find out if there is a relationship between Stress and Eating Behavior in final year students who are working on their thesis at HKBP Nommensen University. Based on the results of data analysis in this study, it was found that there was a relationship between Stress and Eating Behavior in final year students who were working on their thesis at HKBP Nommensen University. Based on the *Pearson Product Moment* correlation analysis technique, it found that there was a negative relationship between Stress and Eating Behavior, which was -0.747 with a sig value = 0.000 (p<0.05), this explained that the hypothesis was accepted, namely that there was a negative relationship between Stress and Eating Behavior in final year students who were working on their thesis at HKBP Nommensen University. It can be interpreted that the higher the stress, the lower the eating behavior in final year students who are working on their thesis at HKBP Nommensen University, on the contrary, the lower the stress. So the higher the eating behavior. This is in line with research that has been conducted by Fassah and Retnowati (2014) that stress has a relationship with eating behavior. Eating behavior is used as a behavior that is carried out to reduce the discomfort felt.

Stress is a condition in which the burden experienced by a person is not balanced with his ability to complete the burden. Slamet and Markam (in Rahmawan & Selviana, 2020). From the results of the categorization of stress variables based on the results of the study with 145 respondents, it is known that stress variables are at a high categorization of 49.7% or as many as 72 respondents. Stressors can differ from one individual to another. The factors that cause stress itself can be divided into internal factors as well as external factors. Internal factors are factors that arise from within the individual himself that can cause stress, for example such as physical condition, motivation, personality type of each individual. Something that causes stress depends on how the individual responds to and interprets an event cognitively. Cognitive assessment is a reflection of an individual's interpretation of an event in their life as dangerous, threatening, and their confidence in dealing with the event effectively (Gamayanti et al., 2018). External factors generally come from outside the individual such as family, work, facilities, environment, lecturers, and others (Sutjiato et al., 2015). The environment is one of the sources of stress in individuals. Changes in the environment such as the birth of a child, the death of a partner, divorce, and interpersonal relationships with people around can cause stress (Gamayanti et al., 2018). Respondents' stress levels can vary depending on the cause of the stressor and the duration of the stressor exposure. The longer respondents are exposed to stressors, the more severe the stress experienced (Oken et al., 2015).

Eating behavior is the action of an individual in responding to food which can be influenced by perceptions, feelings, knowledge and attitudes about the food. In general, the cause occurs due to

negative behaviors such as eating irregularities from thoughts about food and weight. However, this is also related to the control of feelings and emotions towards food (Pieter et all., 2011). The data results showed that the majority of respondents had eating behaviors in moderate catagonation that led to low, namely 71 respondents (54.6%). This is in line with Sonya's (2019) research which showed that of the 60 students studied, there were 35 students (58.3%) with eating behaviors that tended to avoid food and 25 students (41.7%) with eating behaviors that tended to be close to food. The data illustrates that the majority of S1 students of the 2019 and 2020 batches of the Faculty of Public Health, Universitas Airlangga have eating behaviors that tend to avoid food. This is also in line with the research conducted by Khoiroh (2022) where 58.3%% of respondents had poor eating behavior and a study conducted by Pujiati et al. (2015) stated that the majority of adolescents' eating behavior was not good, as many as 37 adolescents (60.9%) from 62 samples. This shows that respondents have a low interest in eating.

According to Snooks Dalam (Andarini, 2013), the eating behavior of these students is influenced by several internal and external factors. Internal factors are triggered by physiological factors in the form of hunger, satiety, and psychological factors, namely from appetite, emotions (mood, stress), and personality type. A person's appetite can be affected by psychological conditions. For example, when a person feels anxious or depressed, appetite can decrease or, conversely, increase drastically. Certain mental states can make a person lose interest in food, while some individuals may use food as an escape from uncomfortable feelings. Emotions such as stress, anger, or sadness often affect the way a person manages their diet. Stress, for example, can trigger an increase or decrease in appetite, depending on the individual. Stress can trigger overeating as a way to relieve emotional stress. Conversely, feelings of positivity or happiness can also trigger dietary changes, such as eating more when celebrating something. Personality type also determines how a person deals with food and their diet. People with more impulsive personalities may more often engage in emotional eating behaviors or overeating in response to temptation. While individuals who are more organized and tend to be perfectionists may be stricter in controlling their diet.

CONCLUSION

Based on research that has been conducted by researchers, namely the relationship between stress and eating behavior in final year students who are working on their thesis at HKBP Nommensen University, it can be concluded that there is a negative relationship between stress and eating behavior in final year students who are working on their thesis at HKBP Nommensen University. The results of the calculation carried out by obtaining a correlation coefficient value of r = -0.747 with a significant level of 0.000 which means that the hypothesis accepted in this study is that there is a relationship between stress and eating behavior in final year students who are working on their thesis. Thus, the higher the stress, the lower the eating behavior, on the contrary, the lower the stress, the higher the eating behavior in final year students who are working on their thesis at HKBP Nommensen university.

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