

SNACK BEHAVIOUR OF ELEMENTARY SCHOOL STUDENTS IN BLANG MANGAT SUB-DISTRICT, LHOKSEUMAWE CITY

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Abstract

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The study aimed to get an overview of the snacking behaviour of elementary school children in the Blang Mangat District Area of Lhokseumawe City. The research was quantitative with a descriptive survey method, conducted on 4 bases from July to December 2022. Samples of 288 people were taken using *the Cluster Sampling* technique. Data collection using questionnaires asked directly to selected respondents. Descriptive data analysis is presented in the form of tables and graphs. The results showed that respondents were predominantly female (52.4%), parental education was the highest school (51.4%) and private employment (83.7%). Pocket money is earned by 97% of children every day, with a frequency of once per day (90%) and an average pocket money of Rp. 5,000-10,000 (48.7%). There 14.9% of students bring lunch to school and generally (69.1%) buy snacks outside the school fence. Children buy a lot of food in the form of and noodles (68.8%) and tea drinks and syrup (79.8%). Students >80% do not wash their hands before and after eating and only about 30% of students consume food using clean spoons and containers. Conclusion Elementary school children in Blang Mangat sub-district almost all always get pocket money and only a few are provided with food from home. Children who bring provisions tend to eat healthy and nutritious food. Food and beverage snacks generally contain harmful food additives, both processed and packaged. Predominantly children buy snacks outside the school fence, consume them by hand and do not wash their hands before and after eating.

Keywords: Snack Behaviour, Elementary School Children

1. INTRODUCTION

Snacks are one of the important sources of nutrition for children both at home and in the school environment (Anggiruling *at.al*, 2019). While at school, children have the freedom to choose food or snacks according to their wishes and tastes so that they have the potential to eat unhealthy foods both in quantity and type. Children during school activities meet 24.7% of their energy needs from snacks (Murni *at.al*, 2016).

Unhealthy snacking behaviour risks students' health and nutritional status. Pollution of school children's snacks that are the most important risk of health problems are microbes 74.9%, food additives (BTM) 15.7%, and harmful BTM 9.0% (Puspitasari, 2014). Saikhu's study (2021) shows that the quality of snack food for elementary school children in Mataram is not safe from dangerous BTM. The results of observations 19 out of 26 samples of school children's snacks contained artificial sweetener sodium cyclamate. The more dangerous BTM enters, the longer the stay time in the body, therefore the number of BTMs must be strictly controlled technical specifications (Askarov *at.al*, 2021).

Pathogenic microbial contamination in children's snacks is one of the risks of health problems for elementary school children. The study of harmful microbial contamination by Yudhayanti and Ernawaningtyas (2018) showed that 7 out of 50 samples (14%) were proven to meet the requirements for microbial contamination numbers. Microbial exposure showed the Nearest Estimated Number (JPT) of *Escherichia coli* in snack food of elementary school children on Sapeken Island showed that four out of twelve samples contained *Escherichia coli* exceeding the SNI limit (Dayanara, et al, 2019). Research

Puspitasari (2013) obtained information on the presence of contamination of *Escherichia coli* bacteria and *Coliform* bacteria in six food and beverage samples taken in elementary schools.

Based on samples of school children's snacks conducted in Jakarta, Serang, Bandung, Semarang, Yogyakarta and Surabaya, 72.08% were found to contain harmful substances (Rifka, 2015). Survey Paratmanitya and Aprilia (2016) showed that the most harmful food additives mixed into children's snacks were rhodamine-B (46.7%) samples as an additive in jelly, formalin (25.5%) samples with the most content in sausages and borax (15.3%) samples mainly added to meatballs. Another chemical additive that is mixed into children's food, either food or drink, is liquid nitrogen. Now this ingredient is widely mixed as an additive to children's food because it causes a pleasant "smoking effect". Kim (2018) found that the consumption of liquid nitrogen in 13-year-olds causes serious digestive system damage.

The study of Upreti, et.al, (2020) shows that the snacking behaviour of elementary school children is related to age, gender, class, parental education, religion, ethnicity, family type and living arrangements. Children's knowledge and attitudes towards the snacks they consume are not related to children's snack selection behaviour. Many children (68.9%) have good knowledge about healthy snacks have a negative attitude (55.4%) (Mailinda and Lestari, 2019). In addition, the causes of children buying unhealthy snacks are children's hedonic behaviour towards food, selling unhealthy food in canteens, lack of time to prepare home-cooked meals for children to bring, including mothers' perceptions that children may occasionally consume unhealthy foods (Alcaire, et.al, 2021).

The snack behaviour of elementary school children from Aini's study (2019) shows that 73.5% of children do not bring provisions when going to school. Almost all children (98.5%) are provided with pocket money to buy snacks at school and earn pocket money every day (94.1%). Children who buy snacks every day at school (98.5%) with a frequency of buying up to 2 times (58.8%). The time used to buy snacks is 61.8% during break time, the most preferred place for children to snack is the canteen and the reason for buying snacks is because it tastes good (63.2%).

Research by Ulilalbab and Suprihartini (2018) shows that elementary school students all (100%) get pocket money which is used to buy snacks in addition to toys and savings. Only 12.5% of students buy snacks in the cafeteria, the rest outside the school fence. The preferred food is pentol (32.5%), the reason for choosing food is because it is considered delicious (72.3%). The most popular drink among students was a multi-flavored sachet (87.5%), and 37.5% consumed it daily. How to consume food 60% of students use spoons, but there are 30% who use their hands directly and do not always wash their hands when eating (57.5%).

The behaviour of consuming healthy food in children at school is proven to affect the achievement of elementary school children. Healthy snacking behaviour at school is shown by bringing food from home (43.1%), food consumed eating rice, fish, eggs or tempeh (78.4%) and water drinks (41.2%) as well as food ingredients processed without dyes (47.1%) (Muhasidah, et al, 2019). The behaviour to consume healthy snacks is influenced by the behaviour of students, family and friends. Another influential factor is the perception of healthy food, both positive feelings about the results of consuming healthy foods and feelings of fear of the consequences of eating unhealthy foods (Bastami, et.al., 2019).

2. LITERATURE REVIEW

Snacking Behaviour

The word "snack" as a noun refers to food, while as a verb it means to buy food. The word "snacks" denotes a variety of non-staple foods commonly consumed by children. Behaviour is defined as "an individual's response or reaction to stimuli or the environment" (KBBI, 2017). Jajan in English has an equivalent to the word "snack" which also means snacks or snacks (Echols and Shadily, 2004). Snacks tend to connote foods that are high in calories, lack of nutrients, and contain a lot of sugar, high in sodium and fat. These foods include wet cakes, pastries, sweet drinks, chips, and other salty snacks (Hess and Slavin, 2018).

Snacks or snacks need to be considered and evaluated for consumption every day. In children and certain population groups, it is necessary to consider the characteristics of snacks, composition and consumption time to have an optimal effect on the body (Marangoni et.al, 2019). Eating snacks for



children can affect excess or lack of nutrients. 11-year-olds in America consume excess energy and sugar in their diet, but in their diets lack vitamin D, calcium and potassium. Need modifications to children's snacks by changing their nutritional composition. It needs a combination of low-sugar foods such as whole milk yogurt plus fruits or vegetables (Hess and Slavin, 2014).

Children choosing snacks for consumption are generally influenced by three factors, namely food factors, individual factors of children and socioeconomic factors. Indonesian people with ethnic, cultural and socioeconomic status diversity have a significant variety of snacks. The intake of snacks in Indonesian school children from different ethnic and gender groups shows differences. Girls compared to boys from Batak and Minang ethnicities have the habit of snacking with more fariative types of food. Boys of both ethnicities very rarely consume vegetables and tubers. Children from Batak ethnicity with low socioeconomic status very rarely consume fruit and dairy products (Kunto and Bras, 2019).

Williamson's (2020) research on socioeconomic status and snacking behaviour shows that the snacking behaviour of low and high socioeconomic group students has no significant difference, but in high socioeconomic status students consume more high-calorie snacks so that the risk of obesity increases. From the sex variable, it showed differences in snack consumption behaviour in both groups of socioeconomic status. Male students from low socioeconomic status groups have higher snacking behaviour, while female students have higher snacking behaviour from high socioeconomic status groups.

Children's snacking behaviour is also influenced by taste preferences, brands, health benefits and health problems. Socially, children's snacking behaviour is influenced by peers and family. Friends influence children to consume unhealthy foods more, while families influence children to consume healthy foods (Gangrade, 2022).

3. METHODS

This research is quantitative with descriptive survey methods (Morrison, 2017). The research sites were four elementary schools in Blang Mangat District, Lhokseumawe City, which were randomly taken. The selected schools are SDN 1, SDN 6, SDN 10 and SDN 13 Blang Mangat, representing 16 elementary schools both public and private. The study was conducted from July to December 2022.

The population is all elementary school students in Blang Mangat District, Lhokseumawe City. Samples were taken from class I to VI with the criteria of being able to communicate well. The sample size was 288 people, each 154 people from SDN 1, 33 people from SDN 6, 58 people from SDN 10 and 43 people from SDN 13 (Hidayat, 2021). Samples were taken using the *Cluster Sampling* technique representing the zoning of elementary schools in Blang Mangat District (Sumargo, 2020).

Data were collected using questionnaires that outlined the snacking behaviour of elementary school students. Data was obtained by asking questions directly to selected respondents by 10 enumerators. Descriptive data analysis and research results are presented in the form of tables and graphs.

4. RESULTS AND DISCUSSION

Research Results

The results of the study will be presented in the following tables and graphs.

Table 1. Respondent Characteristics (n=288)

Variables and Categories	Frequency	Percentage
Gender		
Man	137	47.6
Woman	151	52.4
Class		
Class I	32	11.1
Class II	44	15.3
Class III	37	12.8
Class IV	69	24

Class V	57	19.8
Class VI	49	17
Age (Years)		
≤7	30	10.4
8	47	16.3
9	35	12.2
10	69	24
11	57	19.9
≥12	50	17.4
Parent Education		
SD/ equivalent	21	7.2
Junior High School	72	25
High School	148	51.4
PT	47	16.3
Parents' Work		
Civil Servants/TNI/Polri	47	16.3
Private	241	83.7

The data above shows that most respondents are female (52.4%), the most respondents are in Class IV with the age of 10 years as much as 24%. Parents of primary school students generally have a high school education (51.4%) and most jobs are private (83.7%).

Here is an overview of pocket money, frequency of getting and amount of pocket money.

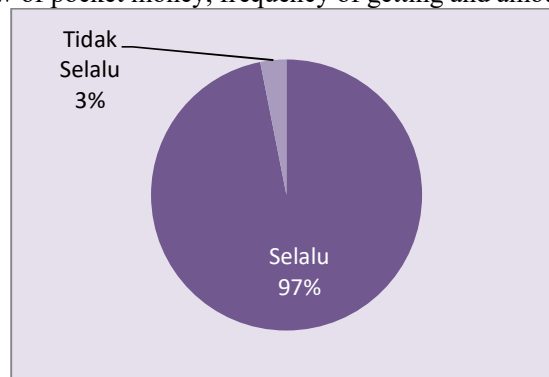


Figure 1. Overview of Getting Pocket Money (n=288)

The graph above shows that almost all students (97%) are provided with pocket money when they go to school. For the amount and frequency of getting student pocket money can be seen in the following table:

Table 2. Frequency Distribution of Student Pocket Money (n=279)

Variables and Categories	Frequency	Percentage
Frequency of Getting Pocket Money		
1 time	251	90
>1 time	28	10
Amount of Pocket Money		
<Rp. 5.000,-	112	40.1
IDR 5.000-10.000,-	136	48.7
>Rp. 10.000,-	31	11.1

The table above shows that most students (90%) only get pocket money once and the most amount of pocket money (48.7%) is between Rp. 5,000-10,000,-.

The behaviour of bringing food to school is shown in the following graph and table:

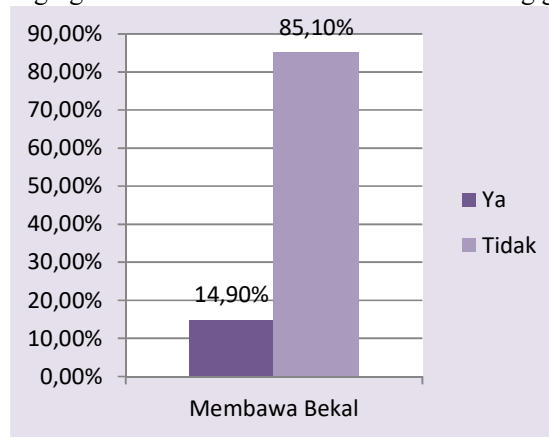


Figure 2. Description of Lunch-Carrying Behaviour (n=288)

The graph above shows that students generally do not bring food to school, which is as many as 85.1% of students. The types of food and drinks that are often provided for children when going to school can be seen in the following table:

Table 3. Student Food and Beverage (n=43)

Variables and Categories	Frequency	Percentage
Food		
Rice and side dishes	9	20.9
Instant noodles	6	14
Wet Cake	21	48.8
Miscellaneous	7	16.3
Drink		
White water	28	65.1
Tea/Syrup	12	27.9
Miscellaneous	3	7

From the table above, the type of food most often brought by students is wet cakes (48.8%) and the most lunch drinks are water (65.1%).

Student snack behaviour related to when and where to buy snacks can be seen in the following table:

Table 4. Overview of When and Where Students Buy Snacks (n=288)

Variables and Categories	Frequency	Percentage
When to Buy Snacks		
Before you enter	36	12.5
At rest	204	70.8
After school	48	16.7
Where to Buy Snacks		
School cafeteria	28	30.9
Outside the fence	199	69.1

Table 4 provides information that students (70.8%) use school breaks the most to buy snacks. Places to buy snacks that are widely used by students are sellers outside the school fence, which is 69.1%.

The following is a graph of the types of processed foods and beverages most often purchased and consumed by elementary school students.



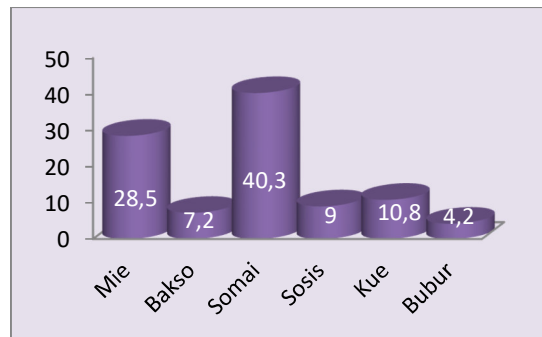


Figure 3. Types of Processed Food Students Buy (n=288)

The graph above shows that the snack most often bought and consumed by students is somai (40.3%). The processed drinks that students buy most often can be seen in the following graph:

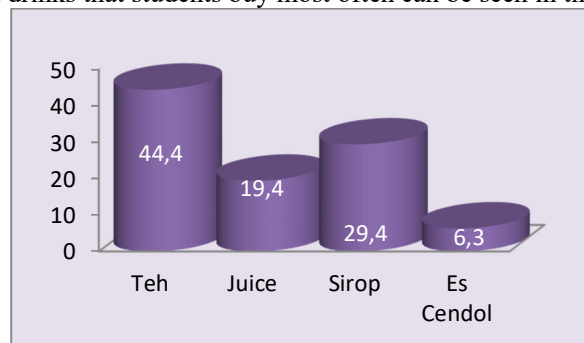


Figure 4. Types of Processed Drinks Students Buy (n=288)

The graph above shows that the type of processed beverage that students buy the most is tea (44.4%).

For the types of packaged food and beverages most often purchased and consumed by elementary school students can be seen in the following graph:

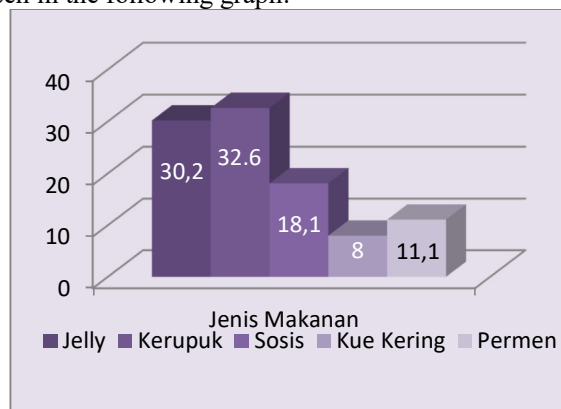


Figure 5. Types of Bottled Drinks Students Buy (n=288)

From the graph above, it shows that the most purchased packaged food by students is crackers as much as 32.6%. The types of packaged drinks that are widely consumed can be seen in the following chart:

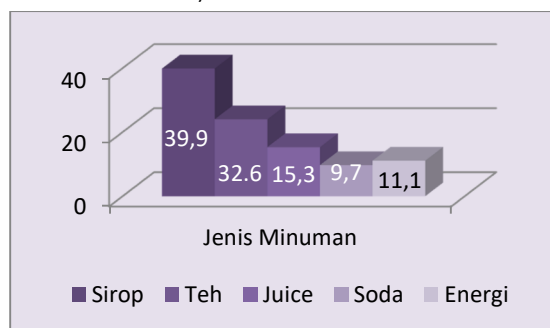


Figure 6. Types of Bottled Drinks Students Buy (n=288)

The graph above shows that the most frequently purchased and consumed bottled drink by students is syrup (39.9%).

Handwashing behaviour and the way elementary school students consume snack food are shown in the following table:

Table 5. Handwashing Behaviour and How to Eat (n=288)

Variables and Categories	Frequency	Percentage
Before Eating		
Yes	41	14.2
Not	247	85.8
After Eating		
Yes	53	81.6
Not	235	18.4

The table above shows that very many elementary school children do not wash their hands before (85.8%) and after (81.6%) eating snacks.

How to eat snacks of elementary school children is shown in the following table:

Table 6. How to Eat Snacks for Elementary School Students (n=288)

Variables and Categories	Frequency	Percentage
How to Eat Snacks		
Using containers	53	18.4
Using a spoon	37	12.8
Using hands	115	40
Direct from packaging	83	28.8

The behaviour of eating snacks in elementary school children is mostly directly using hands (40%).

The reasons why students buy snacks when going to school are shown in the following table:

Table 7. Why Students Buy Snacks (n=288)

Variables and Categories	Frequency	Percentage
Reasons to Buy Snacks		
Good taste	91	31.6
Invited a friend	87	30.2
More trends	23	8
No provisions	62	21.5
Other Lan-	25	8.7

The table above shows that the reason students buy the most snacks is because they taste good (31.6%).

Discussion

The results showed that respondents were predominantly female (52.4%), with the most elderly education in high school (51.4%) and private employment (83.7%). Gender contributes to students' behaviour in consuming snacks, both type, quantity and composition (Safrina, 2012). Parents with higher education and good knowledge are the determining variables for children in choosing and eating snack foods (Nurdiyanti and Wahyuningtyas, 2019), in addition to parental work that will affect the ability to buy. Children from high-income families will provide more pocket money so that children can buy varied snacks (Safrina, 2012).

Data on pocket money for elementary school children in Blang Mangat District was obtained by 97% of children as soon as possible, with a frequency of once per day (90%) and the average pocket money obtained was between Rp. 5,000-10,000 (48.7%). Research by Mahmudiono, et al (2020) shows a strong correlation between pocket money and the level of consumption and nutritional status of children. The more the amount and frequency of pocket money given to children, the higher the consumption and the further improving the nutritional status of children.

Elementary school students who go to school bring only a small amount of food (14.9%), so their needs are only obtained by buying snacks. Children who bring lunch generally bring healthier food and drinks. There is a tendency for children who bring provisions to better their snacking behaviour while at school. The results of the study by Ghufro, et al (2020) show a strong relationship between the habit of providing provisions with the behaviour of consuming snack food in elementary school children.

Most students (69.1%) buy snacks outside the school fence, so they can buy food freely, without control and supervision and at risk of contamination with both dirt dust and harmful microbes. Research by Rahmayani, et al, (2019) shows that the results of school snacks that are open and touched by many people increase the risk of *E. coli* contamination which causes many digestive disorders.

Many children buy and consume processed snacks that contain unhealthy additives, both food and drinks. Foods purchased by children include somai and noodles (68.8%) which contain a lot of flavoring. The drinks consumed were mostly tea and syrup (79.8%) containing artificial sweeteners. Melinda (2022) identified a mixture of artificial sweeteners (Sodium Cyclamate) in tea drinks sold to elementary school children. Foods with preservatives and flavor enhancers are also found in elementary school children (Sari, et al, 2017). The use of harmful additives in food and beverages threatens the health of elementary school students.

Respondents surveyed showed >80% did not wash their hands before and after eating snacks. In addition, only about 30% of students consume food using clean spoons and containers, the rest of the children eat with their hands or directly in packaging. The study of Fahani, et al (2019) found that the use of hands and open containers when consuming food increases the risk of contamination of *Bacillus cereus* bacteria which can cause vomiting and diarrhea.

5. CONCLUSION

Elementary school children in Blang Mangat sub-district almost always get pocket money when they go to school and only a few are provided with food brought from home. Children who bring provisions tend to eat healthy and nutritious foods such as rice and water. Food and beverages snacks generally contain harmful food additives, both processed and packaged. Predominantly children buy snacks outside the school fence, consume them by hand and do not wash their hands before and after eating.

Parents are expected to be able to prepare healthy and nutritious food without having to provide pocket money for children. Schools can conduct coaching and supervision of vendors and snacks sold in the school environment to reduce the risk of children consuming unhealthy and dangerous foods.

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