

Snacking and Junk Food Consumption among Primary School Children: Who Takes Responsibility, the Home or School?

Anuodo, A. O.¹
Owoeye, M. O.²
Ogbonmwan, I. M.³
Oke M. A.¹

Department of Educational Foundations and Counselling, Obafemi Awolowo University, Ile-Ife¹

Department of Sociology, Bowen University, Iwo²

Department of Restorative Dentistry, Obafemi Awolowo University, Ile-Ife³

Abstract

The right type of snacking can form a basis for good development and healthy living among young children. However, several factors seem to have constituted a barrier to consuming healthy snacks. This study identified the types of snacks that parents offer to children and the factors that influence snacking among children. It also examined the influence of school policy and the socio-demographic factors of parents (age and income) on snacking among children. The study adopted a descriptive survey research design. The population for the study comprised all parents of primary school children in Ile-Ife, Osun State, Nigeria. The sample size for the study comprised 300 parents. Six schools (three private and three government-owned primary schools in Ife-central local government) were purposively selected for the study to capture socioeconomic diversity. A total of fifty parents were selected in each school. A self-designed questionnaire was used to collect data for the study. Data collected were analyzed using frequency count percentages and chi-square. Results of the study revealed that among the types of snacks offered to children, Fruits, Nuts and Vegetables (FNV) respectively were the least consumed, children consume cookies more compared to other types of snacks identified in the study and children's preferences was the major factor influencing the type of snacks consumed. The study also revealed that there was a significant relationship between snacks consumption and school policy on snacking and parents who were of the middle age range were less disposed to offering their children unhealthy snacks, with consumption relatively higher among children from very high income and very low income parents. The study therefore recommends awareness and sensitization programs for parents to offer healthy snacks or more of Fruits, Nuts and Vegetables (FNV) and policy formulation that would confront proactive measures by school authorities.

Keywords: *Snacking, Junk Food, Snacks Consumption, School Policy,*

Introduction

School children need many little portions of light food to fuel themselves for their high level of activity. These little portions of light food can be referred to as snacks. Although Hess, Jonnalagadda and Slavin (2016) in their review define snacks as foods and caloric beverages eaten or consumed between regular meals, they also admit the controversies that exist in the actual meaning of snacks. In the real sense, snacks is a small portion of food not regarded as a main meal. By this definition, a snack doesn't necessarily have to be sweet or savoury, as

long as it is a small portion meant to satisfy the immediate need of the physical body or mental body. On the other hand, there is a general notion that snacks is meant to be sweet. Probably that's because sweet foods are composed of high amount of calories that bring quick satisfaction to hunger as well as leaving a feeling of ecstasy. This means that if snacks were not of the sweet type, though it is considered a snack, it may not be bombarded with calories. Of course there is also a saying which says one man's meat is another man's poison, which implies that the concept of sweetness is subjective. Thus, this helps to draw the line between the meaning of "snacks" as against "junk food". All junk foods can thus be referred to as snacks but not all snacks can be described as junk food. Although this study bothers more on junk food, however, it also emphasizes the importance of snacks for children as the place of snacks in children's diet cannot be forgone.

Junk food intake is becoming the more popular type of snacking among children in primary schools. According to Robinson, Rollo, Watson, Burrows and Collins (2015), consumption of high-calorie junk foods has increased in the recent time, especially among young adults and higher intake may cause weight gain. Although Jackson, Romo, Castillo and Castillo Durham (2004) claims that each age group in a study area displayed the frequency of non-transmissible chronic diseases is increasing due primarily to a westernized diet that is high in fat, cholesterol, sodium, and sugar.

Increased rates of snacks consumption are linked with skipping of regular meals and irregular eating habits which may arise from causal factors such as food parenting, peer influence, media influence, school policies on food and influence of western food on school-age children. Research has shown that a high percentage of children reported skipping of meals and increased snacking behaviour (Kelishadi, Mozafarian, Qorbani, Mohammad-Esmail, 2017). Snacking in between meals contributes an estimated one-third of children's daily energy intake and a quarter of daily energy for youth. Though data on snacking and obesity in children are limited and equivocal, there is evidence that children who snack frequently consume greater energy, have poorer quality diets, and exhibit other risk factors for excessive weight gain. Aside from obesity, consumption of unhealthy snacks also presents children with different health problems such as dental caries and chronic illnesses. Moreover, consumption of these snacks during childhood and adolescence puts them at risk for developing health problems in adulthood such as cardiovascular diseases, hypertension and diabetes mellitus.

Few studies have been conducted to explain the characteristics associated with the intake of junk food. Research has shown that television adverts of junk food, unhealthy home environment, screen time, especially television, poor parenting among others sample, are significantly related to consumption of junk food (Boylan, Hardy, Draton, Grunseit & Mirshahi, 2017; Dixon, Scully, Wakefield, White & Crawford, 2007). Other studies have also been carried out to describe the effects of junk food intake across all age groups and junk food availability in schools have also contributed to the childhood obesity epidemic. (Datar & Nicosia, 2012). Stress has also been considered another important factor that tends to influence snacking and eating patterns among young individuals (Sominsky & Spencer, 2014).

Although it appears that adults express cravings for snacks in the event of stress, boredom or depression, however, the craving for snacks among children occurs regardless of time and events. Thus, the concept of snacks is also similar to the concept of junk food, especially among children. In the opinion of Jackson *et.al.* (2004), junk food is a global phenomenon

concerning the world economy. This statement implies that there is likely to be a strong connection between economic status and the intake of junk food. This connection may be in different dimensions. Given this, there is an assumption that children from high economic status are more likely to consume junk food. On the other hand, it also appears that junk foods are mostly consumed by children from the low or middle class.

Again, one would think that children of the learned, who of course would have known the benefits of nutrition, would take advantage of such knowledge and easily commit themselves to provide nutritious snacks. The assumption thus is that the higher the educational qualification, the more likely it may be to offer nutritious snacks. On the contrary, could it be that parents only have a theoretical perspective of nutritional benefits that do not completely align with their personal experiences on the issue of snacks intake?

Another question raised is whether peer influences or school policies could be factors affecting junk food intake among primary school children. If schools enforced the kinds of snacks that would be of high nutritional benefit, would parents succumb to peer influences or would a school policy empower parents to commit themselves to the provision of nutritious snacks? Some schools even provide tuck shop facilities stocked with junk food probably with a business orientation of demand and supply i.e. selling what the children want and not what they need.

Questions are raised to understand the controversies and assumptions in this conversation and this study, therefore, intends to explore the factors that may be responsible for the trend. Therefore, the study aims to examine the factors influencing the choice of snacks for children, the role of school policy on snacking, the types of snacks consumed by children and demographic variables that may influence snacking among children.

The specific objectives of this study are:

- a) to investigate the types of snacks that parents offer to be consumed by children;
- b) to identify the factors that influence snacking among children;
- c) to examine the influence of school policy on snacking among school children; and
- d) to determine the influence of socio-demographic factors of parents (age and income) on snacking among children.

Methodology

The study adopted a descriptive survey research design. The population for the study comprised all parents of primary school children in Ile-Ife, Osun State, Nigeria. The sample size for the study comprised 300 parents. Six schools, that is three private and three government-owned primary schools in Ife-central local government were purposively selected for the study to capture socioeconomic diversity. Twenty-five parents were randomly selected for the study in each of the lower primary (1-3) and upper primary (4-6) making a total of fifty parents selected in each school. A self-designed questionnaire was used to collect data for the study. The questionnaire was validated by consultations with experts in the field of Tests and Measurement. The questionnaires were folded in envelopes and handed over to each teacher who sent them home through their children to be filled by their parents. Data collected were analyzed using frequency count percentages and chi-square.

Research Question 1: What are the different types of snacks consumed by children?

To measure this objective, a variety of items that can be used as snacks or in preparation of snacks was identified and respondents were allowed to indicate the types of snacks they gave their children, and were also given an open option to include other types not identified by the

researcher. Responses were summed up and ranked according to their scores using frequency and percentages.

Table 1: Snacks Packaged by Parents for Children Consumption

Types of items for snacking	Frequency	Percent	Rank
No snacks	162	54	1 st
Cookies	71	23.7	3 rd
Packed juice	61	20.3	5 th
Homemade/low sugar pastry	25	8.3	6 th
Other Purchased Pastries	130	43.3	2 nd
Fruits only	22	7.3	7 th
Vegetables	17	5.7	9 th
Fruits and cookies	63	21	4 th
Nuts	21	7	8 th

Table 1 shows the types of snacks packaged by parents for the consumption of primary school children. According to the table, some parents (54%) preferred not to give their children snacks at all, but rather give them food only, while other parents gave them cookies (23.7%), packaged juice (20.3%), homemade/low sugar pastry (8.3%), other purchased pastries that are produced in large quantity e.g. puff-puff, chips, egg rolls etc. (43.3%), fruits only (7.3%), vegetables (5.7%), fruits and cookies (21%) and finally, only 7% of parents preferred to packed nuts for their children.

Research Question 2: What are the factors that influence the consumption of snacks among school children?

Table 2: Influential Factors of snacks Consumption among Children

Types of snacks	Frequency	Percent	Rank
Child/children's Choices or Preference	215	71.7	1 st
Convenience	187	62.3	2 nd
Affordability	178	59.3	3 rd
Health Implication	148	49.3	4 th
Access and Availability	143	47.7	5 th
Knowledge of Benefits	139	46.3	6 th

Media advertisement	95	31.7	7 th
Recommendations from friends, family, etc.	82	27	8 th
Social media promotions	67	22.3	9 th

Table 2 revealed the factors that influence snacks consumption among school children. According to the table, child/children’s choices or preference was ranked first (71.7%) followed by convenience (62.3%), affordability (59.3%), health implication (49.3%), access and availability (47.7%), knowledge of benefits (46.3%), media advertisement (31.7%), a recommendation from friends, family, etc. (27%) and social media promotions ranked the least (22.3%) respectively.

Research hypothesis 1: there is no significant influence of school policy on snacks consumption among school children

To test this hypothesis, the snacks consumption was cross-tabulated with school policy on snacking. The Chi-square statistic was obtained and the result of the analysis is in Table 3.

Table 3: Bivariate analysis of school policy and snacks consumption among school children

		Does your child(ren)’s school have a policy on snacking?			Total	x ²	df	p-value
		NO	NOT SURE	YES				
Do you pack snacks for your Children?	NO	22	4	15	41	6.006	2	0.050
	YES	96	15	147	258			
TOTAL		118	19	162	299			

Table 3 reveals that there is a significant relationship between snacks consumption and school policy on snacking, (n=300, x²=6.006, df=2, p=0.050). Since the p-value is < 0.05 threshold, therefore, the stated null hypothesis was rejected.

Research hypothesis 2: there is no significant influence of socio-demographic variables such as age and monthly income of parents on snacks consumption among school children.

To test this hypothesis, snacks consumption was cross-tabulated with demographic variables. The Chi-square statistic was obtained and the result of the analysis in Table 4

Table 4: Bivariate analysis of parents' age and snacks consumption

	AGE				Total	x ²	df	p-value
	<30 40	31-35	36-40	>				
Do you pack snacks	12	7	5	17	41	10.131	3	0.017
NO	65	73	65	56	259			
For your child(ren)?	77	80	70	73	300			
YES								
TOTAL								

Table 4 shows that there is a significant influence of parental age on snacks consumption (n=300, X²=10.131, dp=3, p=0.017). Since the p-value is <0.05 threshold, the stated null hypothesis was rejected.

Table 6: Bivariate analysis of parents' monthly income and snacks consumption

	MONTHLY INCOME					Total	x ²	df	p-value
	Very Low	Low	Moderate	High	Very High				
Do you pack snacks for your child(ren)?	25	2	0	1	13	41	3.270	4	0.514
NO	139	15	11	2	92	259			
YES									
TOTAL	164	17	11	3	105	300			

The table revealed that there is no significant influence of monthly income on the consumption of snacks among children (n=300, x²=3.270, dp=4, p=0.514). Since the p-value is >0.05 thresholds, therefore, the stated null hypothesis was accepted. The result, therefore, concludes that there is no significant influence of the monthly income of parents on snacks consumption.

Discussion of Findings

The main objective of the study was to examine the influential factors that determine the trend in snacking among children. The first objective revealed the types of snacks consumed by primary school children. The study found that a large number of parents restrict the children to food alone without giving them snacks. This finding, considering the damaging effect of snacks may appear impressive. However, this action by parents may be associated with other factors such as economic reasons, time, knowledge of the damaging effects of snacking, ignorance of the benefits of healthy snacking etc. The intentions for this action were not considered in this study, which leaves a gap for further exploration. Furthermore, the study revealed that among the types of snacks packaged for children, Fruits, Nuts and Vegetables (FNV) respectively were the least consumed. The study also revealed that children consume cookies more compared to other types of snacks identified in the study. Although, Sledden (2011), considered snacks as eating occasions outside the main meal (breakfast, lunch or dinner) at which any kind of food, either nutrient-dense or nutrient-poor (junk food) might be consumed, Adriaanse, Oettingen, Gollwitzer, Hennes, DeRidder and DeWit (2010) emphasizes that maintaining a healthy diet is currently one of the most

adopted health goals. This assertion further corroborates a need for the advocacy for less consumption of junk food, relating to the finding particularly visible in this study.

Findings from the second research question revealed some of the factors that influence the choice of snacks consumed among school children. Although several factors have been established in literature to be associated with snacking, this study provides literature evidence by revealing that children's preferences were the major factor influencing the type of snacks consumed by children. Although this finding aligns with Blake, Davison, Blaine and Fisher (2021) who carried out a study to show that caregivers gave snacks because the "child asks" or "wants it", there are several associated factors that may explain this finding. Firstly, this could be a layback in food parenting; suggesting further research on parenting style and snacking behaviour, secondly, the nature of children and energy requirements; children need high energy intake to fuel their body demands which FNV may not provide. This finding also corroborates the findings from the first research question which revealed fruits, nuts and vegetables as the least consumed. This may be because of two major reasons; firstly, these types of snacks are natural and not designed by man to look as attractive to children as junk food would look; secondly, they contain toxins (especially vegetables) which taste bitter and of course not pleasing to most children. This finding aligns with an experiment conducted by Hee and Sook (2005) to prove that children in the "Vegetable Dislike Group" were more than in other food preferences. Wardle, Cooke, Gibson, Sapochnik, Sheiham and Lawson (2003) also believe that despite huge epidemiological evidence of the health benefits of a diet that is high in fruit and vegetables, consumption in pre-school children remains well below recommended levels. Furthermore, findings from this study reveal other factors influencing snacks consumption to be as a result of convenience, affordability, and social media promotions among others. Although this study reports social media as the least factor, other researchers uphold that common social media advertising affects children's consumption (Coates, Hardman, Halford, Christiansen, & Boyland, 2019; Robinson, Borzekowski, Matheson, & Kraemer, 2007).

Findings from the first hypothesis revealed that there was a significant relationship between snacks consumption and school policy on snacking among school children. Moore and Tapper (2008), corroborate this finding with the outcome of their research which showed that that fruit tuck shops had a greater impact in changing children's snacking behaviour when reinforced by school policies that also restrict the types of foods students were allowed to bring to school. The effectiveness of a school policy in sustaining healthy snacking behaviour can be explained by the fact that policies place all subjects under the same functional service. Thus, all schools and all children will be similarly inclined to the same snacking trend without a sense of discrimination, sentiment, bias, and ignorance.

Another finding from the study revealed a significant influence of parental age on snacks consumption. The study revealed that parents who were of the middle age range were less disposed to offering their children unhealthy snacks than parents who were either of the younger age group (less than 30) and parents of the older age group (above 40). Although it may appear that parents above 40 would be more mature to have knowledge of the negative consequences and not offer junk food, this study proves otherwise. Several pieces of research have been carried out to show the age of school children and snacking behaviour, however, literature evidence is sparse on parental age and snacking consumption.

Finally, this study also revealed that there was no significant difference in the monthly income of parents and snacks consumption of school-age children, with consumption

relatively higher among children from very high income and very low-income parents compared with the middle-income class. However, the study reported snacking to be highest among the low-income class, confirming the report of Dunford and Popkin (2018), that secular increase in snacking among children over the past four decades have been most pronounced among racial/ethnic minority and low-income populations (Blake, Davison, Blaine & Fisher, 2021). Although a favourable economic status can also lead to the consumption of healthy snacks and proper nutrition for children, Contrarily, Mirhadyan, Latreyi, Pasha and Leili (2020), suggest that students whose fathers have higher education and income level have more tendencies toward junk food consumption. This may however be due to the geographical location of the study. Mithra, Unikrishan, Thapar *et.al* (2018), also suggest that unhealthy snacks are available easily and more economically as compared to regular food items. Thus, more availability of such in school settings can predict snacking behaviour especially among those from lower socioeconomic background.

Conclusion and Recommendations

Considering that children learn food habits from their families and from school officials (Baxter, 1998), the conclusion of this study also agrees with the conclusion of Wardle *et.al.* (2003) that in addition to a “parent-led, exposure-based intervention which involves the daily tasting of a vegetable”, especially from the pre-school level, school authority’s firmness on the endorsement of healthy snacking in schools has the capacity for improving children’s acceptance of more healthy snacks consumption as they grow older, to secure proper growth and development as well as optimal health. The study therefore recommends awareness and sensitization programs for parents to offer nutrient-dense snacks or more of Fruits, Nuts and Vegetables (FNV) and policy formulation that would confront proactive measures by school authorities.

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