Analysis of Factors That Influence Snack Food Selection Behavior in High School Students

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ABSTRACT

BPOM findings from 2006-2010 showed that as many as 48% of school children's snacks did not meet food safety requirements because they contained dangerous chemicals. Snacking behaviour is influenced by several factors, including knowledge, attitudes, peers, and family involvement in getting used to breakfast or providing food from home to be taken to school. This research analyses the factors influencing snack food selection behaviour among high school students. The method in this research is to examine literature reviews with the study sources used coming from published journals in Indonesia and having an ISSN relating to research. As a result of research from 124 articles reviewed, five reports were finally obtained; it was found that there was an influence of knowledge, attitudes, health education and the role of authoritarianism on high school children's snack choices. Shows that knowledge, attitudes, health education and authoritarian roles influence food choices in children or adolescents; there are three factors, namely: (1) predisposing factors, namely factors that facilitate and underlie the occurrence of specific behaviour; (2) supporting factors that enable particular behaviour to occur, such as information media, health service infrastructure, and (3) reinforcing factors are factors that strengthen the occurrence of specific behaviour (the role of parents and the role of teachers).

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INTRODUCTION

Public awareness of consuming nutritious and varied foods is currently increasing. This can be seen from the increasing number of daily food products sold in food product sales centres. This awareness is influenced by the increasingly advanced information technology in the food sector so that the public or consumers are increasingly aware of all the existing changes. These changes change people's tastes and habits towards the food products they consume (Fitriani & Andriyani, 2015). This causes the contribution of nutritional intake from snacks to tend to increase. In Indonesia, snacks are an inseparable part of school children. Children's snack habits can be seen from the frequency of snacks and the nutritional contribution of snacks (Iklima, 2017). Snacking habits can increase energy intake beyond the energy expended. Eating large portions of snacks will contribute to high energy intake and can result in excess energy intake, triggering weight gain (Rahmi, 2018).

Almost all high school students have the habit of snacking. Children's skills in choosing snacks at school are critical in getting food that meets their needs and health requirements. Several studies have been conducted...
to determine children's snacking behaviour, but research has yet to study the determinants of buying snacks using factorial analysis (Sato et al., 2020). Children's fondness for things that are sweet, savoury, sour and so on is sometimes used by food manufacturers to attract consumers, especially children. (Librali et al., 2021). Sometimes, the products offered are unhealthy and dangerous to health; for example, they are too high in fat, salt, sugar, acid, and various synthetic food additives such as colourings, flavourings, preservatives, synthetic sweeteners, etc. There is nothing worse than food products that are offered to contain sufficient nutrition, especially for children (Bauer & Reisch, 2019).

If advertisements on television, radio, mass media or placards are not chosen, especially by parents and educators, it will be straightforward to form unhealthy eating habits. Children's food choices at school age are greatly influenced by their parents and older siblings (Smith et al., 2019). Parents are responsible for the eating situations at home, the type and amount of food served and the child's meal times. It requires positive behaviour from parents and families on an ongoing basis to demonstrate and provide examples of healthy eating behaviour. Parents must also provide guidance and advice so children can choose excellent and healthy food choices when they eat outside the home and be careful (Russell et al., 2019). High school students generally only want to buy snacks or food they like. Appearance, texture, taste, packaging and price are criteria for children in choosing food products. Food that tastes sweet and delicious has a soft texture, attractive colours and packaging, is affordable, and is usually the type of snack children like (Qiu & Hou, 2020).

Besides that, curiosity is also a characteristic of children, so children always want to try all the products offered by manufacturers. Traders prepare and sell snack food in public places, which is eaten immediately without further processing (Leonard et al., 2019). The selection of snacks is a manifestation of behaviour. Nutritious food can be obtained from the main meals and snacks (Rizal & Jalpi, 2018). School children's snacks are receiving special attention because, apart from being widely consumed by children, many dangers are threatened by consuming snacks. Children are individuals with a range of changes and development from infancy to adolescence (Fadila et al., 2019). School children's snacks are often sold in schools and consumed by children in the school environment snacks, snacks and drinks, which children often buy during breaks and when they come home from school. (Widianingtyas & Dinda, 2022). School children's snack food test results (PJAS) from 2009 to 2013 increased from 57.36% to 80.78% of food that met requirements such as not containing dangerous ingredients, maintaining hygiene and being free from heavy metal contamination (Arifudin & Musfirah, 2021). The Food and Drug Monitoring Agency (BPOM) reports that 99% of school children in 18 provinces in Indonesia consume PJAS (School Children's Snack Food) (Riani et al., 2020).

BPOM findings from 2006-2010 showed that as many as 48% of school children's snacks did not meet food safety requirements because they contained dangerous chemicals. Healthy living behaviour starts with (Syam et al., 2018) creating productive and quality human resources in the future (Febryanto, 2017). However, if snacks are chosen correctly before consumption, they can contribute energy and nutrition. On the other hand, choosing inappropriate snacks can cause disease and even harm the body if they contain ingredients such as borax and other illegal food ingredients and preservatives (Amourisva, 2015). Snacking behaviour is influenced by several factors, including knowledge, attitudes, peers, and family involvement in getting used to breakfast or providing food from home to take to school (Widianingtyas & Dinda, 2022). Therefore, based on the explanation above, researchers are interested in reviewing this research because the factors that influence children's snack choices are also essential to know so that they can be used as a basis for strategies for providing and managing safe and quality snacks. The formulation of the problem that will be proposed in this research is to analyze the factors that influence snack food selection behaviour in high school students.

**METHOD**

This research is a literature review of several scientific articles. This research method is a literature review with the study sources used coming from published journals in Indonesia and having an ISSN and relating to research. Published articles were obtained from several online search portals, such as Google Scholar and Garuda. Search for this journal publication using the word The key to the search is Syafiq Ariza Amourisva. The selected journal article is a journal whose topic is “Factors that influence snack food selection behaviour in high school students”.

This study has inclusion and exclusion criteria. The inclusion criteria used are articles covering the research range of 2019-2022, all articles, all articles in Indonesian, all articles have national credibility and have an ISSN, and all articles are free of charge. The exclusion criteria for this research are journal articles with a publication year below 2019, cannot be accessed by researchers, and are paid. After searching, 124 literature articles were obtained. Then, these 124 were filtered, and 14 were obtained. However, 14 articles were deemed inappropriate to the topic and then filtered again to 8. A total of 8 articles were assessed as appropriate or not, and three were excluded. So, five articles can be used for analysis in this research.
RESULTS

The results of the preliminary article review show that the research examines interventions for using the public health service system regarding the correct selection of snack foods for children and adolescents to increase knowledge, attitudes and behaviour about how to choose healthy snack foods.

Table 1. Factors that Influence Snack Food Selection Behavior in High School Children

<table>
<thead>
<tr>
<th>No</th>
<th>Researcher</th>
<th>Year</th>
<th>Design</th>
<th>Sample</th>
<th>Objective</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Novi Indah Aderita (Yusnita et al., 2021)</td>
<td>2021</td>
<td>Fixed exposure sampling</td>
<td>50 students</td>
<td>To analyze the effect of health education on increasing knowledge, attitudes and behaviour changes in choosing snacks in high school children</td>
<td>There is a variable influence of knowledge, attitudes and actions before and after health education.</td>
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<tr>
<td>2.</td>
<td>(Lidiawati et al., 2020)</td>
<td>2020</td>
<td>cross-sectional</td>
<td>All SMA N 6 Yogyakarta students in the 2016/2017 academic year, totaling 115 people.</td>
<td>to assess the relationship between nutritional knowledge and parental occupation with snacking behaviour among students at SMA N 6 Yogyakarta in 2017</td>
<td>to assess the relationship between nutritional knowledge and parental occupation with snacking behaviour among students at SMA N 6 Yogyakarta in 2017</td>
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<tr>
<td>3.</td>
<td>Yusnita, Novia Rizana dan Liza Walyuni (Yusnita et al., 2021)</td>
<td>2021</td>
<td>purposive sampling</td>
<td>parents of school-age children (10-18 years) in Gampong Kapa, Peusangan District, Bireuen Regency.</td>
<td>It was obtained from 32 respondents that 17 (53.1%) applied authoritarian parenting, 21 (65.6%) applied democratic parenting, and 19 (59.4%) applied permissive parenting. The results of statistical tests on authoritarian parenting patterns showed that the P-value was 0.014 &lt; α = 0.05,</td>
<td></td>
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</table>
4. Sri Handayani, dan Nur Wulan Agustina (Fadila et al., 2019) 2019 analytical survey with a cross-sectional approach a total of 74 high school students in the city of Banda Aceh. knowing the influence of parental attitudes on behaviour children's snacks at school. P value is obtained. (value) 0.019 < α (0.05) meaning that parents' attitudes influence children's snacking behaviour in school.

5. Akhmad Isnawan Arifudin dan Musfirah (Arifudin & Musfirah, 2021) 2021 cross-sectional 58 students to determine the relationship between the level of knowledge and attitudes with the behaviour of choosing snacks among high school students and students Bivariate analysis shows knowledge (p-value = 0.195) and attitude (p-value = 0.681) with snack food selection behaviour. Based on the research results, the level of knowledge and attitudes do not have a significant relationship with snack food selection behaviour.

DISCUSSION

The characteristics of large portions of snacks will be a consideration for children when choosing the food they will consume. Children tend to choose foods that are filling, such as dishes such as rice and noodles. Similar research shows that large portions attract children to buy because they make them complete and provide more nutritional intake (Sogari et al., 2018). Prices also determine food choices and eating patterns. Cheap and delicious prices are the basis for children's snacks because the cheaper the snacks, the more varied the snacks children can buy. Children's snacks range from 500-3000. The cheaper the snacks, the more children can afford to buy more snacks—cheap snacks such as fried foods, egg rolls and cilor. The price of fruit tends to be more expensive, so students rarely buy it. Oversized food portions are also attractive (Chen & Antonelli, 2020). Large portions of snacks reflect their ability to provide a feeling of fullness and greater nutritional intake. However, that is not always true. High-fat snacks, even in small portions, can contain more energy than snacks dominated by carbohydrates or protein (Sharma et al., 2019). Many snacks in schools still contain low energy per portion and do not meet children's daily nutritional needs. Providing school snacks that meet 30 – 50% of children's daily energy needs for four months has positively impacted linear growth, reduced morbidity levels, and improved vitamin B12 status in children (Scaglioni et al., 2018).

Familiarity with food is an expression that shows someone is very familiar with the food. The factor analysis results related to familiarity show the dominant factor in children's snack choices. This research shows that snacks that are very familiar to students are a determining factor for high school students. Children tend to choose foods that are very familiar to consume (Gonçalves et al., 2018). Children often watch TV and are attracted by the advertisements that often appear and want to try it. Children spend more time watching TV than their families. This provides changes in the child's behaviour. Where children tend to want food whose advertisements are attractive, the positive impact is that several media can provide information on nutritious food for children.

On the other hand, some advertisements still promote snacks high in sugar, fat and salt, which will result in excessive intake in children. Peer influence increases with age and influences attitudes and food choices (Sato et al., 2020). Children tend to choose food based on their friends' food choices or follow the food their friends choose. When at school, children are easily influenced by their friends. Children's food choices at home tend to be based on the food their friends eat at school. Children are enthusiastic about trying new foods their friends eat (Liberali et al., 2021).

The characteristic factor of snacks, which is a determining factor in children's snack choices, is supported by Contento's theory regarding the determinants of food choices, which states that some people will choose food based on the texture and taste (Bauer & Reisch, 2019). Sensory-affective responses to the sight, taste and texture of food are the main influences on food preferences and food choices. Ingredients for snacks are less varied, resulting in higher nutritional diversity. Nutrient-dense snack foods can only be made from certain, diverse ingredients, resulting in a deficiency in one type of nutrient in which one ingredient can be compensated for by another ingredient (Liberali et al., 2021). Using local cereals and nuts is a good combination because of their complementary amino acid flavours. Nuts generally contain lots of lysine but are low in methionine, while cereals are generally high in methionine but low in lysine. Use of snack ingredients: Lack of variety threatens children's nutritional needs (Echelbarger et al., n.d.).
Based on the research results obtained, it was found that the factors that influence food choice behaviour in children include three factors by Lawrence Green's theory, namely predisposing factors, which are factors that facilitate and underlie the occurrence of specific behaviour, namely knowledge, attitude, education and family income. Supporting factors, or enabling factors, are factors that allow specific behaviour to occur. Namely, information media, health service infrastructure, and reinforcing factors strengthen the occurrence of specific behaviour (the role of parents and teachers) (Risnawati et al., 2020). Eating behaviour is a condition that describes a person's behaviour regarding eating habits, eating frequency, eating patterns, food preferences, and food choices (Leeming, 2016). Moreover, the determining factors in food choices can also be seen from the level of education and environment as supporting awareness. The next factor, the environment, also plays a role in influencing awareness of food choices, including the role of the family, the role of peers, and the individual's mood (Syawitri & Sefrina, 2022). Based on this, the author will discuss the results of the research:

1. Knowledge and food choices in children. Based on a literature review conducted by researchers from the five journals studied, one journal stated that the factor related to children's food choice behaviour was knowledge. With bivariate results using the square test, there is a relationship between students' knowledge about nutrition and their snacking habits (p-value = 0.000) (Nurdiyanti & Wahyuningtyas, 2019). Children's knowledge can be an effort to determine the food they will consume (Febryanto, 2017). If a child's knowledge still needs to be improved, then determining the food they want to consume will be inappropriate and less safe, which can impact their health (Febryanto, 2017). Based on data in the Tadaluuko Health Journal regarding additional food ingredients, they significantly influence the child's body and nutrition. Good nutritional status is when a child's body gets enough substances so that growth can occur quickly, such as brain development, ability, physical performance, and health (Salam, 2022).

2. Attitudes and food choices in children are based on a research literature review. Of the five journals studied, two state that the factor related to children's food choice behaviour is attitude. The first research shows that parental attitudes influence school children's snacking behaviour with a Cox & Snell R Square value of 0.108, indicating the ability of parental attitude variables to explain snacking behaviour variables of 7.3%. The variable is significant because of the bivariate model; the variable has 0.019<0.005. This proves that the attitude of parents who agree with snacks will significantly change snack behaviour (Sato et al., 2020). The second research conducted by Novi Indah Aderita at Madegondo Grogol 01 State Elementary School in 2020 showed an influence on attitudes after health education (Aderita, 2020).

3. Education and food choices in children, based on a literature review conducted by researchers from the five journals studied, there is one journal which states that the factor related to food choice behaviour in children is health education. The analysis results show an influence on decision-making/choosing snacks between before and after health education (Aderita, 2020). Education is an absolute right for every nation, especially Indonesia (Ika Sartika1, Ellis Endang Nikmawati2 et al., 2014). Education is also the success of health education in choosing children's snacks. It is known that before health education, children have sufficient knowledge. In contrast, after health education, children's knowledge becomes good, so it can be understood that health education can provide positive information about children's snack habits (Aderita, 2020).

4. Based on a literature review conducted by researchers from the five journals studied, one journal states that the factor related to food choice behaviour in children is authoritarian parenting. (Liberali et al., 2021). Research with the results of children's social behaviour patterns with good snack behaviour and 3 (6.9%) with poor snack behaviour. Meanwhile, of the 15 (5.0%) who did not apply authoritarian parenting, it was found that 5 (8.9%) children had good snack behaviour and 10 (6.1%) children had poor snack behaviour. These results are by research which states that there is a relationship between authoritarian parenting styles and the snack choice habits of high school children with the result p-value = 0.000 (p <0.05). Writer found 14 (10.1%) (Smith et al., 2019). Authoritarian parenting is a type of parenting style that imposes its will. This type of parent tends to act as a controller or supervisor (controller), always imposes his will on the child, is not open to the child's opinion, does not accept suggestions and tends to impose his will on differences, is too confident in himself so that he closes the valve for deliberation (et al., 2018). Implementing an authoritarian parenting style will impact children's behaviour because they must be submissive and obedient to their parents' wishes. Therefore, children will not be easily influenced by behaviour seen by other people (Smith et al., 2019).

CONCLUSION
Results of a study of factors influencing snack food choices in high school children. Showing that 124 articles were reviewed, five articles were finally obtained, and it was found that there was an influence of knowledge, attitudes, health education and the role of authoritarianism on children's snack choices. Shows that knowledge, attitudes, health education and authoritarian roles influence food choices in children or adolescents. There are three factors, namely: (1) predisposing factors, namely factors that facilitate and underlie the
occurrence of specific behaviour; (2) supporting factors that enable specific behaviour to occur, such as information media health service infrastructure; and (3) reinforcing factors are factors that strengthen the occurrence of specific behaviour (the role of parents and the role of teachers). These findings are essential for children, teachers and parents to know what factors influence children's or adolescents' food choices.

REFERENCES


