



The Relationship between Stress Level and Emotional Eating Behavior and Adolescent Nutritional Status at SMA Negeri 7 Gorontalo City

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ABSTRACT

Adolescent nutritional status is an important indicator of health influenced by physical and psychosocial factors. In adolescence, academic stress and changes in eating behavior often contribute to the emergence of nutritional problems, both undernutrition and overnutrition. This condition is suspected to be related to stress levels and emotional eating behavior tendencies. This study aims to determine the relationship between stress levels and emotional eating behaviors with adolescent nutritional status at SMA Negeri 7 Gorontalo City. This study used a quantitative design with a cross sectional approach. The research sample amounted to 163 adolescents who were selected based on criteria, namely adolescents with a minimum level of stress in the mild category, not undergoing a diet program, and not having chronic diseases. Sample selection was taken using the Proportionate Stratified Random Sampling technique. This research instrument uses the Perceived Stress Scale (PSS-10) questionnaire and the Dutch Eating Behavior Questionnaire (DEBQ). Bivariate analysis using the Chi-Square test. The results showed a significant relationship between stress levels and nutritional status of adolescents (p -Value = 0.000). Meanwhile, there was a significant relationship between emotional eating behavior and adolescent nutritional status (p -Value = 0.000). It is hoped that it can be an information and evaluation material for adolescents, schools, and related parties in understanding the relationship between stress levels, emotional eating behaviors, and adolescent nutritional status. These findings can also serve as a basis for consideration in promotive and preventive efforts that focus on adolescent mental health and eating behavior in the school environment.

INTRODUCTION

Adolescence is a transition period between children and adults, which lasts between the ages of 10-19 years. This stage is an important phase in human development as well as a crucial moment to build a good foundation of health (WHO, 2022). Adolescence is in the age range of 11–18 years and is characterized by emotional instability. At this stage, adolescents' behavior is greatly influenced by emotional conditions so that there is often pressure and emotional turmoil (Santrock, 2013 quoted in Ragita & Fardana N., 2021).

Adolescents undergo significant changes, both biologically, psychologically, emotionally, and socially. Physical growth and cognitive development during this period are very fast, even becoming the second fastest after infancy. Therefore, nutritional needs in adolescents increase and require greater nutrient intake (Desfita et al., 2024). With the increasing need for nutrients during this period, the fulfillment of balanced nutrition is an important factor in maintaining health and supporting the adolescent development process (Windarwati et al., 2020).

Nutritional status is a representation of a balanced state that is indicated through certain variables or manifestations of nutritional states in a certain form (Ministry of Health, 2022). through certain variables or manifestations of nutritional conditions in a certain form. Nutritional status is the result of a comparison

between received nutritional intake and nutritional needs, and must allow the utilization of nutrients to maintain reserves and compensate for lost needs (Fernández-Lázaro & Seco-Calvo, 2023).

Based on data from World Health Organization (WHO), globally around 10.7% of adolescents aged 15–18 years are overnourished, whereas 3.6% of adolescents in the same age range are underweight (WHO, 2023). Based on Indonesian Health Survey (2023), the prevalence of nutritional status in Indonesia shows that in adolescents aged 13-15 years, the prevalence is very thin 1.9%, Thin 5.4%, Normal 76.1%, overweight 12.1% and obese 4.1%. Meanwhile, in adolescents aged 16-18 years, the prevalence was very thin 1.7%, thin 6.6%, normal 79.6%, overweight 8.8% and obese 3.3%. Based on data obtained from the Provincial Health Office in 2025, the prevalence of malnutrition is 4.36% and obesity is 1.43% (Provincial Health Office, 2025).

Based on the prevalence data of problematic nutritional status from the Gorontalo Provincial Health Office, the highest is Gorontalo City compared to other regions. The prevalence of nutritional problems in Gorontalo City is 342 adolescents who are malnourished and 175 adolescents who are obese, where the area in Gorontalo City with the highest nutritional problems is the South City (City Health Office, 2024). Although the prevalence of normal nutritional status in adolescents is higher, the existence of adolescents with undernutrition and overnutrition remains a health problem that cannot be ignored. This condition shows that the overall nutritional status of adolescents is not optimal, because the imbalance between intake and nutritional needs still occurs in some adolescent groups (Fadilah et al., 2024).

The nutritional status of adolescents is influenced by various interrelated factors, both from biological, social, economic, environmental, behavioral, and psychological aspects. Biological factors such as genetics, age, and health conditions affect the body's metabolic energy needs. Social and economic factors, such as education level and family income, also determine adolescents' ability to meet their nutritional needs. The environment and daily behavior also play an important role, such as diet, physical activity, and sleep quality (Abera et al., 2020). Although biological, social, and economic factors have a major influence on nutritional status, psychological factors are often overlooked even though they have a significant impact (Rae & Brigitte Sarah Renyoet, 2022).

Psychological factors themselves can have an impact on changes in diet, appetite, and food consumption habits, for example, decreased food intake due to loss of interest, emotional stress, or irregular eating habits. As a result, the body does not get adequate energy and nutrients, which can lead to abnormal weight loss or gain, disruption of metabolic processes, decreased immunity, and inhibitions in the growth and development of adolescents (Vukajlovi & Corluka, 2024).

Nutritional balance is not only determined by the availability of food, but also by the psychological condition of adolescents. Therefore, research on psychological factors is important to obtain a more comprehensive picture of the causes of nutritional imbalance in (Rae & Brigitte Sarah Renyoet, 2022).

Nutritional problems that are dual in nature, both undernutrition and overnutrition, illustrate the complexity of causes that are not only influenced by physical factors, but also by behavioral and psychological aspects that require further attention, one of which is mental-emotional disorders such as stress and behavior emotional eating (Fadilah et al., 2024).

Mental emotional disorders themselves are a condition when a person experiences emotional changes, and if it lasts for a long time, the condition can develop into a pathological state. One form of emotional mental disorder that many adolescents experience is stress, that is, a psychological response that arises as a result of certain demands or pressures (Abas et al., 2023).

Based on the statement World Health Organization (2023), that stress is a condition in which individuals experience mental tension or worry caused by a difficult situation. Stress is a form of natural human response when facing threats and challenges in life. Stress can basically arise due to various changes in a person's life that then trigger the emergence of certain responses in individuals (Isaac et.al., 2025). Stressed teens generally show emotional signs such as feelings of unpredictability, unpredictable appearances, inability to control important things, difficulty controlling emotions/problems, feeling overwhelmed, overwhelmed and too many demands. In the long term, this condition can affect the body's diet and metabolism, thus impacting a person's nutritional status (Asram et al., 2024).

Based on data World Health Organization (2024) About 15% of adolescents aged 10–19 years experience mental health problems, including stress and anxiety. Based on data National Adolescent Mental Health Survey (2022) shows that about one-third of Indonesian adolescents aged 10–17 years have mental health problems, and about 5% have experienced mental disorders in the last 12 months, equivalent to 15.5 million and 2.45 million adolescents. Data from the Gorontalo Provincial Health Office recorded 1,099 adolescents with mental disorders (Gorontalo Provincial Health Office, 2024). Meanwhile, in Gorontalo City alone there are 409 adolescents with mental and emotional disorders (Gorontalo City Health Office, 2024). This data shows that mental health problems, including stress in adolescents, are serious issues that need more attention.

In addition to stress, behaviors emotional eating It is also a form of psychological reaction related to adolescent diet. Based on the statement Ministry of Health (2018) that adolescents with a tendency to emotional eating often consume foods high in sugar, salt, and fat to relieve stress, sadness, or anxiety. Behavior

emotional eating is the habit of overeating in reaction to negative feelings, but does not include eating behaviors that are pathological (Arexis et al., 2023). Emotionally, this behavior can cause a momentary feeling of comfort, but in the long run it has the potential to lead to a nutritional imbalance. These behavioral traits can be seen from individuals who often eat when they feel bored, anxious, unsettled, sad, angry, lonely and there is a strong urge to eat when experiencing negative emotions even though they are not hungry (Godet et al., 2022).

These conditions show that emotional eating has a close relationship with the nutritional status of adolescents. When negative emotions are not managed properly, eating habits can turn excessive or even drastically decreased, both of which can have an impact on nutritional imbalances. This makes it possible for emotional eating as one of the important psychological factors to study in more depth along with stress, since both reflect the emotional response of adolescents to the pressures and challenges they experience (Ha & Lim, 2023). If the behavior emotional eating This continues to happen, eventually leading to weight gain due to irregular diets and the type of food consumed. Diets that are carried out as a coping mechanism to overcome negative emotions ultimately cause imbalanced nutrition (Nadhilah & Rini, 2023).

Based on research conducted by Hidayat et al. (2023) , with the title "Correlation of Stress Level, Nutrient Intake, and Emotional Eating Behavior with Nutritional Status among High School Students" shows that quite a few students are classified as having emotional eating behavior tendencies. In addition, their daily consumption patterns tend to still be below the recommended nutritional adequacy figures, both in terms of energy and other macronutrients. Although most of the respondents' nutritional status is normal, the study emphasizes that stress still has an influence on the nutritional status of adolescents, both directly and through their eating behaviors. In other words, stress can affect how teens choose and consume food, which will ultimately have implications for their nutritional status. These findings are important because they show the need to pay attention to students' psychological states in addition to nutritional interventions, given that mental and emotional aspects can affect eating patterns and overall nutritional health.

In other research conducted by Pilot & Nugraheni (2025), with the title "The relationship between Emotional Eating and Stress with Nutritional Status in Adolescents at SMAN 5 Surabaya" results showed that most students experienced stress at a moderate level, while some others were in the light or severe categories. In addition, the majority of students also show a fairly high tendency to emotional eating behavior. This study confirms that there is a link between stress and emotional eating behaviors, where adolescents with higher levels of stress tend to have stronger emotional eating behaviors. This means that the stress experienced by students not only impacts their psychological state, but is also reflected in their daily diet. Emotional eating behaviors that arise have the potential to encourage the consumption of unhealthy foods, which in the long run can affect their nutritional status and health. This study emphasizes the need for special attention to adolescent stress management so that it does not develop into eating behaviors that are risky to health.

Based on the results of observations, there are two high schools which are working areas covered by the South City, one of which shows indications of malnutrition problems in adolescents. One of the coverage of the South City area is SMA Negeri 7 Gorontalo City. The results of the researcher's initial observation at SMA Negeri 7 Gorontalo City showed indications of nutritional problems and psychological factors among students.

Based on the results of initial observations conducted by the researcher through interviews with 6 students at SMAN 7 Gorontalo City, it was obtained that four of them were malnourished and two of them were overweight. Further interview results showed that four students with malnutrition admitted that they often felt stressed due to academic and personal pressures that affected their diet. Some lose their appetite when they feel depressed. These stressful conditions have an impact on their diet, especially in terms of increased and decreased appetite.

Meanwhile, two overweight students showed poor diet. Both tend to consume food not based on physiological hunger, but rather to respond to certain emotional feelings, such as anger or sadness. However, the food choices consumed are more often in the form of low-nutrient snacks with an unbalanced amount, thus contributing to low daily nutrient intake. Therefore, SMA Negeri 7 Gorontalo City is a relevant location for research. This study is expected to provide a comprehensive overview of the relationship between stress levels and emotional eating behaviors and nutritional status in adolescents, as well as the basis for schools and health workers in developing promotive and preventive programs that focus on the balance of adolescent mental health and nutrition holistically.

Based on the background of the problem description above, the researcher is interested in conducting research on "The Relationship between Stress Levels and Emotional Eating Behavior with Adolescent Nutritional Status at SMA Negeri 7 Gorontalo City".

RESEARCH METHODS

This research has been carried out at SMA Negeri 7 Gorontalo City on October 1, 2025 - January 9, 2026. This research is included in quantitative research using a cross-sectional approach. The sampling technique in this study uses Proportionate Stratified Random Sampling with a sample of 163 respondents. The

research instrument used the Perceived Stress Scale (PSS-10) questionnaire and the Dutch Eating Behavior Questionnaire (DEBQ) questionnaire.

RESEARCH RESULTS

Univariate Analysis

Respondent Characteristics

Table 1. Characteristics of respondents by age

Age	Frequency (n)	Percentage (%)
15 Years	39	23,9
16 Years	43	26,4
17 Years	54	33,1
18 Years	27	16,6
Total	163	100

Source: Primary Data 2025

Based on table 1, it shows that most of the respondents are in the age group of 17 years, namely as many as 54 respondents (33.1%), a small number of respondents are in the age group of 18 years, namely as many as 27 respondents (16.6%). The rest were in the 16-year-old group with 43 respondents (26.4%), and 39 respondents (23.9%) were in the 15-year-old group.

Table 2. Characteristics of respondents by gender

Gender	Frequency (n)	Percentage (%)
Male	73	36,7
Women	90	45,2
Total	163	100

Source: Primary Data 2025

Based on table 2, it can be seen that most of the respondents were women, namely 90 respondents (45.2%). The rest were male respondents, namely 73 respondents (36.7%).

Table 3. Characteristics of respondents by grade level

Classes	Frequency (n)	Percentage (%)
X	51	25,6
XI	47	23,6
XII	65	32,7
Total	163	100

Source: Primary Data 2025

Based on table 3, it was found that most of the respondents were from class XII, namely 65 respondents (32.7%). A small number of respondents from class XI amounted to 47 respondents (23.6%), and the rest of the respondents from class X were 51 respondents (25.6%)

Table 4. Characteristics of respondents based on family income

Family Income (UMP)	Frequency (n)	Percentage (%)
< Rp. 3,000,000	102	62,6
IDR 3,000,000 - IDR 3,500,000	38	23,3
> Rp. 3,500,000	22	13,5
Total	163	100

Source: Primary Data, 2025

Based on table 4, judging from family income, most of the respondents came from families with an income of < Rp. 3,000,000, which was 102 respondents (62.6%). A small number of respondents came from families with an income of > Rp. 3,500,000, totaling 22 respondents (13.5%). The rest of the respondents came from families with an income in the range of Rp. 3,000,000 - Rp. 3,500,000 amounting to 38 respondents (23.3%).

Table 5. Distribution of Respondents by Stress Level

Age	Frequency (n)	Percentage (%)
15 Years	39	23,9
16 Years	43	26,4
17 Years	54	33,1
18 Years	27	16,6
Total	163	100

Source: Primary Data, 2025

Based on table 5, it is known that most of the respondents are in the category of moderate stress, namely 59 respondents (36.2%). A small number of respondents were in the category of mild stress, namely 51 respondents (31.3%). The rest were in the category of severe stress, namely 53 respondents (32.5%).

Table 6. Distribution of Respondents Based on Emotional Eating Behavior

Emotional Eating Behavior	Frequency (n)	Percentage (%)
Low	48	29,4
Medium	52	31,9
Height	63	38,7
Total	163	100

Source: Primary Data, 2025

Based on table 6, it is known that most of the respondents are in the high emotional eating category, namely 63 respondents (38.7%). A small number of respondents were in the low emotional eating category, namely 48 respondents (29.4%). The rest were in the medium emotional eating category, namely 52 respondents (31.9%).

Table 7. Distribution of Respondents by Nutritional Status

Nutritional Status	Frequency (n)	Percentage (%)
<i>Underweight</i>	58	35,6
Normal	50	30,7
<i>Overweight</i>	55	33,7
Total	163	100

Source: Primary Data, 2025

Based on table 7, it is known that most of the respondents are in the underweight category, namely 58 respondents (35.6%). A small number of respondents were in the Normal category, namely 50 respondents (30.7%). The rest are in the overweight category, namely 55 respondents (33.7%).

Bivariate Analysis

Table 8. The Relationship between Stress Level and Adolescent Nutritional Status at SMA Negeri 7 Gorontalo City

Stress Level	Nutritional Status						Total		P-Value
	<i>Underweight</i>		Normal		<i>Overweight</i>		n	%	
	n	%	n	%	n	%			
Lightweight	5	3,2	24	14,6	22	13,5	51	31,3	< 0.000
Medium	20	12,3	17	10,4	22	13,5	59	36,2	
Weight	33	20,2	9	5,5	11	6,8	53	32,5	
Total	58	20,2	50	15,3	55	30,7	163	100	

Source: Primary Data, 2025

Based on the research that has been conducted, that of the 51 respondents (31.3%) with mild stress levels, there are 5 respondents (3.2%) with underweight nutritional status, 24 respondents (14.6%) with normal nutritional status, and 22 respondents (13.5%) with overweight nutritional status. Then of the 59 respondents (36.2%) with moderate stress levels, 20 respondents (12.3%) with underweight nutritional status, 17 respondents (10.4%) with normal nutritional status, and 22 respondents (13.5%) with overweight nutritional status. Furthermore, of the 53 respondents (32.5%) with severe stress levels, there were 33 respondents (20.2%) with underweight nutritional status, 9 respondents (5.5%) with normal nutritional status, and 11 respondents (6.8%) with overweight nutritional status.

The results of the statistical test using the Chi-Square test, showed a p-value of < 0.000 ($p\text{-value} < 0.05$), so that there was a significant relationship between stress levels and nutritional status of adolescents at SMA Negeri 7 Gorontalo City.

Table 9. The Relationship between Emotional Eating Behavior and Adolescent Nutritional Status at SMA Negeri 7 Gorontalo City

Emotional Eating Behavior	Nutritional Status						Total		P-Value
	Underweight		Normal		Overweight		n	%	
	n	%	n	%	n	%			
Low	24	14,6	21	12,9	3	1,9	48	29,4	
Medium	27	16,4	20	12,3	5	3,2	52	31,9	
Height	7	4,4	9	5,5	47	28,8	63	38,7	
Total	58	20,2	50	15,3	55	30,7	163	100	

Source: Primary Data , 2025

Based on the research that has been conducted, of the 48 respondents (29.4%) with low emotional eating, there are 24 respondents (14.6%) with underweight nutritional status, 21 respondents (12.9%) with normal nutritional status, and 3 respondents (1.9%) with overweight nutritional status. Then of the 52 respondents (31.9%) with moderate emotional eating, there were 27 respondents (16.4%) with underweight nutritional status, 20 respondents (12.3%) with normal nutritional status, and 5 respondents (3.2%) with overweight nutritional status. Furthermore, of the 63 respondents (38.7%) with high emotional eating, there were 7 respondents (4.4%) with underweight nutritional status, 9 respondents (5.5%) with normal nutritional status, and 47 respondents (28.8%) with overweight nutritional status.

The results of the statistical test using the Chi-Square test, showed a p-value of < 0.000 ($p\text{-value} < 0.05$), so that there was a significant relationship between emotional eating behavior and nutritional status of adolescents at SMA Negeri 7 Gorontalo City.

DISCUSSION

Stress Levels in Adolescents at SMA Negeri 7 Gorontalo City

The results showed that 59 respondents (36.2%) were in the moderate category of stress. In the moderate stress category, adolescents show the psychological condition of adolescents who have faced various pressures, but are still able to adapt within reasonable tolerance limits. Based on the results of the questionnaire analysis, the level of moderate stress is dominated by the feeling of overloaded and feeling of uncontrollability. This shows that adolescents feel that there are many demands and responsibilities that must be fulfilled at the same time. Academic burdens, such as schoolwork, exams, grade-achievement demands, and participation in various school activities, can lead to feelings of overwhelm, even if the adolescent is still able to carry out daily activities. In line with theory Lazarus, R.S. & Folkman (1984)., stress is a relationship between the individual and the environment in which the individual responds to a burden that exceeds his ability and can threaten his well-being

In addition, the feeling of uncontrollability describes the perception of adolescents' involvement in controlling the situation they face, especially related to academic achievement and demands from the surrounding environment. Teenagers often feel that they have made the maximum effort, but the results obtained are not always in line with expectations, thus triggering the emergence of feelings of helplessness. This is in line with the findings Lopez et.al (2021), explains that moderate stress in adolescents usually arises from various academic demands, social relationship dynamics, and poor time management.

The results of the study also showed that as many as 53 respondents (32.5%) were in the category of severe stress levels. Severe stress in adolescents generally occurs when the demands faced are intense, last for a long time, and are perceived to exceed the individual's capacity to manage them, thus triggering quite deep emotional exhaustion. In the severe stress category, based on the questionnaire analysis, the indicators of feeling of overload and feeling of unpredictability are the most dominant indicators. This shows that adolescents feel that the burden of responsibility they face has exceeded their physical and mental capacity. In addition, the unpredictability indicator shows that adolescents experience high uncertainty about the future and the results of the efforts that have been made. This uncertainty can be related to academic results, graduation, and future direction after school.

Based on research Rizky (2022), emphasizing that adolescents face stress due to daily school experiences, which are often triggered by the many tasks and challenges in the surrounding environment. They may also show signs of irritability, increased sensitivity, emotional outbursts, or difficulty managing emotions. Psychological and emotional growth during adolescence is negative and temperamental. As a result, achieving emotional maturity poses significant developmental challenges for adolescents, especially during mid-adolescence when the primary developmental goal is to build their identity.

This is also supported by developmental theory Erikson (1950), which states that adolescents are at Identity Vs Role Confusion Levels, which is a phase of identity search that often causes internal conflicts so that it is susceptible to stress. Thus, the researcher assumes that the high score on the indicator feeling of overload in adolescents of SMA Negeri 7 Gorontalo City is a form of reasonable response to the accumulation of academic demands and developmental pressures faced during adolescence, especially in students who are in the final grade.

Based on the statement Santrock (2021), middle- to late-age adolescents experience more complex dynamics than early adolescents, including more stable hormonal changes but much greater social pressures, such as academic demands, self-discovery, and friendship and romance conflicts. Research Alfaro et.al (2022), also found that adolescents are more susceptible to severe stress due to the peak academic burden, future uncertainty, and increased intensity of social pressure from the surrounding environment.

The results of the next study were found to show that as many as 51 respondents (31.3%) were in the category of mild stress. In the mild stress category, the predominant indicators are feeling of unpredictability. This shows that adolescents feel limited in controlling the situation they are facing, especially related to academic results and environmental expectations. Teenagers often feel that they have tried, but the results are not always as expected, leading to feelings of helplessness. The combination of excessive load and feelings of lack of control of the situation causes stress to no longer be mild, but it has not yet reached a severe level because it has not been accompanied by significant impairment of function. In line with research Sari, & Dewi (2023), also found that adolescents tend to experience mild stress because they are still in the transition phase and have not yet faced complex academic tasks. In addition, mild-stress conditions are also affected by a more stable social environment and relatively low academic demands

This is supported by the characteristics of respondents, where adolescent girls are more dominant in the category of severe and moderate stress levels. Biologically, women experience fluctuations in the hormones estrogen and progesterone that directly affect emotional regulation, making them more susceptible to emotional stress than men (Milas et al., 2025). Based on the statement Graves et.al (2021), psychologically, women tend to apply emotion-oriented coping strategies (Emotion-focused coping). In line with research found by Happy et.al (2023), that socially, women also face more intense pressures, such as having to maintain their self-image, societal expectations, and complicated friendship dynamics. In this context, the researchers assume that the dominance of stress levels in adolescent girls in this study reflects higher emotional sensitivity to academic pressures and social demands faced in the school environment.

On the other hand, adolescent boys in this study showed lower levels of stress than adolescent girls. Based on research Happy et.al (2023), stating that these differences can be explained through biological and behavioral factors. Biologically, the hormone testosterone in men plays a role in helping the body cope with stress because it can suppress the activity of the nervous system that regulates the stress response (HPA-axis). In line with research Wijaya, F., & Darmawan (2022), that men usually use ways of dealing with stress that immediately focus on solutions. They tend to immediately look for a way out of the problem, so that the stress that arises can go away faster or at least not get heavier. In addition, men more often express negative emotions through actions, such as exercising or doing other activities to distract their minds, rather than by harboring them into anxiety or overthinking. Because of this, the stress levels recorded in men are often seen to be lower.

Researchers assume that stress in adolescents is not just the result of academic burden, but is the result of complex interactions between psychological, social, and gender factors. The dominance of the feeling of overload indicator in the moderate and severe stress categories shows that the burden and demands that exceed the ability of adolescents are the main triggers of stress among high school adolescents.

Emotional Eating Behavior in Adolescents at SMA Negeri 7 Gorontalo City

The results show that 63 respondents (38.7%) are on emotional eating tall ones. This condition illustrates that eating behavior in response to emotions is a fairly dominant phenomenon in adolescents. By category emotional eating high, the most predominant indicators are emotional desire for food, which is a strong urge to consume food when experiencing emotional distress even though it is not in a state of physiological hunger. The dominance of this indicator indicates that food is used as a means to relieve negative emotions such as stress, anxiety, or feelings of discomfort. In line with the theory put forward by Strien et.al (1986), that the behavior emotional eating is a eating behavior characterized by excessive consumption of food or drink as a form of response to negative emotions. Based on research Zhou et.al (2025), which explains that adolescents biologically and psychologically tend to use food as a way to cope with negative emotions or stress because their ability to regulate their emotions is still unstable.

The results of the study also showed that as many as 52 respondents (31.9%) were in the category emotional eating moderate. The dominant indicators in this group are eating in response to diffuse emotion, which suggests that teens tend to eat when teens feel vague emotions, such as boredom, restlessness, or feelings of unease without specific triggers. This condition shows that adolescents are not fully aware of or able to identify the emotions they feel, so food is used as a temporary response to emotional discomfort. Teens with emotional eating Moderate generally experience fluctuating emotional distress, but do not completely

make food the main coping point. They can still control emotional eating impulses in certain situations although they still show a tendency to use food in response to emotions. These findings are in line with the theory Brunch (1975), which states that individuals, particularly adolescents, often have difficulty distinguishing between physiological hunger and emotional hunger.

This is supported by the characteristics of the respondents, where emotional eating is found most in adolescents aged 16-17 years. Based on similar research by Efe et.al (2023), stating that middle adolescents have a higher risk of experiencing emotional eating compared to early adolescence, due to the psychological burden and increased environmental demands. This is the middle adolescence when the brain is not fully developed, especially the part of the prefrontal cortex that regulates self-control. Meanwhile, the limbic system, which plays a role in regulating emotions, is more active, so adolescents aged 16–17 years are more easily triggered by negative emotions and are more susceptible to using food as a distraction for discomfort.

The results of the next study found by the researcher also showed that the category of low emotional eating was found in 48 respondents (29.4%). The dominant indicator is eating in response to clearly labeled emotions, which shows that adolescents are able to recognize the emotions they feel and do not immediately make food the main response. This condition reflects better emotion regulation ability, so eating behavior is not significantly affected by emotional changes. Adolescents in this category tend to use other coping strategies that are more adaptive in dealing with emotional distress. Based on the characteristics of the respondents, it was found that the category of low emotional eating was more common in class X students, where in this phase, academic demands and social pressure were relatively lighter than in higher classes. Research by Palanisamy and Wang (2023), states that early adolescents have lower emotional eating because they have not faced complex academic pressure. In addition, the family environment and social support

Researchers assume that emotional eating in adolescents is not only triggered by negative emotions, but is the result of the interaction of various factors such as age, gender, emotional regulation ability, academic demands, and family environmental conditions. The dominance of the emotional desire for food indicator in the high emotional eating group confirms that the strong urge to eat when experiencing emotional stress is the main trigger for emotional eating behavior in adolescents at SMA Negeri 7 Gorontalo City.

Nutritional Status in Adolescents at SMA Negeri 7 Gorontalo City

Based on the results of research conducted at SMA Negeri 7 Gorontalo City, it shows that nutritional status underweight namely 58 respondents (35.6%). This suggests that most adolescents are in a sub-normal state of nutritional status, which reflects an imbalance between nutrient intake and body needs during the growth period. In the context of this study, the high proportion of adolescents with nutritional status underweight indicates that the energy and nutritional needs of adolescents may not be met optimally, both in terms of the quantity and quality of food consumed daily. Based on the statement Awaliah et al., (2023) Under- and over-nutritional status is a condition that reflects an imbalance between nutrient intake and the body's energy needs to support optimal growth, maintenance, and physiological function.

In line with research Beautiful et.al. (2024), states that underweight It can be attributed to the characteristics of adolescent life that is in a rapid growth phase, so it requires higher energy and nutrient intake. If these needs are not met consistently, the body will experience an energy deficit that has an impact on weight loss relative to height.

Research by Karno et al., (2024) states that underweight is one of the nutritional problems that are still faced in Indonesia. This condition occurs when the intake of energy and nutrients is insufficient for the body's needs. In adolescents, nutritional status underweight can have an impact on various aspects of health, both physical, mental, intellectual, and social. Other impacts that often appear include impaired learning ability and cognitive function, as well as decreased concentration. In line with research Scarlet et.al (2025), there are various other factors that have the potential to affect underweight nutritional status in adolescents, such as high levels of physical activity without adequate energy intake, certain health conditions, and psychosocial factors such as stress and academic pressure. Adolescents who experience stress tend to experience decreased appetite or changes in diet, which in the long run can have an impact on nutritional status. This suggests that adolescent nutritional status is the result of complex interactions between biological, behavioral, and environmental factors.

The results of the study also showed the nutritional status in the category Overweight namely 55 respondents (33.7%). This shows that adolescents at SMA Negeri 7 Gorontalo City have increased their weight above the average body mass index, which indicates that there is a significant nutritional imbalance. Based on the statement Arismawati, D. F., et al, (2022) The excess energy will be stored in the form of body fat so as to increase body weight and body mass index. In adolescents, the condition Overweight It is often associated with high-energy, low-fiber food consumption patterns, as well as limited physical activity habits. Research by Braden, (2025) It shows that adolescents with a higher body mass index generally show a pattern of high-energy and low-fiber food consumption, accompanied by low levels of physical activity.

Meanwhile, as many as 50 respondents (30.7%) in this study had normal nutritional status. This shows that some teenagers at SMA Negeri 7 Gorontalo City are able to maintain a balance between the energy

consumed and the energy expended. Research by (Agustin et al., 2024) states that normal nutritional status can be achieved if individuals obtain adequate and balanced nutritional intake and are supported by adequate physical activity. Physical activity of at least 60 minutes per day plays an important role in helping to maintain an ideal weight. In addition, adolescents with normal nutritional status generally have a more regular diet and are able to adjust energy intake to their daily physical activity levels. Adolescents with normal nutritional status are generally able to maintain a balance between food intake and the level of physical activity performed.

In this study, supported by the characteristics of the respondents, where adolescents with normal nutritional status, in this study have sufficient economic status compared to adolescents who experience less or more nutritional status. Research by Ancient & Et.al, (2024) It shows that socioeconomic factors, especially relatively good family economic conditions, play a role in supporting optimal nutritional status. This can be seen from the low household expenditure on food needs. The availability of these food ingredients allows families to meet their food needs independently and reduce the consumption of unhealthy foods, so that the nutritional status of family members, including children and adolescents, can be properly maintained.

The researchers assume that the findings of this study confirm that the nutritional status of adolescents is not solely determined by biological factors, but is also influenced by behavioral, environmental, and psychosocial aspects.

The Relationship between Stress Level and Adolescent Nutritional Status at SMA Negeri 7 Gorontalo City

Based on bivariate analysis using the Chi-Square test, a p-value of 0.000 (<0.05) was obtained, which means that there is a significant relationship between independent variables (stress level) and dependent variables (nutritional status). From these results, it can be concluded that there is a relationship between stress levels and nutritional status of adolescents at SMA Negeri 7 Gorontalo City.

Based on the results of the bivariate analysis, of the 59 respondents with moderate stress levels, as many as 22 respondents (13.5%) had nutritional status Overweight Based on the statement of the Fauziyyah & Sofiany (2021), a condition of malnutrition can occur when the amount of energy consumed exceeds the energy expended by the body. This condition arises due to an imbalance between intake and energy needs, where energy expenditure is lower than the energy that comes in, so that excess nutrients will be stored in the form of fat and lead to weight gain or obesity. In line with research from Indriasmita et.al (2023), that moderate stress can raise cortisol levels, which in some adolescents triggers an increase in appetite and a tendency to choose high-energy foods. The weight gain that occurs is usually not drastic because the level of stress is not severe, but low physical activity, long learning duration, and the habit of eating snacks can encourage an increase in BMI to the category of mild fat.

These findings show that large weight gain is generally not only triggered by stress, but occurs due to a combination of stress and other supporting factors, such as high-calorie family eating habits, a history of obesity, and very minimal physical activity. Research from Bitty et.al (2020), explaining that long-lasting stress as well as sustained moderate stress can increase fat storage through hormonal mechanisms, especially in individuals with sedentary lifestyles. Thus, although moderate stress has a role in affecting body weight, the increase to the category of severe obesity is usually experienced by adolescents who have additional risk factors.

The results of the next study showed that out of 59 respondents with moderate stress levels, as many as 20 respondents (12.3%) had nutritional status underweight. This condition shows that adolescents experience a decrease in food intake when they are stressed, although not to the point of causing excessive weight loss. Based on the analysis of the questionnaire on the indicator feeling of unpredictability and Uncontrollability explain this condition. This is in line with research Riva & Retnowati (2024), states that adolescents who feel that their lives are difficult to predict or control tend to experience a decrease in appetite. Based on research from Oct et.al (2024), states that there is a decrease in appetite when faced with moderate level of emotional distress, so that the weight decreases but remains within the light limits. Other triggering factors include the habit of skipping breakfast, busy school schedules, and irregular sleep patterns that contribute to low daily energy intake.

In this study, the results of 59 respondents with the category of moderate stress level, as many as 17 adolescents (10.4%) with normal nutritional status. Despite the test scores Chi-Square indicates the presence of a significant relationship (p-value = 0.000), but in the category of moderate stress level, some of the respondents were in the category of normal nutritional status. These findings suggest that even though adolescents experience significant psychological distress, they are still able to maintain a relatively stable diet. Based on the coping theory of Lazarus, R.S. & Folkman (1984), also emphasizes that adolescents who are able to cope with stress with problem-solving-oriented strategies tend to maintain adaptive behaviors, including regular eating habits. Cisneros-v et.al (2025), explaining that adolescents with moderate stress often face emotional tension, but are still able to function effectively in their daily lives, so that energy balance is maintained. This is in line with research Muzdalifah (2021), that stress does not always affect nutritional status

could be due to other factors that contribute to changes in a person's nutritional status.

Based on the results of the bivariate analysis, out of 53 respondents with severe stress levels, as many as 33 respondents (20.2%) had nutritional status underweight. According to the theory General Adaptation Syndrome submitted by Selye (1956), heavy and long-lasting stress can bring individuals into phase Exhaustion, which is a condition when the body's energy reserves decline and physiological adaptability weakens. In this phase, the body is no longer able to maintain an adaptive response to stress, so various physiological functions, including the digestive system and appetite regulation, are significantly impaired. In adolescents, the condition is often characterized by a significant decrease in appetite, indigestion, and an increase in basal metabolic rate due to prolonged activation of the sympathetic nervous system.

Research by Adinata et al. (2024), explaining that stress plays a role in affecting nutritional status indirectly through physiological changes and eating behavior. Stressful conditions can reduce appetite so that energy intake is reduced and leads to weight loss. On the other hand, stress can also increase metabolic activity, including hormonal stimulation that plays a role in accelerating calorie burning, so that the body's energy needs increase and affect the regulation of hunger.

The results of the next study were obtained, from 53 respondents with severe stress levels, as many as 11 respondents (6.8%) had nutritional status overweight. This phenomenon can be explained through the concept of Stress-induced eating and neurobiological mechanisms put forward by Greeno & Wing (1994), when faced with severe stress, some individuals show increased consumption of foods, especially foods high in calories, sugar, and fat, in response to the activation of stress systems that affect appetite regulation and reward systems in the brain.

Research by Mayataqillah et.al (2023), explaining that in stressful conditions, individuals can experience increased eating behaviors that contribute to the occurrence of obesity. Stress triggers an increase in cortisol levels in the blood, which plays a role in the activation of fat-storing enzymes as well as sends hunger signals to the brain, thereby encouraging increased food intake. In addition, stress affects eating behavior through a variety of mechanisms involving the central nervous system and endocrine system, including changes in food type choices, consumption patterns, and eating frequency. High levels of stress are related to the tendency to overeat, which is often used as a coping strategy to relieve psychological stress.

The results of the study also found that of 53 respondents with severe stress levels, as many as 9 respondents (5.5%) had normal nutritional status. Research from Wahidati & Nisa (2024), explaining that the role of strong social support, especially from family and peers, also plays an important role in maintaining normal nutritional status despite experiencing severe stress. Individuals who feel accepted and supported by their social environment tend to be able to maintain healthy living behaviors, including a balanced and regular diet. In addition to social support, adaptive coping skills are also an important factor that allows adolescents to maintain normal nutritional status despite experiencing severe stress. Adolescents who are able to manage stress through positive coping strategies, such as problem-focused coping or looking for solutions to the problems they face, tend not to vent stress through maladaptive eating behaviors (Nurwahidah et.al, 2022).

This allows adolescents to keep control of their food intake and maintain the body's energy balance. Another factor that plays a role is the existence of health awareness and good self-regulation. Adolescents with a sufficient understanding of the importance of healthy eating and the impact of stress on physical health tend to be better able to maintain regular eating habits despite being under high psychological distress (Zhang, 2024).

Based on the results of the bivariate analysis, of the 53 respondents with mild stress levels, as many as 24 respondents (14.7%) had normal nutritional status. Research by Salsabila et.al. (2024), explains that meeting adequate nutritional needs plays an important role in supporting the function of brain neurotransmitters, particularly serotonin and dopamine, which are involved in mood regulation and response to stress. Adequate nutrient intake allows the brain to maintain neurochemical balance, so that adolescents are able to respond to psychological stress more adaptively.

In line with research from Saputra et.al (2024), stating that in addition to nutritional factors, regular physical activity also functions as a protective factor against stress. This activity increases the release of endorphins as well as brain-derived neurotrophic factor (BDNF), which contributes to mental health, emotional stability, and improved coping ability to cope with stress. Research by Pradnyaparamita et.al (2023), Sleep quality also has a significant role in the regulation of emotions. Adequate and quality sleep allows the physiological and psychological recovery process, helps with memory consolidation, as well as stabilizes hormones that play a role in appetite regulation and metabolism. Thus, a good sleep pattern supports an individual's capacity to manage stress effectively.

The results of the next study were obtained from 53 respondents with mild stress levels, as many as 22 respondents (13.5%) had nutritional status Overweight. Based on research by Wijayanti et.al (2021), explaining that individual genetics and metabolic characteristics contribute significantly to nutritional status. Some adolescents have a genetic predisposition in the form of higher energy use efficiency or relatively low basal metabolic rate, so weight gain can occur even if calorie intake is not considered excessive. This genetic diversity helps explain why overweight can be found in adolescents with low levels of stress and in the absence

of a strong psychological influence on their eating behavior.

In addition to genetic factors, overweight in adolescents with mild stress levels can also be affected by low physical activity patterns. Adolescents who do not experience severe psychological distress tend to maintain a comfortable and regular lifestyle, including sedentary habits such as excessive use of gadgets and lack of structured physical activity. This condition causes an imbalance between the energy that comes in and the energy that is expended, so that the weight increases slowly without being accompanied by significant stress (Guthold et al., 2020).

Research by Smith et.al (2022), the factors of daily diet also play a role in explaining this condition. Adolescents with mild stress generally do not experience appetite disorders, but are still at risk of repeatedly consuming foods high in energy, fat, and sugar as part of family habits or social environments, rather than as an emotional response to stress. This kind of consumption pattern, if it lasts for a long time, can cause weight gain even though the psychological condition is relatively stable.

Research by Ali & Nuryani (2020), socioeconomic factors have an important contribution to the formation of obesity in adolescents. Adolescents who come from families with limited access to healthy food, but have the convenience of obtaining cheap and high-energy ultra-processed foods, tend to have a greater risk of obesity. In addition, the characteristics of Food Environment and built environment, such as the availability of green open spaces, sports facilities, and easy access to healthy food options in the residential environment, also affect the consumption patterns and physical activity levels of adolescents. An environment that is less supportive of physical activity and dominated by the availability of unhealthy foods creates conditions that support weight gain and obesity.

In the results of the study, it was also found that of 53 respondents with mild stress levels, as many as 5 respondents (3.2%) had nutritional status underweight. Based on research by Theodorakis et.al (2024), explaining that certain medical conditions can interfere with the process of energy metabolism and nutrient absorption, so that even though food intake is sufficient, the body is not able to utilize or store energy optimally. In addition, there is a possibility of eating disorders such as anorexia nervosa or avoidant/restrictive food intake disorder (ARFID) also needs to be considered. In some cases, measured stress levels may appear low because individuals exhibit denial mechanisms (Denial) or dissociation of the emotional state he experienced. Cultural factors and dietary preferences also play a role, for example when adolescents apply extreme restrictive diets based on certain health beliefs or ideologies that are unbalanced.

In addition, constitutional and genetic factors can also explain the condition of low nutritional status. Some individuals have a body type ectomorph with a naturally higher basal metabolic rate, so it tends to maintain a low BMI despite relatively adequate energy intake. These body characteristics are generally characterized by smaller bone structure, lean muscle mass, and difficulty gaining weight. Very high levels of physical activity can also contribute to mild lean nutritional status in low-stress adolescents, especially in athletes or physically active individuals, who have a healthy body composition with a high proportion of muscle mass compared to body fat (Solmi, F., 2021).

The Relationship between Emotional Eating Behavior and Adolescent Nutritional Status at SMA Negeri 7 Gorontalo City

Based on bivariate analysis using the Chi-Square A P-Value of 0.000 (<0.05) was obtained, which indicates that there is a significant relationship between the behaviors emotional eating and adolescent nutrition status at SMA Negeri 7 Gorontalo City. Based on the theory of emotion regulation from Gross & Thompson (2007), states that individuals who apply less adaptive emotion regulation strategies tend to use food as the main coping mechanism in dealing with negative emotions. When adolescents are in a condition that experiences anxiety, feelings of sadness, upset, or anger, food tends to be used as an effort to reduce emotional discomfort, thus potentially triggering excessive eating behavior or irregular eating.

The relationship can be explained through neurobiological mechanisms that involve the activation of the system Reward in the brain. When individuals experience negative emotions, the amygdala is activated and encourages the search for comfort through the consumption of food, especially foods high in sugar and fat. The intake of these foods then stimulates the release of dopamine in the nucleus accumbens, thus causing positive reinforcement that ultimately strengthens the behavioral cycle emotional eating (Volkow, et.al, 2021). In line with research conducted by Carnell et.al., (2014), indicating that adolescents who have a emotional eating show increased activation in the area Reward brain, such as the ventral tegmental area and the orbitofrontal cortex, when exposed to food.

Based on the results of the bivariate analysis, of the 63 respondents with high emotional eating, as many as 47 respondents (28.8%) had nutritional status Overweight. These findings illustrate a pattern emotional eating which can increase energy intake beyond the body's needs so that it contributes to weight gain. Based on research Volkow et.al (2021), explains that the dopamine tolerance mechanism also plays an important role in the formation of behavior emotional eating who settle. Repeated consumption of food can lead to a decrease in dopamine receptor sensitivity, so adolescents need a larger amount of intake to obtain the effect Reward the same.

Research conducted by Santos, et.al (2024), through a systematic review On Dietary Intake in Children and Adolescents with food addiction suggests that excessive sugar consumption is associated with decreased dopamine D2/D3 receptor density in various areas of the brain, including the striatum, nucleus accumbens, thalamus, amygdala, cingulate cortex, and prefrontal cortex. The reduced availability and response of these dopaminergic receptors may explain the addictive potential of sucrose consumption, which ultimately increases tolerance so that individuals need greater stimulus to achieve pleasure and satiety.

Based on research Aprillia et.al. (2025), stating that respondents who fall under the category emotional eating tend to be often or very often encouraged to eat when experiencing these negative emotions. Behavior emotional eating is often associated with significant weight gain, as it is used as a coping strategy in the face of emotional stress, which generally involves consumption Comfort Foods. This type of food is usually high in fat and carbohydrates and contains a lot of energy, so it is often referred to as comfort food.

The results of the study showed that of 63 respondents with high emotional eating, as many as 9 respondents (5.5%) had normal nutritional status. Despite the test scores Chi-Square indicates the presence of a significant relationship (p -value = 0.000), but in the category emotional eating The height of some respondents was in the category of normal nutritional status. Groups of teenagers with levels emotional eating Those who are tall but still have normal nutritional status are likely to have more adaptive emotion regulation abilities. With this ability, even though they are driven to eat due to emotions, they are still able to control the amount of intake or implement other compensation strategies to maintain a balance of energy intake (Kesari & Noel, 2023).

Based on research conducted by Frayn et.al (2020), A number of studies show that emotional eating It does not always manifest as overeating behavior, but it can also be characterized by irregular dietary changes or even a decrease in food intake in response to emotional states. In this context, individuals with a emotional eating tall but of normal weight are likely to experience appetite suppression or reduced appetite when faced with intense stress or negative emotions, which differ from the pattern Emotional overeating which is generally associated with obesity.

Research by Pilot & Nugraheni (2025), indicates that when adolescents experience intense emotions, both positive and negative, the response emotional eating which arises is greatly influenced by the characteristics of the individual as well as the conditions of his environment. In line with research from Hidayat et.al (2023), that adolescents tend to implement a variety of compensation strategies to control weight, with physical activity playing a role as an important factor that helps them maintain nutritional status despite showing a tendency emotional eating.

Furthermore, the results of the study were obtained from 63 respondents with high emotional eating, as many as 7 respondents (4.4%) had nutritional status underweight. These findings challenge the common assumption that emotional eating always ends up in weight gain and obesity. Based on research Mursidah et al. (2024), indicating that individuals with underweight nutritional status tend to respond to negative emotions with behaviors undereating or decreased food intake, in contrast to overweight individuals who more often show a tendency to Overeating in a similar emotional state. Thus, emotional eating It is not always synonymous with overeating, but it can also be characterized by irregular eating or even a reduction in intake in response to an emotional state.

Based on the results of the univariate, it was also obtained, from 52 respondents with emotional eating Meanwhile, as many as 27 respondents (16.4%) had nutritional status underweight. The findings show different responses of eating behaviors to emotional states, one of which is in the form of emotional undereating. Based on research from Reichenberger et.al (2020), states that individuals actually experience a decrease in food intake when faced with negative emotions, a response known as emotional undereating. Emotional responses to eating behaviors are heterogeneous, with some individuals responding to negative emotions with increased food intake, while others show decreased intake or loss of appetite.

Research by Leow et.al (2021), indicating that an irregular diet (Chaotic eating patterns) can also contribute to insufficient energy intake. Teens with levels emotional eating have the potential to experience an overeating phase that alternates with a phase of significant decrease in intake, resulting in an overall inadequate energy intake. The irregularity of time and diet is related to suboptimal nutritional status, where adolescents with irregular diets tend to have a prevalence underweight higher.

Physiologically, emotional undereating It is related to the activation of the sympathetic nervous system which can suppress digestive function and reduce the sensation of hunger. In such conditions, the hypothalamus sends signals to the adrenal glands to release the hormone epinephrine, which plays a role in triggering the body's response so that the tendency to eat can be delayed (Harvard, 2024).

Furthermore, the results of the research obtained, from 52 respondents with emotional eating Meanwhile, as many as 20 respondents (12.3%) had normal nutritional status. These findings show that emotional eating At moderate levels, it does not always have an impact on impaired nutritional status, especially if adolescents have certain protective factors. These conditions can be understood through the concept of compensatory behaviors and flexible eating patterns (Zare et al., 2024).

Compensatory behaviors refers to adjustment attempts after the episode emotional eating, such as increasing physical activity or reducing portions of meals at the next time, so that energy balance in the long term is maintained. Research shows that individuals with emotional eating those who apply a flexible diet, rather than rigid restrictions, tend to be able to maintain a BMI in the normal range due to this adaptability, in contrast to a rigid diet which can actually worsen dysregulation of eating behavior (Dakanalis et al., 2023). Research by Polivy et. al (2020), explains that some individuals who experience episodes emotional eating It naturally compensates, such as reducing intake at the next meal or increasing physical activity, so that the overall energy balance is maintained.

The results of the study also found that, of the 52 respondents with emotional eating Meanwhile, as many as 5 respondents (3.2%) had Overweight. The low prevalence of obesity nutritional status in this group further confirms that nutritional status is the result of the interaction of various factors, where emotional eating is just one of the components that has the potential to contribute. These findings can be understood through the Biopsychosocial Model approach that is widely used in contemporary obesity studies. From a biological perspective, factors such as basal metabolic rate and variations in the composition of the gut microbiome, which vary greatly between individuals, may explain differences in physiological responses to similar energy intake (Chen, L., Zhao, H., & Zhang, 2024).

From a psychological point of view, the framework Risk and Resilience suggests that the presence of protective factors, such as a good level of self-esteem and adequate problem-solving skills, can increase adolescent resilience, thereby lowering the likelihood of emotional eating develops into a dysfunctional diet that has an impact on weight gain (Garcia, et.al., 2023).

Meanwhile, social factors also have an important role, especially through the norms and dynamics of interaction in adolescent friendship networks. Research by Nguyen et.al (2024), showing that adolescents tend to adapt their eating behavior and lifestyle to peer groups; When the friendly environment supports physical activity and healthier food choices, negative impacts emotional eating in individuals can be minimized. Thus, the low proportion of obese nutritional status in adolescents with emotional eating is likely to reflect a relatively favorable combination of biological, psychological, and social factors that together play a role in reducing the risk of weight gain (Duncan & Silva, 2025).

Based on the results of the univariate, it was also obtained, from 48 respondents with emotional eating low, as many as 24 respondents (14.6%) had nutritional status underweight. Based on research from Strien & Et.al, (2023) explains that these seemingly misaligned patterns can be understood through several possible mechanisms. One of them is the high level of physical activity. Teens with emotional eating low and high physical activity tend to have a lower BMI, but with a body composition that remains healthy, characterized by a low body fat percentage and adequate muscle mass.

Research by Loos & Et.al, (2022) also explains that constitutional and genetic factors also need to be considered. Some teenagers have a body type ectomorph with a relatively small body skeleton and a naturally higher metabolic rate. In addition, related to obesity genetics reveals a wide variety of individuals in Set Point weight as well as metabolic response to food intake, which is influenced by more than 1,000 genetic variants that have been identified. Adolescents with a genetic predisposition to a lower BMI may maintain weight in the lower normal range despite having an adequate diet.

The results of the study were also obtained, from 48 respondents with emotional eating low, as many as 21 respondents (12.9%) had normal nutritional status. In line with the findings of the Tribole et.al (2020), through theory Intuitive Eating which emphasizes the importance of sensitivity to the body's internal cues, such as hunger and satiety, as opposed to external emotional urges in regulating eating behavior. Teens with emotional eating low is suspected of having a low level of Interoceptive Awareness The ability to recognize and respond to body signals accurately.

This is in line with the findings Verhage et.al (2023), which indicates that Parental Modeling In healthy eating behaviors and adaptive emotion regulation contribute to the formation of positive eating behaviors in children and adolescents. The adaptive emotion regulation ability is also an important factor in explaining these findings. Teens with emotional eating Lows generally have a wider variety of coping strategies, such as problem-solving, seeking social support, engaging in physical activity, and channeling emotions through creative activities, so they don't rely on food as the main coping mechanism

In this study, results were also obtained, from 48 respondents with emotional eating low, as many as 3 respondents (1.9%) had nutritional status Overweight. These findings show that in the context of this study, emotional eating at moderate levels it has not made a meaningful contribution to the nutritional status of obese. The findings are in line with research by Li, et.al (2024), which suggests that the relationship between emotional eating and body mass index (BMI) are complex and not always linear, especially in the adolescent population.

Influence emotional eating Weight gain is greatly influenced by the ability to regulate emotions and the availability of alternative coping strategies. At moderate intensity, individuals are generally still able to activate cognitive regulatory mechanisms, such as cognitive reappraisal, which is the process of reassessing stress-triggering situations, so that it can prevent the occurrence of uncontrolled overeating behaviors (Smith,

K. E., & Juarascio, 2022).

In addition, the application of the principle mindful eating, although not optimal, it is likely still to be done by some adolescents in this group. Research by Robinson & Daly (2023), suggests that even moderate levels of eating awareness may play a role in moderating the relationship between emotional urges and unhealthy food choices. Therefore, the dominance of normal nutritional status in adolescents with emotional eating moderate can reflect a balance between psychological vulnerability and functioning self-regulation capacity, and is supported by an environment that does not fully facilitate the consumption of high-calorie foods in times of stress.

CONCLUSION

Adolescents with moderate levels of stress were 59 respondents (36.2%), the rest were in the severe category, namely 53 respondents (32.5%) and the mild category, namely 51 respondents (31.3%).

Adolescents who experienced emotional eating were in the high category, namely 63 respondents (38.7%), the rest were in the medium category, namely 52 respondents (31.9%) and the low category, namely 48 respondents (29.4%).

Adolescents who experienced nutritional status with the underweight category were 58 respondents (35.6%), the rest were in the overweight category, which was 55 respondents (33.7%), and the normal category was 50 respondents (30.7%).

There was a significant relationship between the relationship between stress level and the nutritional status of adolescents at SMA Negeri 7 Gorontalo City with a p-value of 0.000 ($< \text{value} = 0,05$).

There was a significant relationship between the relationship between emotional eating behavior and the nutritional status of adolescents at SMA Negeri 7 Gorontalo City with a p-value of 0.000 ($< \text{value} = 0,05$).

ADVICE

For Schools

The researcher hopes that the results of this study can be a reference and information material for schools, especially SMA Negeri 7 Gorontalo City, regarding the description of stress levels, emotional eating behaviors, and nutritional status in adolescents. The results of this research can be used as a basis for consideration in efforts to monitor students' psychological conditions and diets, as well as as evaluation materials in creating a school environment that supports mental health and adolescent welfare.

For Respondents

The researcher hopes that the results of this study can provide benefits for respondents, especially adolescents, as material for self-evaluation regarding stress levels, emotional eating behavior tendencies, and nutritional status based on the measurement results obtained. Through this study, respondents are expected to have awareness of their own condition, so that the results of this study can be used as personal reflection related to mental health conditions and nutritional status during adolescence.

For the Next Researcher

The researchers are further expected to be able to examine other factors that have the potential to affect stress levels, emotional eating behaviors, and nutritional status in adolescents that have not been analyzed in depth in this study. One of the important factors that need to be considered is physical activity, considering that physical activity has a role in stress regulation, emotional control, and the body's energy balance. Further research is suggested to include the variables of physical activity in a more measurable manner, both in terms of intensity, frequency, and duration, so that the relationship between stress, emotional eating, and nutritional status in adolescents can be understood more comprehensively and deeply.

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