# PERSPECTIVES OF VENDORS, GRADE SIX AND SEVEN LEARNERS AND SCHOOL GOVERNING BODIES ON THE SALE OF SNACKS IN SELECTED PRIMARY SCHOOLS OF DIMAMO CIRCUIT, LIMPOPO PROVINCE, SOUTH AFRICA

**by**

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## DEDICATION

This study is dedicated to my late father Mantabotabo Stefaans Sebothoma who knew the importance of a secured family. I have all the confidence because of your principles. To my fairest and loving mother Mmamoso “Mpuwa” Johanna Sebothoma; I am who I am because of you and so grateful to have a mother like you “Boledi”. This study is also dedicated to my husband Makgape and my children Dimake, Ntjatji, Tumudi, and to the Sebothoma and Mothapo family.

## DECLARATION

I, Choney Mahwana Mothapo declare that this project; **The Perspective of Vendors', Learners' and School Governing Bodies on snacks sale in selected primary schools of Dimamo Circuit, Limpopo Province, South Africa** is my independent work and all the resources quoted have been duly and completely acknowledged. This work has previously never been submitted for any other degree at any institution.

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## ABSTRACT

**Background:** Most school food environments in low socioeconomic countries offer cheaper unhealthy snacks of low nutritional value. Generally, these defeat the aims and goals of the National School Nutrition Programmes that offers nutritionally balanced meals to enhance concentration and learning. These unhealthy snacks that are available in school food environments have the ability to promote food choices that may lead to early onset of obesity and diseases of the lifestyle. The creation of healthy school food environments should be observed as a fundamental priority and a responsibility to all stakeholders with the necessary powers.

**Objectives:** The study explored the perspective of school vendors, learners and school governing bodies on snack sale in selected primary schools of Dimamo circuit, Limpopo Province, South Africa.

**Design and Methods:** A cross-sectional, exploratory descriptive study was conducted on the perspectives of vendors, learners and school governing bodies on the sale of snacks in selected primary schools of Dimamo circuit, Limpopo Province, South Africa. Data were collected with 69 participants using a semi-structured questionnaire in one-on-one interviews and focus group discussions at three public schools in the Dimamo circuit. Criteria for trustworthiness were adhered to throughout the study. Ethical principles were adhered to in order to ensure the ethical standards of the study.

**Findings:** A negative perception regarding the sale of snacks was found by both the learners and school governing bodies. However, the vendors were reluctant to raise their views with regard to the snacks sold in schools despite them being aware of the diseases experienced, such as ringworms, rash and vomiting. Improved hygiene practices and sale of healthy snacks was suggested by learners while drawing of a school food policy was seen as a last resort to improve the school food environment.

**Conclusion:** A negative perception towards unhealthy snacks exists among the learners and teachers as they have been disruption in teaching and learning; due to random absenteeism associated with ailments allegedly caused by consumption of unhealthy snacks. However, the vendors reported learners' preference for the sale of unhealthy snacks

over the healthy ones due to cost. Furthermore,the vendors reported that the provision of free fruits by the NSNP in school was a challenge. Lack of cooperation, accountability and responsibility amongst the School Governing Bodies (SGB) and vendors were a barrier to facilitating a healthy food environment.

**Key Words: School food environments, Snack sale, Learners, Vendor, School governing body, Food policy, Perspective.**

## DEFINITION OF CONCEPTS

**Learners -** are persons who attend an early childhood development center, school, or adult basic education and training center (Department of Education Information Standards Dictionary of Education Concepts and Terms, 2010). In this context, it refers to Grade six(6) and Grade seven(7) learners attending primary schools where vendors sell snacks.

**Vendor -** is a person who provides goods or services to a company or individuals in a particular setting (Kjott-Larsen, Tage, Schary, Juliana, Mikkola & Kotzab, 2007). In this context, a vendor was any person above the age of 18 years, who will be selling within the vicinity of the school regardless of gender.

**School Governing Body -** a statutory body composed of representatives of parents, educators, and the principal; vested with the governance of a public school and it may perform only such functions and obligations and exercise such rights as prescribed by the South African Schools Act (Department of Education Information Standards Dictionary of Education Concepts and Terms, 2010). The same definition was applied in this context.

**Education circuit -** the geographic area within an education district that has been demarcated by the member of the executive council for Education as the second-level administrative sub-division with a provincial education department (Department of Education Information Standards Dictionary of Education Concepts and Terms, 2010). In this context, the definition was used as is.

**Competitive foods -** all foods and beverages that are sold outside the National School Lunch Programme (NSLP) Federal meal programmes, including vending machines, a la carte offerings in the cafeteria, snack bars school stores and are food of minimal nutritional value (USDA Food and Nutrition Service, 2009; Institute of Medicine, Nutrition standards for foods in schools, 2007). In this context, it referred to all the food snacks (crisps, sweets, bunny chow and biscuits) that were sold by school vendors and tuck shops within or outside the school environment.

**Food Environment -** the physical environment that includes multi settings where foods are available and accessible to people in which they go about their daily lives

(FAO, 2016; WHO, 2003). In this context, it was the physical area of the school characterised by all available snack foods sold within and outside the schoolyard.

**Snack foods -** foods and beverages offered/sold out of the school nutrition programme that is considered to be energy-dense and nutrient-poor (Byrd-Bredbenner, Johnson, Quick, Walsh, Green & Hoer, 2012). In this context, it referred to all foods sold outside the school nutrition programme including sweets, biscuits, "*mashwamshwam*'' and potato chips that were sold by vendors and tuck shops.

**Perspective -** is a perception, viewpoint, or opinion that is derived from knowledge, skills, and exposure that an individual learns from social settings or an environment (Ahluwalia & Sanan, 2016). In this context, it referred to the participant's perception, opinions, or views on snack foods within the school environment.

**Mashwamshwam -** is a type of snack food made from either maize or potato puffs.

**Kota -** is a club sandwich/bunny chow made mainly from white bread, chips, and a combination of polony, vienna, russian, cheese, atchaar with added sauces such as tomato and mustard (Feeley .Pettifor & Norris ,2009) .

**MaDrugs -** are powdery sweets that learners fold in a paper and suck in their mouth like it's done with drugs. (Learners' explanation, 2020).

## LIST OF ABBREVIATIONS

| | |
|---|---|
| **AFSU** | African Food Security Urban Network |
| **BMI** | Body Mass Index |
| **CAD** | Coronary Artery Diseases |
| **CDCP** | Centre for Disease Control and Prevention |
| **FAO** | Food And Agriculture Organization Of The United Nations |
| **IOM** | Institute of Medicine |
| **ISHP** | Integrated School Health Policy |
| **LMICs** | Low- and Middle-Income Countries |
| **MNV** | Minimal Nutritional Value |
| **NCDs** | Non-Communicable Diseases |
| **NSLP** | National School Lunch Program |
| **NSNP** | National School Nutrition Program |
| **SANHANNES** | South African National Health and Nutrition Examination Survey |
| **SEM** | Social Ecological Models |
| **SGB** | School Governing Body |
| **USDA** | United States Department of Agriculture |
| **WHO** | World Health Organization |
| **SA** | South Africa |
| **HEALA** | Healthy Living Alliance |

# CHAPTER 1
# OVERVIEW OF THE STUDY

## 1.1 INTRODUCTION AND BACKGROUND

Perceptions are derived from knowledge, skills and exposure that an individual learns from social settings or environment (Ahluwalia & Sanan (2016). Literature has widely reported several studies on the perceptions of teachers and principals, learners and parents and vendors/ tuckshop owners (Rathi, Riddell, & Worsley, 2018; Bekker, Marais & Koen, 2017;Ronto, Ball, Pendergast & Harris, 2017; Kupolati, Gericke & MacIntyre, 2015) while the school governing body's perceptions on snack sale is very scanty.

Subsequently, in the last four decade (1999 -2014) surveys have reported the escalating rates and the prevalence of childhood overweight and obesity worldwide. (Perrin & Skelton, 2016; Rossouw, Grant & Viljoen, 2012; Dietz,1998). Consequently this escalating rates are linked with conspicuous and excessive consumption of unhealthy foods (Park, Sappenfield, Huang, Sherry & Bensyl, 2010) such as such as soft drinks and diet-related chronic Non-Communicable Diseases (NCDs) (Micha, Khatibzadeh, Shi, Andrews, Engell & Mozafarrian, 2015; Signh, Micha, Khatibzadeh & Shi, 2015).

This increasing trend in obesity and the development of NCDs is also observed in South African children(Negash, Agyemang, Matsha, Peer, Erasmus, Rajiv & Kengne, 2017. Shisana, Labadarios, Rehle, Simbayi & Zuma, 2013). . The South African National Health and Nutrition Examination Survey (SANHANES -1) indicated a combined prevalence of overweight and obesity at 13,5% amongst children aged between six to fourteen years. Additionally, in Limpopo Province, the prevalence of obesity was 3,3% and 4,3.% for boys and girls respectively (Shisana, Labadarios, Rehle, Simbayi & Zuma, 2013).

School tuckshops are usually profit-driven (Ronto, Ball, Pendergast & Harris, 2017; Wiles, Green & Veldman, 2011; Crepinsek & Cabili, 2009). A systematic review of 31 studies conducted in the United States of America (USA), indicated that the tuckshop managers were reluctant to sell healthier snack foods to learners since the latter preferred unhealthier snacks (Krolner, Rasmussen, Brug, Klepp, Wind & Due, 2011). A study conducted in SA indicated that the tuckshop managers highlighted that, selling

healthy foods such as fruits will have a negative impact on their sales (de Villiers, Steyn, Catherine, Draper & Jean, 2012). The rationale for reluctance in selling healthy foods was the high-cost implication, the short shelf life of fruits resulting in decay and loss of income (de Villiers, Steyn, Catherine & Draper, 2012; Wiles, Green & Veldman, 2011).

The perceptions of the learner's population in the USA was that most learner's preference on the consumption of fruits over vegetables was linked to age and different cognitive levels (Zeinstra, Koelen,Kok & de Graaf, 2007).The reviewed studies reported the high cost, affordability,texture and selection of fruits negatively influenced the children's choices (Krolner et al , 2011).The learners perceived fruits and vegetables as an inconvenient snack, as they required time to be washed, peeled, carried, and also consumed; thus a barrier to consumption (Gellar, Schrader & Nansel, 2007;Monge-Rojas, Garita, Sanchez & Munoz,2005).Whereas, in Canadian countries, the key stakeholders( district,parents,teachers) were concerned with implementation of nutritional guidelines and policies that may influence behaviours in improving school food environments; including reduced selling of low-nutrient energy dense items to realize broader public health (Levay, Chapman, Seed & Wittman,2018). In SA the accessibility of cheaper unhealthful foods was viewed as inhibiting the reinforcement of teaching healthy eating behaviour and the creation of a healthy food environment (Kupolati, Gericke & MacIntyre, 2015). A study conducted on food environments of resource constrained schools reported that schools need to expolre various measures including access to fruits and vegetables, regulation of foods sold through vendors/tuckshops for attainment of improved healthy eating (Faber, Laurie, Maduna, Magudulela & Muehlhoff, 2013).

Nonetheless, another study conducted by Bekker, Marais & Koen (2017) on South African learners' on the views and perceptions about food sold at the primary school tuck shops indicated that older learnes of a regulated school tuckshop preferred unhealthy snacks. Additionally, it also indicated that the both learners from a school with a conventional tuckshop and nutritionally regulated tuckshop preferred a combination of both healthy and unhealthy foods to be sold at the tuckshops (Bekker, Marais & Koen, 2017; Wiles, Green & Veldman, 2011). Learners perceptions in most reviewed literature are the same and this confirms that perceptions are dictated by food environments that translate into knowledge and eating lifestyles (Ahluwalia &

Sanan ,2016; Roberto, Swinburn, Hawkes, Huang & Costa, 2015). Furthermore, in the Western Cape Province, South Africa, it was found that mothers from low socioeconomic areas think that children buy unhealthy snack foods at schools, because of their relatively low prices (Smit, Kassier & Koen, 2017). However, in South Africa, Gauteng Province, the learner's choice, and the consumption of unhealthy snack foods were influenced by their peers and availability. The high price of fruits was mentioned as a factor for not buying them ( Sedibe, Kahn, Edin, Gitau, Ivarsson et al, 2014; Voorend, Norris, Griffiths & Sedibe, 2014). While a study conducted by Malongane and Mbhenyane (2017) amongst the Grade four to six learners in primary schools around Limpopo Province, South Africa; alluded that about 61% of the learners consumed maize chips, 54% potato chips, 52% ice cream and 7% sweets, one to three times per week.

While the South African government has put in programs like the NSNP which are meant to promote healthy eating and hunger alleviation (Department of Basic Education, 2008).However, the widespread of competitive foods around schools seems to be hindering healthy food environments. Hence the perceptions of all school stakeholders including the vendors are necessary in order to bring out better understanding of the continuous status quo.

## 1.2 PROBLEM STATEMENT

Several studies reported that the school food environments are populated by vendors or vending machines that sell unhealthy snacks (Chriqui, Pickel & Story, 2014; Park, Sappenfield, Huang, Sherry & Bensyl, 2010).The increased global shift of consumption patterns observed, are multifaceted by urbanization, food industry marketing and the policies of trade liberalization.This nutrition transition has resulted in health consequencies (Mchiza, Steyn, Abrahams & Clayford, 2013; Kearney, 2010). Furthermore, Swinburn, Sacks, Hall, McPherson, Finegood, Moodie & Gortmaker *(*2011) posit that an increased supply of cheap and processed foods; which are easily accessible and convenient; play a major role in the global problem of overweight, obesity, and the development of NCDs (Shisana, Labadarios, Rehle, Simbayi & Zuma, 2013). Besides the regulated tuckshops or not learners continued eating unhealthy snack while they perceived them unhealthy (Okeyo, Seekoe, de Villiers, Faber, Nel &

Steyn (2020). This consumption of unhealthy foods replaces healthy eating options and may contribute to micronutrient deficiencies and obesity that have effects on the overall health, cost on the health system, and economic development (IOM, 2012;Horton, 2004).

Dimamo circuit is based in a rural setting in Limpopo Province, where most of the schools have school vendors that are selling unhealthy snack foods to their learners. The availability of these snacks in schools has a greater influence on learners behaviour and food choices (Nickelson,Roseman & Forthofer,2010;Park, Sappenfield, Huang, Sherry & Bensyl, 2010). The schools have an ethical, pivotal role in shaping the behaviour and developing healthy food environments for their learners as most comes from poorer backgrounds that rely on social grants (Africa check. Fact sheets: 2015 ;Nortje, Faber & de Villiers,2017 & Shisana et al, 2013).

Currently, there is a paucity of published or documented data on perspectives of vendors, learners, and school governing bodies on snack sales in Dimamo circuit in the Limpopo Province, South Africa. Therefore, it is against this background that the researcher desired to explore the perspectives of learners, school vendors, and the School Governing Body about the snack sale in selected primary schools in the Dimamo circuit.

## 1.3 PURPOSE OF THE STUDY

The study aimed to determine the perspectives of vendors, learners, and School Governing Body on the snack sale in selected primary schools of Dimamo Circuit in the Limpopo Province, South Africa.

## 1.4 RESEARCH QUESTIONS

- What were the vendors' perspectives for selling the snack foods to the learners?
- What were the learners' perspectives about buying snack foods?
- What were the School Governing Body's perspectives toward the school food environment?

## 1.5 RESEARCH OBJECTIVES

The study strived to achieve the following objectives:

- To explore the vendors' perspectives on selling snack food at schools.

- To explore the learners' perspectives for buying snack foods.
- To explore the School Governing Body's perspectives on the school food environment.

## 1.6 SIGNIFICANCE OF THE STUDY

The widespread selling points of unhealthy snack foods in school have a significant influence on learners behaviour and food choices (Park, Sappenfield, Huang, Sherry & Bensyl, 2010). The schools have a pivotal role in shaping the behaviour and developing skills knowledge around healthy foods and diets. These identified problems have been proven to result in health risks such as chronic diseases and nutritional deficiencies that could derail health and economic development. The findings of this study will benefit the Department of Education to be informed of the circumstantial environment and also recommend better approaches to modify the food environment to benefit the learners, vendors, and school governing bodies.

For the School Governing Body's perspective, the findings can also benefit them in reflecting their individual opinions on the environment and their responsibility as overseers by developing beneficial strategies, to improve their school food environment. From the learner's perspective, the findings can help the school and the learners in understanding the effects of their actions and recommend approaches that could benefit their health. For the school vendors, the findings on their perspectives can be used to recommend better approaches for the vendors and also benefit the learners.

## 1.7 ARRANGEMENT OF CHAPTERS

This dissertation consists of five chapters, which are encapsulated as follows:

**Chapter 1: Introduction and background of the study**

This chapter provides an introduction and background to the study. The research problem, research question, aim and objectives are also explained in this chapter.

**Chapter 2: A literature review**

Chapter two entails a literature review that reflects evidence from previous research that was done on the perceptions of School Governing Bodies, vendors, and learners around the sale of snack foods at primary schools. The theoretical framework is also explained in this chapter.

**Chapter 3: Research methodology**

In this chapter the study design and study methods used, including ethical considerations and measures to ensure trustworthiness, are elucidated.

**Chapter 4: Discussion and presentation of the findings**

This chapter presents the findings of the collected data on the perceptions of vendors, learners, and School Governing Body on the sale of snack foods in primary schools at Dimamo circuit in the Mankweng area, Limpopo Province, South Africa. The findings are supported by direct quotations from participants and are presented in italics and supported by the literature.

**Chapter 5: Summary, recommendations, limitations, and conclusion**

In this chapter, a detailed summary of the research report is included, a description of the recommendations, limitations, also the conclusion of the study is provided.

## 1.8 CONCLUSION

The overview of the research study was discussed in chapter one above. The problem statement, the purpose of the study, the research question, objectives of the study, and the need to conduct this study were explained. Chapter two will discuss the literature review and the theoretical framework.

# CHAPTER 2
# LITERATURE REVIEW

## 2.1 INTRODUCTION

The following data sources were used to review literature related to the problem studied that is: Google Scholar, PubMed Central, Research Books, World Health Organisation documents, Departments of Health in SA, Education policies, procedures,https://www.scjn.co.za and Elsevier.https://doi.org/10.1016/B978-012370880-9.00097-9 etc.

## 2.2 THEORETICAL FRAMEWORK

This study utilise the Foodscapes ecological framework as the focus of the study as shown in Figure 1. The Foodscapes ecological framework is an application tool used in food environmental research and it helps in understanding the role of ecological factors in the context of Social-Ecological Models (SEM) (Mikkelsen, 2011). The SEM explains the multiple environmental factors that influence people's behaviour such as family, peers, school, food outlets, media, culture, social norms, and the political system (Sallis & Owen, 2002; McLeroy, Bibeau, Steckler & Glanz ,1988) The foodscapes framework helps in understanding ecological frameworks about how the food environment plays a major role in people's food interaction particularly outside the home environment such as schools and universities (Mikkelsen, 2011). Ecological frameworks have four broad levels of environmental influences that operate across multiple domains such as individual-level, social environments, physical environments, and macro-level environments. In this study, three multiple levels will be looked into as an investigating concept to understand the levels.

- **Individual factors (personal)**

This refers to individual lifestyles, demographics, and knowledge (Story *et al ,* 2008). . In this context, it referred to the learners' attitude towards the school food environment, attitudes towards healthy eating, and socioeconomic status as a determinant of what was purchased (macro levels includes manufacturers, distributes and policymakers).

- **Social environment (networks)**

This refers to the food environment, skills, knowledge, and influences that children family, friends, and peers socialise with (Story *et al ,* 2008). In this context, it referred

to the learner's interaction with friends, peers, and their influences towards their food choices within the type of school food environment of the schoolyards.

- **Physical environment (settings)**

The physical environment refers to schools, worksites, homes and neighbourhoods, and communities. In this context, it referred to the school food environment found within and outside the schoolyards.

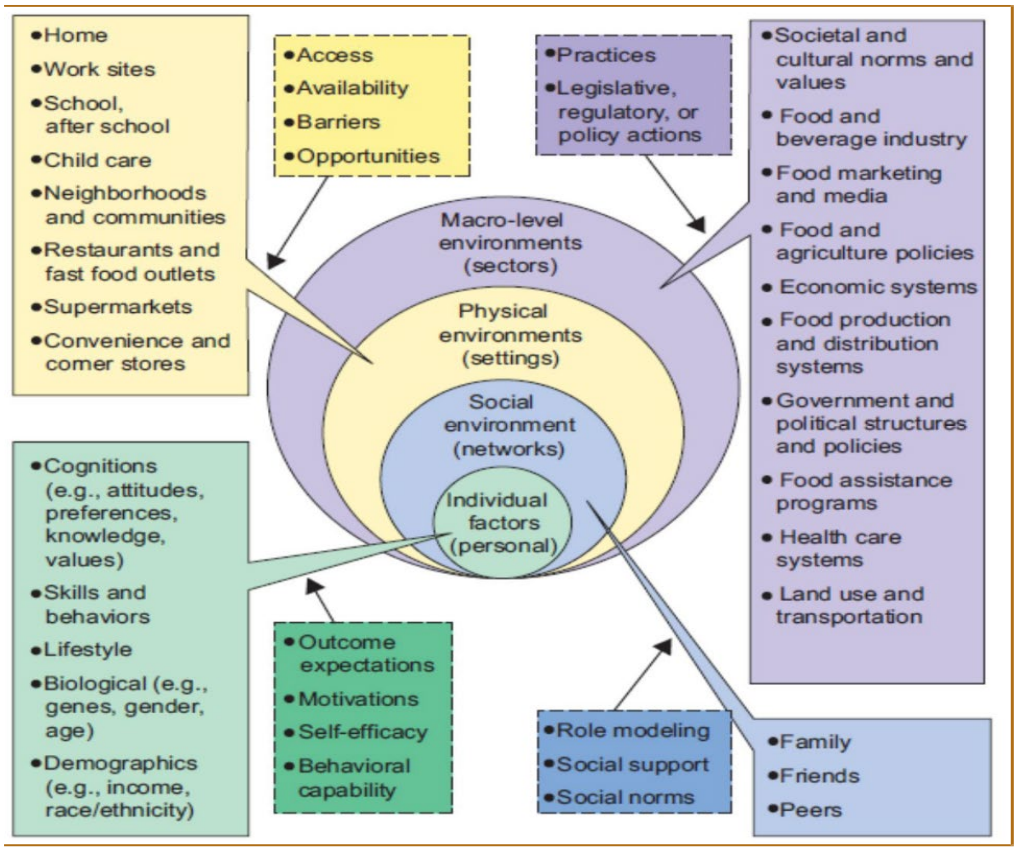


Figure1: Foodscapes ecological framework on multiple level influences (Story *et al*., 2008:273).

## 2.3 THE FOOD ENVIRONMENT

### 2.3.1 The role of food environment on food choices

The food environments play a significant role in promoting or hindering healthy eating habits. Healthy eating options are achieved in individuals where the environments promote and sustain healthful food options (Larson & Story, 2009). Additionally, an unhealthy food environment has the potential to increase the preference, demand, and consumption of unhealthy foods. However, the unhealthy foods that are of poor nutritional quality challenges the choice of healthy foods (Roberto, Swinburn, Hawkes, Huang & Costa, 2015). There is a gradual increase in vending machines around schools, working places, and universities; which are associated with unhealthful food choices among students in the USA ( Nickelson, Roseman & Forthofer, 2010 ;Park, Sappenfield, Huang, Sherry & Bensyl, 2010). Most vending machines sell high energy, low nutrient content snacks, and beverages that are associated with a higher body mass index (BMI) (Byrd- Bredbenner, Johnson, Quick, Walsh & Greene, 2012; Spanos & Hankey, 2010, Fox, Dodd, Wilson & Gleason, 2009). Therefore, in low-income countries such as Latino in South America , a high prevalence of unhealthy snacks and poor availability of fresh high-quality fruits within the proximity of the schools were also reported (Hillstrom, Graves, Wu, Gurney & Takehara, 2014; Kipke, Iverson, Moore, Booker & Ruelas, 2007). Furthermore, in South Africa, most schools sell unhealthy snack options that have low nutrient, high energy content to schoolchildren (Nortje, Faber & de Villiers, 2017).

### 2.3.2 Positive school climate

The availability of unhealthy foods the so-called “junk foods” contributes few micronutrients to the diet as they are high in saturated fat or added sugar, sodium, and are high in energy. These unhealthy foods are often ultra-processed and typically sold as ready-to-eat or ready-to-heat (Monteiro, Levy, Claro, Ine, de Castro & Cannon, 2011). The association study of the positive school nutrition climate and eating behaviour of learners reported higher consumption of fruits and vegetables however there was a limited effect on learners eating behaviour and BMI (Cvjetan, Utter, Robinson & Denny, 2014; Gilstad-Hayden, Scott, Rosenthal, Peters, McCaslin & Ickovics, 2014). Additionally, it is reported that built environments such as accessibility to healthful food establishment could facilitate behaviour changes that will also translate to improved weight status (Fietchner, Kleinman, Melly, Sharif, Marshall, Jason-Block, Cheng & Taveras, 2016). Attention should be placed on school climate (physical activity, school food, alcohol use, and surrounding areas) besides nutrition

curriculum and school policies inorder to change the learners behaviour and healthier outcomes( Gilstad-Hayden, Scott, Rosenthal, Peters, McCaslin & Ickovics, 2014 ; Ball, Timperio, Crawford , 2006).

### 2.3.3 The role of school vendors to food choices

There is mounting evidence that the built environment can influence the student's food choices (Voorend, Norris, Griffiths, et al, 2014; Sedibe, Kahn, Edin , et al. 2014). Generally, vending machines or vendors in schools offer limited healthy food choices (Reeve, Thow, Bell, Engelhardt & Gamolo–Naliponguit, 2018; Ali et al, 2015). Similarly in South Africa, most schools sell unhealthy snack options that have low nutrient, high energy content to schoolchildren (Nortje, Faber & de Villiers, 2017). Closer proximity to the supermarket was found to influence a higher consumption of fruits and vegetables in children whereas, in low-income countries such as Latino in South America ,a high prevalence of unhealthy snacks and poor availability of fresh high-quality fruits within the proximity of the schools was reported to lower consumption (Hillstrom, Graves, Wu, Gurney & Takehara, 2014; Kipke, Iverson, Moore, Booker & Ruelas, 2007).

## 2.4 PEER SOCIALISATION

Commonly, young people acquire skills, knowledge, and attitude through socialisation for their ultimate functioning in society. With consumer socialisation, the cognitive development model and social learning model are intertwined. Cognitive development revolves around children's growth which translates to matters of ethnicity, income level and acquired skills influenced by persistent structural exposure (Mikeska , Harrison, Carlson & Coryn,2017; Mau,Schramm-Klein & Reisch ,2014). Similarly, the social learning model is associated with environmental forces that are influenced by antecedents, socialisation processes, and outcomes. Children's food consumption aspect is derived mostly from structural family traditions,mass media, peers, and outcomes(Sanan & Ahluwalia, 2018;Mikeska, Harrison, Carlson& Coryn, 2017; Moschis & Churchill,1978). Socialisation process such as structural settings where individuals interact with peers along with age, social class and acceptance (Sanan & Ahluwalia, 2018; Brim, 1966), also have a major impact on the social orientation and consumption including student's food choices (Ali, Jarrar, Abo-El-Enen, Shamsi & Ashqar, 2015; Park, Sappenfield, Huang, Sherry, Bensyl, 2010).

According to a study done by Ali et al (2015) in the United Arab Emirates universities, students usually opt for what their friends eat as they sit or move around together as part of being accepted. It further reported that some students even went to the length of buying the same food as their friends due to peer pressure, as part of socialisation and acceptance, ending up eating a lot of "junk foods". In light of all these types of socialisation, it is necessary to create environments that influence positive behaviour that goes beyond life around schools.

## 2.5 MARKETING STRATEGIES TARGETED AT CHILDREN

Television (TV) viewing time is used as one of the effective vehicles by food companies to advertise their products. Mchiza (2013) reported that during the family TV viewing time from 17h00-19h00; there are aggressive advertisements for food products that are high in energy and low in micronutrients such as desserts, sweets, and fast foods. A similar study conducted in Guatemala by Chacon, Letona, and Barnoya (2013) reported that marketing techniques that are used by food industries, target children by promoting inexpensive and unhealthy snacks in the school's environment. For example, companies that are known to be selling unhealthy foods using their company billboards to brand the school, inside or proximal to the schoolyards while indirectly advertising their products.

## 2.6 CREATING THE POWER OF POSITIVE CONSUMPTION

In practice, it is not only the product advertising that is alluring and influential, but the manner of selected exposure, the emotional response ,persistent display, accessibility including that make consumption patterns tempting (Latif & Abideen, 2011;Belk, 1985) In marketing, framing information has the potential to help individuals and organisation to overcome cognitive behaviour or manipulating a choice (Gál, 2018 ; Thaler & Sustein, 2008). Display of unhealthy snacks daily to learners should be perceived as information framing that will eventually manipulate learner choice. Documented evidence both in marketing and health-related fields indicates that the less affluent suffer the consequences of consuming foreign products for self-identity, and consumer development (Ger, 1997). Similarly, undeveloped countries suffer food insecurity that translates to malnutrition with micronutrient deficiency due to nutrition transition ( Pangani, Kiplamai, Kamau & Onywera, 2016; Crush,Frayne & McLachlan, 2011).

The unilinear westernisation notion, consumer culture, and enterprise culture ;can be assimilated to nutrition transition that is leading to diseases of the lifestyle in developing countries.Thus, should be avoided through creating reverse resistant consumer patterns that bring about consumer development embedded in human development (Ger,1997). In simple terms marketing, healthy food environments are not beyond the realm of possibilities. Thus, it can be used to influence learner's positive consumer patterns to achieve reduced BMI and health risks later in life.

## 2.7 THE ROLE OF POLICIES IN REGULATING THE UNHEALTHY SCHOOL FOOD ENVIRONMENT

According to 2012 Integrated School Health Policy (ISHP) of South Africa, the school environment should be used to promote health, including good healthy eating habits. The schools should incorporate the "Food-Based Dietary Guidelines" as their nutrition education component of a school-health programme. The life orientation curriculum should champion this initiative. However, a study conducted by Nguyen, De Villiers, Fourie & Hendricks (2017) has indicated the reluctance of principals and curriculum advisors in implementing this policy.

Moreover, Civil Society Organisations in South Africa, such as the Healthy Living Alliance (HEALA) are also concerned with the school food environment. The HEALA conducted an audit of the food environment in 61 primary and secondary schools in Soweto and East Rand, covering 62,883 learners. They evaluated the school nutrition program as well as the foods sold at tuck shops and by vendors. The results indicated that bunny chow, popularly known as "*kota"* followed by fat cakes were the commonly consumed foods during lunch breaks. Furthermore, HEALA is advocating for the implementation of tuckshop guidelines in schools that will ensure that highly processed and fried food is not sold on school premises; only 200ml to 250ml of milk, water and drinks without added sugar should be sold, have unbranded vending machines, schools should keep a database of vendors selling food and beverage items on or near the school premises and audit those food items. The schools should offer training or hold meetings with tuckshop operators on the nutritional value of different products being sold (Healthy Living Alliance, 2018).

The IOM (2012) recommends the implementation, regulation, and monitoring of strong nutritional standards for all food and beverages sold or provided through schools as one of the strategies that can be used to prevent obesity.

### 2.7.1 The role of the National School Nutrition Program

In South African, the main source of foods available or consumed in schools is the National School Nutrition Program (NSNP), school vendor's food snacks, and those brought by learners themselves. The NSNP was introduced in 1994 by South Africa in public schools with the purpose to alleviate hunger and contribute to learning; through the provision of one nutritious meal a day (Department of Basic Education, 2008). Foods and snacks sold outside the NSNP program are referred to as competitive foods. According to the United States Department of Agriculture,(USDA) Food, and Nutrition Services (2009); competitive foods are defined as foods of Minimal Nutritional Value (MNVN) or foods that provide a low amount of nutrients per portion (e.g. chips, biscuits, sweets, etc.). These competitive foods that are available are not regulated by schools nor do they follow the guidelines of the Integrated School Health Policy of South Africa (ISHP) (2012) as indicated in the USDA, Food and Nutrition Services (2009).

### 2.7.2 The role of school in promoting healthy eating habits

The schools can provide and serve as the most effective mechanism for promoting, instilling, or moulding children's attitudes towards healthy eating. The schools generally accommodate a large number of children and its natural learning environment provides an opportunity for peer interaction and learning at the same time (Faber et al , 2013; ISHP, 2012; Sun, Lasling & Subratty, 2009). For the majority of children; eating options and sales that are available at school such as light snack called "*mashwamshwam*'' and beverages consumed, usually contributes a significant portion of their daily food intake as they spend four-eight hours at school ( Reeve et al ,2018; Byrd–Bredbenner, 2012; Welscher,Devereaux, Davis & Collins, 2000). Furthermore, it can be postulated that schools have an ethical responsibility towards children's food choices considering the micronutrient deficiencies, stunting prevalences and strides made by the government to alleviate this epidemic through various programs such as food fortification, social grants and NSNP program (Nortje et al , 2017). Additionally, parents can also play a positive role in advising their children

to buy healthier food options. On the other hand, this can only be achieved if these foods are available at schools (Wiles *et al* , 2011).

## 2.8 IMPROVEMENT OF THE SCHOOL FOOD ENVIRONMENT

The students usually spent the majority of their time at schools and universities. This is a vital moment to make decisions regarding their food choices and eating patterns. It has been cited that the type of eating habits established are more likely to be adhered to throughout their lifetime, and further determinant of their health status (Ali *et al* , 2015; Papadaki, Hondros, Scott & Kapsokefalou, 2007; Racette, Deusinger, Strube, Highstein & Deusinger, 2005). The other studies have reported that students hardly meet their recommended requirements due to being away from home, busy schedules, and the type of environment they live in (Ali *et al* , 2015; Racette, Deusinger, Strube, Highstein & Deusinger, 2005). This dictates their eating habits such as unhealthful eating practices of skipping meals, low consumption of fruits and vegetables foods and intake of fatty foods (Kerkadi, 2003).Creating a supportive school nutrition environment that influences the eating behaviour of students is apparent (Cvjetan, Utter, Robinson & Denny, 2014; Story, Nanney & Schwartz, 2009).

One study that was done by Rathi, Riddell and Worsley (2018) at the Indian private secondary schools, teachers' views (93.8%-100%) on improvements of food environments supported the notion of no sale of unhealthy foods in the school canteen, rather than promoting safe drinking water, and the sale of healthy foods in the canteen (e.g. salads) as a strategy for healthy eating. Additionally, the sale of affordable healthy foods was also raised by teachers (100%) as an incentive to improve school food services. Further emphasis was indicated by teachers (90.6%) on school food canteen to complement the school nutrition curriculum and (71.9 %) a written school policy was also seen as essential for regulating the school canteen (Rathi, Riddell & Worsley, 2018). In light of the nutrition curriculum, similar studies also cited students regarding nutrition education as another way of informing them to make healthier choices. The students further supported the idea of improving the food items sold, by giving several options as separate vending machines offering healthful items like water, fruits, and breakfast cereals (Ali *et al* , 2015).

## 2.9 THE SCHOOL TRUSTEE BOARD PERCEPTIONS ON THE SALE OF SNACK FOODS

Policies are integral tools that are used to regulate environments or practices with the purpose to, promote and achieve populations' health including those of children in schools (ISHP, 2012 ;Pharis, Colby, Wagner & Mallya, 2017). Policy implementations are meant to change the default environment factors that contribute to obesity (Novak & Brownell, 2012). While the life orientation curricula are meant to educate learners on various issues of health and nutrition, it could not have enough influence on the eating behaviour of learners as surveyed (Contento, 2011;HEALA, 2018). From various evidence of studies, it has been recommended that regulating and monitoring of school nutrition standards when it comes to the sale of foods and beverages is a requirement ( Institute of Medicine, 2012;Nortje, Faber & de Villiers, 2017).

One study completed in Kolkata, India, reported that most principals postulated that they were compelled to sell fast foods as students demanded them, as they were unhappy if they were not sold, and such sentiments were also seen with vendors (Rathi, Riddell & Worsley 2017). Furthermore, one principal reported that fruits were meant to be eaten at home, not at school (Rathi *et al* , 2017). Contradictory, a study conducted in Guatemala, reported that while there are regulations in school tuckshops (casetas), enforcement by schools varied widely (Pehlke, Letona, Ramirez-Zea & Gittelsohn, 2016). The three principals from the four sampled schools indicated that they visited tuckshop to ensure that permitted foods are sold. The principals as custodians of schools, therefore, have the moral duty and action to do the right thing for the children as said: "We can't hold our children's health to the highest bidder," which was referring to profit margins made by school vendors (Nichol, 2004).

### 2.9.1 Teachers' perspectives on food environment and selling of unhealthy snack

There is great concern around the emergence of obesity and diseases of the lifestyle worldwide, remains a fact that requires to be acted upon (Nnyepi, Gwisai, Lekgoa & Seru, 2015;Shukla, Shukla, Agarwal, Shukla & Sidhu, 2016). Chronic diseases and its treatment already has brought a serious threat to the health systems of the many countries and continuously affects the future lives of people (Monyeki, Awotidebe, Strydom, de Ridder, Mamabolo & Kemper, 2015; Ranjani, Mehreen, Pradeepa, Anjana, Garg, Anand & Mohan, 2016).

Literature has a plethora of documents that state that schools have a platform to regulate and create an opportunity to promote healthy food environments as learners spend most of their time at school. They learn, interact with each other to enable accessibility and better food choices (Faber et al*,* 2013; Hawkes, Smith, Jewell, Wardle, Hammond, Friel, Thow & Kain; 2015 ; Rathi, Riddell & Worsley, 2018).

A study done on teachers' views of food environments in Indian private secondary schools, reported that fewer teachers about (37,5%) indicated that there were a wide variety of unhealthy foods being sold in the school canteen in comparison to the majority of teachers (46.9%) who indicated that there is limited availability of healthy foods (Rathi, Riddell, & Worsley, 2018; Rathi, Riddell & Worsley, 2017). Additionally, in a study done by Rathi et al (2017) teachers raised concerns about the easy availability of unhealthy foods and also blamed authorities and canteens for selling them. Moreover, 28.1 % of school teachers viewed canteen foods as being expensive and also cited that junk foods should be banned from the school canteen while Rathi *et al* (2018), reported that students are not in favour of wide availability of vending machines as they dictate their choices of non-nutritive food items. Concerning school policy, about (34%) of teachers supported the idea of a written school canteen policy.

### 2.9.2 Vendors perspectives on the sale of snack foods

Several studies, Healthy Living Alliance, (2018); Nortje, Faber & de Villiers, (2017); Claasen, van der Hoeven and Covic, (2016); Ali et al *(*2015) ; Mchiza et al, (2013) have indicated that students' food choices are manipulated by environmental factors (food environment, industry, and supplies) and similar understanding in a Ghanaian study highlighted that consumers' are unable to control undesirable foods and unsafe conditions of foods sold to them (Opare-Obisaw,1998). In light of the above, government policies have a stronghold or rather a crucial role to address or even reverse the obesogenic environmental drivers like the manufacturing industry, suppliers, and vendors (Monteiro *et al ,* 2013; Swinburn *et al ,* 2011).

A study done in low-income schools in Guatemala, reported that vendors' challenges in selling healthy food were due to learners opting for unhealthy snacks. They also reported a loss of profits due to short shelf life and high prices of healthy products ended up dictating the sale of cheaper unhealthy snacks (Pehlke, Letona, Ramirez-Zea & Gittelsohn, 2016). Additionally, in South Africa, a study cited tuckshop owners

saying selling healthy items harms profit margins due to the decay of fruits (de Villiers, Steyn, Catherine, Draper & Jean, 2012).

The school tuck shops are usually profit-driven (Wiles, Green & Veldman, 2011). A systematic review of 31 studies conducted in the United States of America (USA), indicated that the tuckshop managers were reluctant to sell healthier snack foods to learners since the learners generally opted and preferred unhealthier snacks (Krolner, Rasmussen, Brug, Klepp, Wind & Due, 2011). The rationale for reluctance in selling healthy foods was the high-cost implication, the short shelf life of fruits (de Villiers, Steyn, Catherine, Draper & Jean et al*,* 2012; Wiles et al*,* 2011).

### 2.9.3 Students' perspectives on the sale of snack foods

The majority of schools in the Limpopo Province falls under quintile one, two and three, which are poorly resourced communities. The NSNP is one of the initiatives in the Department of Basic Education's (DoBE) in supporting poorly resourced communities with one meal to alleviate hunger and enable learning in schools (Department of Basic Education, 2009). Nationally, the NSNP is providing eight million learners with meals that contribute 30% of their requirements with one meal consisting of a protein such as fish, milk, soya, beans or lentils, carbohydrate and one portion of a vegetable and fat or a fruit (Department of Basic Education, 2013; Eberlein, 2013). Some studies have cited that poorly resourced communities usually consume a monotonous diet that is mainly starch-based (Faber et al *(*2001) and limited leafy vegetables that do not provide most of the required micronutrients (Erbelein, 2013).

In South Africa, studies have reported that children usually bring money to schools to buy foods from school tuck shops than bringing their lunch boxes (Warren, Parry, Lynch & Murphy, 2008). Additionally, it has been cited that 50% of learners nationally buy this food from tuck shops and vendors around schoolyards and are mainly unhealthy foods like chips, sweets and maize snacks (Nortje, Faber & de Villiers, 2017;Shisana, Labadarios, Rehle*,* South African National Health Survey, 2013). However, with circumstances like inadequate food intake coupled with micronutrient insufficiency and the type of foods bought at school, these learners are at risk of malnutrition regardless of foods provided at schools. As such concern should be a required notion that needs to be looked into.

High preference for unhealthy snacks by learners have been noted in schools. Additionally, learners' perceptions of snack foods sold in schools were also revealed, which led to various organisations (HEALA and The Institute of Medicine) and researchers calling for school-based interventions to promote healthy eating, (Story, Nanney & Schwartz, 2009).

One study indicated the accessibility, peer influence, and busy schedules for the consumption of unhealthy snacks through vending machines (Ali *et al* , 2015; Warren, Parry, Lynch & Murphy, 2008). Again, one student respondent as "I use the vending machine for quick snacks between lectures; for example, if my classes are in the morning I use the vending machine before lunchtime between classes." (Ali *et al* , 2015). So convenience was also a factor in buying. Similar studies were done in Guatemala and South Africa reported that learner's preferred unhealthy snacks such as cola, sweets, salty snacks over healthy snacks such as fruits and vegetables (Pehlke, Letona, Ramirez-Zea & Gittelsohn, 2016).

Furthermore, in Kolkata, India most learners also indicated their likes for unhealthy snacks such as chocolates, french fries, ice cream, samosas, etc. in their canteen. However, fewer learners reported not being happy with the sale of junk foods in the canteen (Rathi, Riddell & Worsley, 2017). A similar dissatisfactory notion was raised by students (67%) towards unhealthy foods being sold in canteens or shops outside the schoolyard (Chortatos, Terragni, Henjum, Gjertsen, Torheim & Gebremariam, 2018). Pricing was raised as a factor for buying unhealthy snacks. Where learners went outside the schoolyard to buy candy as they were cheaper (Chortatos *et al ,* 2018). Another consensus was seen in a study done by Rathi *et al (* 2016) where a learner complained about inflated food prices that prevented them access to healthful foods.

## 2.10 NEIGHBOURHOOD SURROUNDINGS

Low socioeconomic status (LSES) areas usually comprise of a high prevalence of informal trading or businesses that can offer services to ordinary people with irregular income or low income with smaller quantities of foods, while trying to adapt to poverty and food insecurity (Peyton, Moseley & Battersby-Lennardb*,* 2015). Furthermore, a concern was raised concerning retailers in poorer neighbourhood stocking less healthy

foods that dictate poorer people eating unhealthy foods (Battersby & Peyton, 2014). This less nutritious food product was also indicated to increase nutrition transition that promotes obesity and other diet-related diseases. However, while the public is affected by their food choices, environmental factors (systematic drivers, supplies, and vendors) influence individual choices (Swinburn *et al ,* 2011). Intervention strategies should not only focus on individual behaviour as it has been illustrated through psychological,framing marketing and other observational studies on consumption behaviour; like this, it's not effective enough (Monteiro *et al ,* 2013; Swinburn *et al ,* 2011; Latif, Abideen, 2011).

The vendors' cooked meals have become an alternative, convenient norm for the current communities due to the active economic lifestyle in the absence of home-cooked meals (Opare-Obisaw,1998). Despite being convenient, the sale of less healthy foods or street vending contributes income to the poorer household due to easy establishment.Thus they form part of the community, and alternative employment (Feeley, Kahn, Twine & Norris 2011).

## 2.11 CONCLUSION

Chapter two summarised unhealthy food environments, creating a positive school climate, neighborhood, and the role of policies in regulating the school food environment. The literature also presented the perception of teachers, learners, vendors, and parents with regards to the sale of snack foods around school environments both nationally and globally. The foodscape ecological framework that encapsulates the various food behaviours from the individual, social networks, and physical settings that influences people's food choices is presented in this study. Chapter three that follows below it will discuss the research methodology in detail.

# CHAPTER 3
# RESEARCH METHODOLOGY

## 3.1 INTRODUCTION

In this chapter, the qualitative research method was used as a guide. A qualitative design approach was utilised, intended at exploring the perspectives of the vendors, learners, and School Governing Bodies towards the sale of snack foods in primary schools. A qualitative design approach is used to explore individual's issues or events through prolonged contact with the purpose to understand their views and generate detailed information through words of their life experiences and interpret it in its natural setting (De Vos, 2005). The researcher engaged with various participants to gather opinions and understand complex issues towards the sale of snack foods around selected primary schools in the Dimamo circuit. The participants had the opportunity to relate their daily life experiences and freely contribute through one-on-one interviews and focus group discussions regarding the sale of snack foods in the Dimamo circuit, Limpopo Province.

## 3.2 STUDY DESIGN

An explorative, descriptive design was undertaken in this study to elicit information from the participants. Explorative research is the investigation of the research problem through interviews, group discussions among participants with similar characteristics, practices, and values for generating inferences (Guetterman, Fetter & Creswell, 2015). The researcher engaged with the school vendors, learners, and School Governing Bodies to investigate their perceptions, and views to bring out deeper meaning, understanding, and significance of their real-life experiences as attributes. Descriptive research is a method that describes the narrative phenomenon of groups or individuals in their natural setting (Vaismoradi, Turunen & Bondas, 2013; De Vos, 2005).

Descriptive research also describes the characteristics displayed in the content of documents as to what has been said by who, how the verbal cues were expressed, to whom it was said and the effects that are being felt (Bloor & Wood, 2006; Vaismoradi, Turunen & Bondas, 2013).

The participants voluntarily described their perspectives towards the sale of snack foods in primary school. They also described how they felt about their daily experiences and a possible way forward with the situations.

### 3.2.1 Study site

Data were collected at the selected primary schools situated in the Mankweng Cluster of Limpopo Province. Mankweng cluster comprises five circuits i.e. Lebopo Circuit, Dimamo Circuit, Mamabolo Circuit, Kgakatlou Circuit, and Mankweng Circuit, most of which are based in the rural areas. They are classified under quintile one rural schools and qualifies for a National School Nutrition Program (NSNP), (National School Nutrition Programme Grant Framework ,2018-19).

All the circuits in the Mankweng cluster are based mainly in rural settings and are homogeneous. However, the Dimamo circuit was purposefully sampled for the study as it is the only circuit that is 18 km away from the University of Limpopo. Dimamo circuit has 18 public primary schools and is situated within the Dikgale area indicated in Figure 3.1 below, in the Limpopo Province of South Africa, 30 km East of Polokwane City.

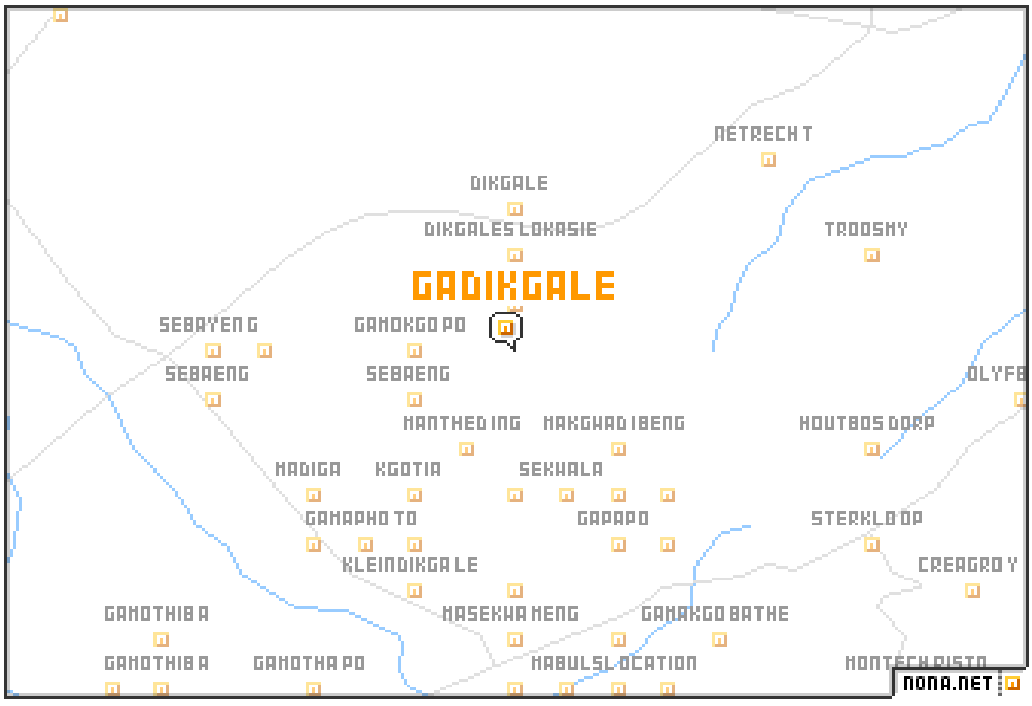


Figure 2: Area map of Dimamo circuit (NONA.NET)

### 3.2.2 Study population and sampling

The population comprised of Grade four and five, Grade six and seven learners, vendors selling at selected primary schools together with the School Governing Bodies. A non-probability purposive sampling technique was used to select the

schools and the participants of the study. Purposive sampling is a method that provides an opportunity for selecting and examining various participants, to enable the generation of data from a population that has the most characteristics. Thus, the attributes or the purpose of inquiry for a research study (Benoot, Hannes & Bilsen, 2016; de Vos, 2005).

#### 3.2.2.1 Dimamo circuit schools

The Dimamo circuit was purposefully sampled from the Mankweng cluster because it is the only circuit that has villages that are located 18- 25 km away from the University of Limpopo and has a population of homogeneous inhabitants in terms of setting, race and socioeconomic status that falls under Quintile one.

#### 3.2.2.2 School Vendors

The study included vendors who were selling five days a week at selected primary schools of the Dimamo circuit. Most of the selected schools had three vendors, while one school had five of them. In the case of the schools with few vendors, all of them were interviewed until data saturation was reached. There was one school with five vendors, three vendors were purposively sampled as they were a representative of the available vendors. They were interviewed until data saturation was reached. The total number of interviewed vendors were eight.

#### 3.2.2.3 The Learners

For the learners, the researcher purposefully sampled four learners from each class by selecting one out of each row to make eight participants. All the participants were selected out of Grade four to Grade seven classes to formulate focus group discussion on the day of data collection.

#### 3.2.2.4 School Governing Bodies

All members of the School Governing Body were all sampled to form a focus group discussion of six to eight members until data saturation was reached. The School Governing Body comprised of the principal, three teachers, and four parents.

## 3.3 ETHICAL CONSIDERATIONS

Adherence, consideration of ethical norms in the research project are important to promote the aim of research like truth, and avoidance of harm or error. Ethical norms help to ensure a healthy, trustworthy relationship between the researcher and the participant. Thus, to report accurate results to the public from the participant's perspective( De Vos, 2005).

### 3.3.1 Ethical clearance

The researcher obtained approval from the Departmental Research Committee, Faculty Higher Degrees Committee, and the Turfloop Research Ethics Committee at the University of Limpopo as attached as Annexure A. Thereafter, permission to collect data was sought from the Department of Education in the Limpopo Province, attached as Annexure B, and Dimamo circuit, attached as Annexure C

### 3.3.2 Permission to conduct the study

Before the commencement of the study the approval from the Provincial Department of Education Ethics Committee, the approval letter was submitted to the Dimamo circuit Manager of the schools. A further submission was made to the principals of the selected schools. All the protocols of management were informed about the aim, objectives, and methods of the study.

### 3.3.3 Informed consent and assent

A written consent and assent form in the language spoken in the local area was obtained from the participants before the commencement of the study, attached as Annexure D, Annexure E, Annexure F and Annexure G . The participants were informed about the aim, objectives, and methods of the research study. Whilst, informing them that partaking in the study was voluntary. They were also informed that they have the right to withdraw at any time without a given reason. Those willing to participate, a brief description of the research aim, procedure to be followed and consent, assent forms, and contact details of the researcher were given to each; two days before to make an informed decision. The consent form included the title of the study, the researcher's name, the research supervisor's name, and the aim and objectives of the study.

### 3.3.4 Confidentiality and Anonymity

The participant's confidentiality and anonymity were maintained by ensuring that the names and the information gathered by the researcher will not be shared with any other person who did not form part of the study and to those who were part of the study. The gathered information through the use of voice recorders, field notes, and transcripts was only shared with the concerned supervisors and the records will be kept in a safe place for 2 years. Additionally, anonymity was maintained by ensuring that the names of participants were not used instead codes were provided for response and questioning. Names of the participants were not used during the

interviews nor appear in the transcripts as well as names of schools (Lancaster, 2015). The participants were made aware that the results and recommendations of this study will be presented to the Limpopo Department of Education. The participants were treated with dignity throughout the data collection procedure.

### 3.3.5 Respect and Dignity

Respect and dignity is a behaviour and treatment that acknowledges people's humanity regardless of their race, status and also communicate in a way that enables people to speak their opinions, and maintain their autonomy without being harassed (Kuhn, 2018; Pringle, Johnston & Buchanan, 2015). The researcher had ensured that she speaks and treats the participants in a manner that recognises individual's rights as human beings, allowed them to voice their opinions without fear and choice to maintain their views in an understanding manner. The participants were informed that they can withdraw from participating if they feel uncomfortable and the researcher will respect their decision.

## 3.4 PREPARATION FOR DATA COLLECTION

The Turfloop Research Ethics Committee (TREC) approved the ethical clearance for the study to be conducted, (TREC/114/2019: PG) and permission to collect data in the four schools was granted by the Limpopo Province, Department of Education Research and Ethics Committee. The researcher requested permission to collect data from the Dimamo circuit Manager and selected primary school principals to build rapport, to discuss the involvement of the participants in the study, and to inform the principals about the planned dates for data collection.

## 3.5 DATA COLLECTION METHOD

A class was arranged by the school teacher and interviews were conducted after school hours without disturbing the learning process. The participants were reminded about the aim of the study, with consent and assent forms being given to all participants before the commencement of the interviews. Data was generated through a one-on-one interview for school vendors and focus group discussion for School Governing Bodies and learners from the sampled schools. A non-threatening environment such as greeting each other and a respectful atmosphere were created with all the participants. Interviews are the narratives held between the participant and the facilitator with the purpose to enable an interactive dialogue between to reveal opinions, views, attitudes, and practices of a real-life situation to gain an in-depth

understanding of the problem studied through asking and probing questions, when necessary until data saturation is reached (De Vos, 2005;Ritchie, Lewis, McNaughton Collins & Ormston, 2014). The rationale for probing was to deepen the response to a question, to elicit more information to increase the richness of the data that is obtained, and to give cues to the participants about the level of response that is desired (de Vos, 2005). The data collection tool is attached as Annexure H.

- **The school vendors**

The researcher requested scheduled appointments with all participants who were involved in this study. A semi-structured one-to-one interview session was conducted with each school vendor. According to de Vos (2005), a semi-structured one on one interview is an interview that is usually flexible and focus on the complexity of the interesting issues deemed personal or controversial. The researcher explored views or standpoints and practices of the vendors given maximum opportunity to engage interactively to gain an in-depth understanding of the participant's phenomenon without intrusion until data saturation is reached. Predetermined open-ended questions were used as a guide, where the central question to be asked was: "What are the reasons for selling the food snacks to the learners?'' Probing questions were asked when necessary to seek clarity seeking and extraction of more information. Participants were offered alphabetical codes for identification during data collection. Request for documenting information and voice recording was done by the researcher.

- **The School Governing Body**

The researcher requested a scheduled appointment to obtain permission from the school's governing bodies. A focus group discussion of six-eight participants per school was formulated with a duration of 45-60 minutes. Request to record and write information was completed by the researcher before commencement of the interview. A non-threatening environment was created to enable an interactive engagement to explore various views, attitudes, practices, and feelings to gain in-depth knowledge, and understanding of the phenomenon under scrutiny until saturation was reached.

The participant was given alphabets codes as identification for answering or questioning during the interview. Field notes were written down, non-verbal cues were noted, and voice recorded. A predetermined open-ended question was used as a guide, where the central question asked was: "What are your views about the school

food environment?''. Probing questions were asked to extract more information for generating an explicit data.

- **The Learners**

An unstructured focus group discussion of six-ten people from each of the selected grades was done. The researcher requested a scheduled appointment with the learners. The opinions, beliefs, practices will be explored through an interactive verbatim manner to gain an in-depth understanding of the participant's phenomenon in real-life situations. An interview session of 45-60 minutes was formulated until data saturation was reached. A non-threatening environment was created to enable an interactive engagement with the learners to explore various views, and attitudes. The learners were also given alphabetic codes as identification for answering or questioning during the interview.

Predetermined open-ended questions were used as a guide, where the central question asked was: "What are the reasons for buying the food snacks sold by the school vendors?''. This was followed by probing questions for clarity seeking on areas that were not clear. "What do you think can be changed about this snack food that are sold to you"?

**Tools to collect data**

Tools such as battery-operated tape recorders field notes for noting of verbal cues were used to enable a full recording to allow the researcher and the participants to concentrate on their conversation without disturbance and minimise loss of data.

**Inclusion criteria**

The vendors, learners, and School Governing Bodies of the selected schools in the Dimamo circuit formed part of the study. All school vendors above the age of 18 years regardless of gender, selling snack foods, and fruits within a 500m radius of the sampled primary schools in Dimamo circuit were included in the study. All elected members of the School Governing Body acknowledged as co-decision makers in the day-to-day management of the school. Grade four-five and Grade six-seven learners that were registered at the school, with a signed consent and assent forms were included in the study as they could be the main customers of the school vendors.

**Exclusion criteria**

All shops are situated more than 500m radius to the primary schools were excluded from the study as they could not have similar views, and practices with those adjacent

to the schools. The School Governing Body of all non-participating schools was excluded to be part of the study as their schools were not sampled. The learners from lower grades not indicated within the sampled schools were not part of the study. Learners whose parents have not signed the consent form, as well as learners who did not assent, were excluded.

### 3.6 BIAS

Bias is a systematic error that can occur due to the researcher studying a non-representative sample. A researcher interviewing with a preconceived idea, or asking leading questions that possibly will cause collected data, analysis, interpretation, and conclusion to be confusing or bias (Seal, 2012). The researcher refrained from imposing her ideas and the use of leading questions to the participants. Although, the researcher encouraged the participants to talk freely about their views and opinions without fear.

### 3.7 DATA MANAGEMENT AND ANALYSIS

The interviews were recorded using field notes, a voice recorder, and transcribed verbatim in Sepedi. It was then translated into English by the researcher. All the interviewed participants were assigned codes that read VA, for VENDOR, A at the schools, SGB,A for School Governing Body, A and LA for Learner, A. The transcriptions were analysed and coded using the TESCH's open coding method of qualitative data analysis. Data analysis technique in qualitative involves revision of the information in terms of reading, listening to recorded data, transcribing, filling, and organising into the date, followed by interpreting the meaning of the studied phenomenon, then categorising data into themes and codes of events (Creswell,2014).

**TESCH's method was used, following the 8 steps:**

***Step 1* – Reading through the data**

The researcher carefully listened through all records and transcribed verbatim. This gave ideas about the data segments and what they meant. Thereafter, received a sense of the whole by reading repeatedly all the verbatim transcriptions carefully to try to get meaning in the information and write down all that emerged. The researcher engaged in data analysis and then wrote down all the thoughts coming to mind.

***Step 2* – Reduction of the collected**

After going through all the records the researcher scaled-down the data collected to codes based on the existence or frequency of concepts used in the verbatim transcriptions. All topics that emerged during the scaling down were listed. The researcher arranged similar topics in groups by forming columns labelled major topics; unique topics; and leftovers that did not associate with other topics. Notes were written in the margins. The researcher started recording thoughts about the data in the margins of the verbatim transcripts.

***Step 3* – Asking questions about the meaning of the collected data**

The transcripts were read through again and analysed them. Currently, the researcher questioned herself about the transcriptions of the interview, based on the codes (mental picture codes when reading through), based on the frequency of repetition from the concepts. The questions were “What is the most descriptive wording?” “What is this about?” and “What is the underlying meaning?”.

***Step 4* – Abbreviation of topics to codes**

The topics that had emerged as codes were abbreviated. These codes were written next to the appropriate category of the transcription. Differentiation of the codes was prepared by including all meaningful instances of a specific code’s data. All these codes were written in the margins of the transcripts against the data they represented with a different pen colour as to the one in Step three.

***Step 5 – Development of themes and sub-themes***

The data material belonging to each category of theme and sub-themes were assembled. The aim was to reduce the total list of categories by grouping topics together that relate to each other to create meaning. The data material belonging to each category was put together in one place and preliminary analysis was performed.

***Step 6 – Comparison of the codes, topics, and themes for duplication***

All the codes, topics, and themes that were made initially were reworked to check the work for duplication and refine where necessary. Using the list of all codes, the list was checked for duplication. Then similar codes were grouped and recoded where necessary so that they could fit in the description.

***Step 7 – Initial grouping of all themes and sub-themes***

The data belonging to each theme were assembled in one column and preliminary analysis was performed. This was followed by a meeting between the researcher and

the co-coder to reach consensus on themes and sub-themes that each had come up with independently.

***Step 8 – Recoding if necessary***

Recoding; whenever a necessity to recode happened and some of the themes reached independently were merged. After the data were analysed by an independent co-coder, the researcher and the co-coder rescheduled a meeting to discuss the results of the qualitative data analysis. An agreement was reached regarding the main themes and the sub-themes that emerged from the data. The researcher, co-coder, supervisor and co-supervisor reached a consensus regarding the finalisation of the themes and sub-themes that emerged from the one-on-one interviews and focus group discussions of the learners, school governing body, and vendors. In the next chapter, chapter four is the presentation of the discussion and presentation of findings.

## 3.8 MEASURES TO ENSURE TRUSTWORTHINESS

The processes or the criteria to be followed to describe the trustworthiness intended by the study such as credibility, transferability, dependability, and confirmability were related.

### 3.8.1 Credibility

Research credibility refers to the procedures followed by the researcher during data collection and analysis in seeking to explore the problem under study and reflect or describe the actual findings of the participants' behaviour, attitudes, and situations (Amankwaa, 2016; de Vos, 2005). Engagement with the supervisor and co-supervisor was ensured with the purpose to identify accurate participants fit, to describe their experiences, views, and practices suitable for the topic of the study.

The researcher undertook prolonged engagement with participants to collect data using semi-structured, one-to-one interviews which lasted from 10 min – 45min. The focus group discussions lasted approximately between 45min – 60min. The data were collected amongst seventy-seven (77) participants from a period of one month and a day from (October 21 – November 20, 2019) until data saturation was reached. The participants were allowed to describe their standpoints, practices, and their perceptions of the snack foods sold around primary schools in the Dimamo circuit. The researcher had an in-depth understanding of the various participants' views and practices regarding the sale of snack foods under scrutiny (de Vos, 2005).

Triangulation methods such as focus group discussion and one-on-one interviews were conducted through the use of field notes, voice recorders to record information elicited from participants. The collaboration between the supervisor and co-supervisor was undertaken to check both the data and the interpretation with the purpose reduce flaws and biasness.

### 3.8.2 Dependability

This refers to the issues of reliability in a completed research project where, when the work is repeated with similar participants and methods then similar results will be obtained (de Vos, 2005). For the dependability of this research project, my supervisor and co-supervisor collaborated through the sharing of a transcript, themes, and voice recording together with the co-coder who has extensive experience in qualitative research to reach consensus with regards to the emerged themes and subthemes. The data, findings, interpretations, and recommendations were also evaluated by the co-supervisor and the co-coder.

### 3.8.3 Transferability

Transferability is when the findings of the study can be applied in another context and respondents (Shenton, 2004). Purposive sampling was undertaken in this research to select the primary schools i.e. Maboyane, Moraro, and Mantheding primary in the Dimamo circuit to study the phenomenon. The researcher collected a detailed account of data in the context and reported adequately with the purpose to allow judgment about the application of similar strategies in other situations (transferability) to be made by other researchers (Babbie & Mouton, 2009).

The findings of the study were not generalised to all the public schools in the Limpopo Province but were only limited to the schools in the Dimamo circuit in Mankweng cluster as supported by De Vos, (2005) who stated that a qualitative study's transferability or generalisability to other settings could be a problem.

### 3.8.4 Confirmability

Confirmability refers to the objectivity of the investigator's tools and methods used to gather data. The concept is concerned in ensuring that the findings of the research results should be those attributed by the participant's practices and perspectives rather than the researcher's preferences (De Vos, 2005). Confirmability audit trail was left to enable the auditor to determine if the conclusions, interpretations, and

recommendations can be traced to their sources and if they are supported by the researcher (Babbie & Mouton, 2009).

Pre-arranged handing over of voice recordings and written field notes was undertaken with an experienced qualitative researcher, who listened to the recorded interview sessions. Therefore, evaluated whether the data confirmed the general findings and lead to the implications, which is a suitable qualitative criterion (De Vos, 2005).

## 3.9 LIMITATIONS AND STRENGTHS OF QUALITATIVE STUDY DESIGN

The strengths of qualitative research methodology is that it anticipates to explore and understand a complex reality and the meaning of actions in a given context (Queirós, Faria & Almeida, 2017). It gives deeper meaning and understanding the context of the problem. It produces in-depth analysis of the various dimensions of the research problem. It depicts reality that cannot be quantified. It gives bigger proximity of the research problem being studied. In this case, focus group discussions were usedand their strengths is that the information was gathered frm a group rather than an individual. Thus, provide a braoder context of the research problem compared to the one-on-one interviews.

The limitation of a qualitative study is the the data is collected for a small sample size, thus the results cannot be a representative of the general population within the target study group(Queirós, Faria & Almeida, 2017). The other challenge might be how data is collected. Since researchers should conduct the interviews some participant might withould the information for fear of judgement or fear of being victimised for revealing specific information to the group. Subsequently there might be hinderence of the quality and depth of data. At times, it might be hard to control and manage(Creswell, 2014) . The researcher did not experience the challenges with the control of the particpants since we had set the ground rules of enagagements beforehand and had conducted the pilot study which assisted in participants management.

## 3. 10 THE PILOT STUDY

The pilot study was conducted at the Sesoai Primary School that has a homogenous characteristics with the sampled primary schools. The school is in the same area of Dimamo Circuit. The purpose of the pilot study was to test the data collection tool and

the time taken to complete the interviews. A non-probability purposive sampling technique was used as learners of both genders were sampled from every second row in class to make a group of eight participants. Consent forms were sent to the parents and school vendors to sign and all the parents and vendors brought back the signed forms. There were the training researcher who is well experienced with qualitative data collection as well as the research supervisor on the days of conducting the pilot study. The pilot study was conducted at different days and times as follows:

**Learners**

Most of the learners responded at the same to the question asked. This made the researcher to realise that i have to make them raise hands and call an alphabet to give every participant an opportunity to respond to the question asked. During the interview the first question that was asked was not understood "**what do you think about the foods sold at school?"**. and it was rephrased to: **I want to know your feelings, thinking and opinions about the type of snack foods sold by the vendors here at school?** The time for completion of data collection was 45 min 36 sec.

**Vendors**

Six vendors were found at the same school and four vendors were sampled to participate. The vendors were interviewed after selling snacks to the learners. The questions asked was "**what are your reason for coming to sell at school?".** And this question did not bring out the answer that was relevant to the study question as they gave reason of unemployment. This question was rephrased to **"what are the reason for selling the type of snacks to the learners?"**

**The School Governing Body**

A focus group discussion of six members of the SGB were interviewed. The interview lasted for about 45-50 minutes. They understood all the question asked. Thus, there was no need to formulate or rephrase the questions.

## 3.11 CONCLUSION

The chapter 3 of this study indicated the research design methodology and were described in detail. Purposive sampling process was applied to select participants and data was collected until saturation was reached. Focus group discussion method and One -on –one, semistructured interviews were also used for data collection with one central question asked:***'What are your views about the school food environment?".*** Probing was done to elicit information and clarity of issues described by participants. Measures to ensure trustworthiness comprised of credibility, dependability, transferability and confirmability and were adhered to as outlined in De Vos, (2005) and Babbie & Mouton,( 2009). Analysis of data was done according to steps of Tesch's inductive, descriptive open coding technique, as outlined in Creswell (2014).

# CHAPTER 4
# DISCUSSION AND PRESENTATION OF THE FINDINGS

## 4.1 INTRODUCTION

This chapter describes the data collected from learners (Table 4.1), SGB (Table 4.2), and vendors (Table 4.3) of the schools at the Dimamo circuit. The in-depth interviews were conducted through semi-structured focus group discussions (FGD's) and one-on-one interviews. Before the interviews could start participants were assigned alphabetical codes for identification, e.g. SGB, A, (School Governing Body, A) LA (Learner A), or VA (Vendor A), from each of the sampled schools. The interview recordings were transcribed verbatim in Sepedi and then translated to English by the researcher. The verbatim transcriptions were submitted to an independent co-coder, who is an experienced qualitative researcher, to ensure the trustworthiness of the study findings. Four themes and their sub-themes indicating the perceptions around the sale of snack foods at schools in the Dimamo Circuit of the Mankweng cluster are presented. The findings are supported by literature from previously conducted research and current relevant sources to generate the meaning of the results. Subsequently, the findings are presented in the following order: demographics, themes, and sub-themes that are supported by direct narratives from participants and are written in *italic.*

### 4.1.1 Demographic characteristics of participants

The tables below described the demographic characteristics of all the participants interviewed amongst selected primary schools for the study. The participants will be regarded as FGD1, LA; FGD1, SGBA, and VA.

**Table 4.1:Demographic characteristics of Learners**

| **Socio-demographic characteristics of Focus group discussion, Learners** (FGD, L) | **Numbers** |
|---|---|
| Total number of learner participans | 41 |
| **Age** | |
| 10 - 11 years | 17 |
| 12 - 13 years | 23 |
| 14 years | 01 |
| **Gender** | |
| Male | 20 |
| Female | 21 |
| **Education** | |
| Grade 4 & 5 | 17 |
| Grade 6 & 7 | 24 |
| **Institution** | |
| Maboyane primary (FGD1,L) | 08 |
| Moraro primary (FGD2, L) | 17 |
| Mantheding primary (FGD3,L) | 16 |

All the learners who participated were at primary school level. Most of the participants were selected from grades six and seven and the least were in grade four and five.

**Table 4.2: Demographic characteristics of the School Governing Body**

| **Socio-demographic characteristics of Focus group discussion, SGB's** (FGD, SGB) | **Numbers** |
|---|---|
| Total number of, SGB's participants | 20 |
| **Age** | |
| 45 - 55 years | 08 |
| 55 - 65 years | 12 |
| **Gender** | |
| Male | 07 |
| Female | 13 |
| **Level of Education** | |
| Tertiary | 13 |
| Completed Secondary | 04 |
| Completed primary | 03 |
| **Institution** | |
| Maboyane primary (FGD1,SGB) | 07 |
| Moraro primary (FGD2, SGB) | 08 |
| Mantheding primary (FGD3, SGB) | 05 |

The SGB comprised of the principal, teachers, and parents' as components. All the teachers and principals had completed tertiary education together with one parent who is a retired teacher. All of them were interviewed at their respective schools. Out of the total participants, 13 of them were teachers, and seven of them were parents that comprised three that had completed primary, three had completed secondary and one (1) with tertiary education.

**Table 4.3: Demographic characteristics of school Vendors**

| **Socio-demographic characteristics of Focus group discussion, Vendors** (FGD,V) | **Numbers** |
|---|---|
| Total number of vendor participants | 08 |
| **Age** | |
| 45 - 55 years | 05 |
| 55 - 65 years | 03 |
| **Gender** | |
| Male | 00 |

| | |
|---|---|
| Female | 08 |
| **Level of Education** | |
| Tertiary | 00 |
| Completed Secondary | 02 |
| Completed primary | 04 |
| Uncompleted primary | 02 |
| **Institution** | |
| Maboyane primary (FGD1,V) | 02 |
| Moraro primary (FGD2, V) | 03 |
| Mantheding primary (FGD3,V) | 03 |

All vendors who participated in the study were aged between 35 – 65 years. There were also interviewed at their respective schools. None of the school vendors had tertiary education. However, two of them had completed secondary, four had completed primary and two had no primary school education.

## 4.2 DISCUSSION OF THE FINDINGS

The total number of learners targeted for the study were 30, which comprised of focus groups between eight and ten learners from each school. However, during data collection, it was recommended that lower grades learners be included to determine various views and perceptions towards the sale of snack foods amongst learners. At the end of the focus group discussions, data saturation was reached with 41 participants.

Furthermore, 18 SGB members from the selected schools were interviewed until data saturation was reached, while schools had various numbers of vendors. One school had three vendors. However, on the day of data collection, two vendors were available and one vendor was absent. Going forth the third vendor no longer availed herself for the interview as her daughter came on her behalf, but she was not interviewed due to lack of exposure to selling.

However, data were collected until data saturation was reached. The second school had five vendors and three vendors were purposively sampled as a representative of

the sample until data saturation was reached. The third school also had three vendors in total and all vendors were interviewed until data saturation was reached. The total number of eight vendors were interviewed. The findings of the study are discussed through themes and sub-themes, which are supported by literature from previously conducted researchers and participants' direct narratives using Tesch's open coding technique.

| MAIN THEMES | SUB – THEMES |
|---|---|
| **1. Explanations of Learners', Vendors', and SGBs' perceptions related to the sale of snack foods at the school environment** | 1.1 The observation that the type of snack foods sold are not healthy and non-nutritive.<br>1.2 Indication of the need for the sale of fruits at school environment.<br>1.3 Existing need versus lack of support regarding healthy snack food sale at the school.<br>1.4 An outline of the perception of unhealthy food preparation by vendors. |
| **2. Description of challenges experienced by Learners, Vendors, and SGB related to snack foods** | 2.1 Explanation of problems associated with the consumption of snack foods.<br>2.2 The interruption of class attendance due to illness<br>2.3 School environment indicated as a driver to buy unhealthy snacks.<br>2.4 Neighbourhoods indicated as a contributing factor to the sale of snack foods. |
| **3. Description by Learners and SGB vendors regarding disparity amongst learners on the sale of snack foods** | 3.1 Provision of pocket money viewed as a stigma amongst children.<br>3.2 Cost of fruits indicated as a factor for buying unhealthy snacks.<br>3.3 Dislike of other foods and allergies was indicated as a factor for buying.<br>3.2 Lack of palatability of NSNP meals described as a factor for buying snack foods. |

| | |
|---|---|
| **4. Description of the suggestions for improvements to the school food environment by learners.** | 4.1 Knowledge of the nutritional content of healthy snacks was described.<br><br>4.2 Description of food preparation by vendors.<br><br>4.3 Concerns raised by learners related to the vendors' hygiene practices.<br><br>4.4 Compilation of a food policy seen as a possible solution to the school food environment.<br><br>4.5 Creation of tuckshop viewed as an option to control the type of snack foods sold and hygiene.<br><br>4.6 Request for selling of labelled snacks by the SGBs'.<br>4.7 Plea for help concerning the sale of snack foods by the SGB's. |

**THEME 1: EXPLANATIONS BY LEARNERS, VENDORS' AND SGBS' PERCEPTIONS TOWARDS THE SALE OF SNACK FOODS AT THE SCHOOL ENVIRONMENT**

All the participants during the interviews explained their various views as observed towards the sale of snack foods. Learners and SGB raised similar views on the nutritional content and unhealthy state of snack foods. However, the vendors indicated selling of fruits as a challenge as learners preferred unhealthy snacks. Four sub-themes that described the views of learners, SGBs' and vendors emerged under this theme.

| **SUB –THEMES** |
|---|
| 1.1 The observation that the type of snack foods sold are not healthy and non-nutritive.<br>1.2 Indication of the need for the sale of fruits in the school environment.<br>1.3 Existing need vesus lack of support regarding healthy snack foods sale at school.<br>1.4 An outline of the perception of unhealthy food preparation by vendors. |

**Sub-theme 1.1: Observation that the type of snack foods sold are unhealthy and non-nutritive**

During the interview of both the SGB and learners, it revealed that the two groups have negative perceptions as they have observed that the snack foods sold by vendors were unhealthy, non-nutritive and will have a negative impact on the growth of the learners. These responses were based on unacceptable behaviour and illnesses experienced by the learners such as hyperactivity due to sugar, additives and vomiting. One learner indicated that: "*They are not selling healthy foods, but they sell potato crisp, sweets and not fruits". (FGD1, LA)*. Another one also raised: "*It's not right for kids to buy unhealthy foods at school". "We are supposed to buy healthy foods" (FGD2, LE).* Additionally, another learner also said: "*The ladies who are selling here at school they sell a lot of junk foods and they don't have healthy food and because we love junk food, we buy it."* (FGD3, LE) Similar views were indicated by the SGBs, where one participant said: *"In my view, the snack foods sold in the school are not healthy and not appropriate for the learner's growth'' (FGD2, SGB, G*). Again another SGB said that: "*We wish that they can sell fruits as the type of snacks sold they are not healthy" (FGD1, SGB, H).* Furthermore, another one said: "*We are not satisfied with this snack food sold as they sell junk foods, chocolate, there are no nutritious snacks* "*(FGD3, SGB, B).* With further deliberations with the vendors, one said: "*We know very well that they are unhealthy. It's just that we are in business" (V2).*

Although, most learners perceived snacks sold as unhealthy; few students from Grade 6 and 7 indicated there is a need for the availability of unhealthy foods snacks. This was supported by the following quotations: "They *must sell junk foods but not every day because you find that the chips and sauces are not acceptable"* (FGD1, LC). Another one also said that: "*I say they should sell foods like burger, hot dogs, things that will satisfy our need" (FGD2, LD).* This notion was raised as an option to be made available for students who opted to buy them or as it's satisfying for others.

Usually most foods bought at school were reported to be those that are non nutritive high energy dense( (Okeyo et al, 2020). Additionaly, this study conducted in the Eastern Cape Province, South Africa, at secondary schools also discovered that the learners mostly bought unhealthy foods like fat cakes, chips, and sweets even though they also perceived them as unhealthy too (Okeyo et al, 2020). Similarly, a study conducted by Malongane and Mbhenyane (2017) amongst Grade four to six learners

in primary schools around the Limpopo Province, South Africa; mentioned that about 61% of learners consumed maize chips, 54% potato chips, 52% ice cream and 7% sweets, one to three times per week. Furthermore, a study conducted by Bekker et al (2017) reported that students preferred the availability of both unhealthy and healthy snacks in their tuckshops.

**Sub-theme 1.2: Indication of the need for the sale of fruits at school environment**

Learners when asked if they will buy fruits when made available, most of them emphasised the need to buy fruits in schools. The need for fruits can be motivated by their knowledge from their curriculum in class, as they were taught the health benefits of fruits consumption like vitamins. Availability and accessibility to unhealthful and poor nutrient foods were mostly criticised by the learners as they attributed them to their poor eating habits (Rathi, Riddell & Worsley, 2017). One learner said: *"I will be happy if they sell fruits because learners will no longer be sick" (FGD1, L C).* Another learner added that: " *I think if they can sell fruits it will be better , junk foods will make other kids sick (FGD3, L D).* Furthermore, another learner said*:* "*They must sell fruits as they are a healthy option'' (FGD2, LB).*

Subsequently, a positive perception of consumption of fruits over snack foods was linked to age and different cognitive levels (Krolner et al*,* 2011). The SGBS's also indicated similar sentiments on the sale of fruits. These statements confirm their support: *"The learners will buy as there will be no other choice but fruits only. If we sell fruits only they will buy" (FGD2, SGB, B).* Additionally, the other SGB also voiced that*:* "*Firstly, we understand that fruits are healthy and the best for our body. They can sell all kinds of fruits in season" (FGD3, SGB, C).* Moreover, one SGB said*: "I am saying if there could be selling of fruits, it will bring health to the kids. These people don't care about their children." (FGD2, SGB, D).* Early intervention strategies and healthy eating habits are necessary during adolescence as they can positively influence long term eating behaviours (Wiles, Green & Veldman, 2011; WHO, 2005)

The varied views were indicated by school vendors on the sale of fruits. Most of them highlighted on the selling of fruits as a challenge. One vendor said*: "Learners don't buy fruits and they get easily spoiled" (VC).* Additionally, another vendor said: *"They don't buy fruits (talking with hands) they once requested us to sell fruits. I've been long in the business and we explained to them that they don't buy fruits" (VE). No, we won't have a problem, but the problem is that the kids won't buy fruits.*

A study conducted in South Africa reported similar findings that the tuckshop managers highlighted that, selling healthy foods such as fruits had a negative impact on their sales (de Villiers et al, 2012). The rationale for reluctance in selling healthy foods was the high-cost implication, the short shelf life of fruits that resulted in decay and loss of income (de Villiers et al, 2012; Wiles et al, 2011).

**Sub-theme 1.3: Existing need versus lack of support regarding healthy snack food sale at school**

Consequently, while there is an existing need for snack foods sale in schools, there is a lack of support for the sale of healthy snacks between the school SGB and Vendors. From the engagement with both parties (SGB and vendors), a consensus was never reached due to a lack of cooperation in the decision making. One of the SGB said: *"We talked with them about the selling of fruits, but they said the government is providing the fruits and that makes it a challenge as learners don't buy them" (FGD1, SGB, D).* Furthermore, one said: "*The community together with the vendors caused riots when the principal said they should not sell kids unhealthy food and they said how are they supposed to survive as they are unemployed" (FGD2, SGB, C).* Another one also said*:* "*We understand they are trying to make a living due to unemployment, but they are killing our children. We don't know who is going to help us" (FGD3, SGB, C).*

The vendors raised similar frustrations towards the lack of support from learners and SGB as they felt that their challenges are not considered when it came to the sale of fruits. One vendor indicated that: *"Parents will not agree cause the school provides them for free" (VA).* Additionally, one vendor said*: "Learners don't buy fruits. So we decided to sell the snack foods" (VD). Unless the school stop providing learners with fruits then they will buy from us (VB).*

The majority of the children have limited eating options. Hence, the sales that are available at school such as light snack called "mashwamshwam'' and other foods snacks, usually contributes a significant portion of their daily food intake, as they spend four to eight hours at school (Byrd–Bredbenner et al, 2012;Reeve, Thow, Bell, Engelhardt, Gamolo–Naliponguit et al, 2018; Welscher, Devereaux, Davis & Collins, 2000). Furthermore, it can be postulated that schools have an ethical responsibility towards the learners food choices considering the micronutrient deficiencies, stunting prevalence and strides made by the government to alleviate this epidemic through

various programmes such as food fortification, social grants and the NSNP programme (Nortje et al , 2017). Additionally, parents can also play a positive role in advising their children to buy healthier food options. On the other hand, this can be achieved if these foods are available at schools (Wiles et al, 2011). Seemingly vendors had decided to continue selling unhealthy foods regardless of their impact on learners. However, all stakeholders, SGB, parents, and vendors have a moral obligation towards the learner health.

**Sub-theme 1.4: An outline of the perception of unhealthy food preparation by vendors**

Concerning the food snack preparations, most learners highlighted their concerns around cooking methods or fatty foods. One learner quoted that: "*Some of us we eat potato fish and chips then add tomato sauce. The chips and potato fish have a lot of fat" (FGD2, L E).* The other learner also said: *"Some of the sold foods are not well cooked you can have cholera because of unsafe things". (FGD1. LC).* Furthermore, one SGB said*: "There are no fruits but fatty foods like fried fish" (FGD1,* SGB, H*).* The other SGB indicated that*: "Secondly, there are sweets that have a lot of sugar, when a child consumes them you don't know what will happen" (FGD1, SGB, B).* One study highlighted similar findings where one participant complained about the kind of snacks found in vending machines. The student said: *"I do not like the chips and chocolate machine because it contains high-calorie food and they are everywhere; I mean; it encourages students to buy these types of food."* (Ali, Jarrar, Abo-El-Enen, Shamsi & Ashqar, 2015).

A few learners indicated that: "*I know that they are fatty, but I want to eat nice foods" (FGD2, LA)*. Most adolescents tend to consume largely unhealthful energy-dense foods coupled with a low intake of fruits and vegetables (Story, Neumark-Sztainer & French, 2002). Another study conducted by Feeley, Musenge, Pettifor, and Norris (2012) reported on contrary findings to this study; where most adolescents from all ages had a preference for fried chips, vetkoek (dough balls), fried fish (battered), pies (pastry with a filling, usually meat), and boerewors (local sausage) rolls which accounted for more than 74% of total fast foods consumed.

**THEME 2: THE DESCRIPTION OF CHALLENGES EXPERIENCED BY LEARNERS, VENDORS, AND SGB RELATED TO SNACK FOODS**

Three sub-themes that described the challenges of Learners, Vendors and SGB on the snack foods eaten have emerged under these themes.

| SUB-THEME |
| --- |
| 2.1 Explanation of problems associated with the consumption of snack foods.<br><br>2.2 The interruption of class attendance due to illness<br>2.3 School food environment indicated as a driver for buying unhealthy snacks.<br><br>2.4 Neighbourhoods indicated as a contributing factor to the sale of snack foods. |

**Sub-Theme 2.1: Explanation of problems associated with the consumption of snack foods**

The deliberations on the sale of snack foods with participants revealed several challenges, that were brought by the consumption of snack foods sold in schools. The participants highlighted direct quotations like: "*Learners do vomit when they have eaten sweets and also experience headache when it is hot" (FGD1, LC).* Another learner indicated that*:* "*These women are selling a lot of junk foods here at school and they cause ringworms,they make us sick*" (FGD3, LF). Additionally, another learner raised a point that: "*The sweets are making us have bile and the chili crisp causes allergy as we have rush and sores" (FGD2.LA).*

The SGB also highlighted similar quotes such as: *"After eating them they drink water frequently; they scratch themselves and also vomit it will be better if fruits can be sold" (FGD1. SGB, B).* Furthermore, another SGB also said that: "*They vomit, have ringworms and also diarrhoea. We are pleading for support to help the vendors to sell nourishing snacks" (FGD3. SGB, E).* Globally several studies had reported on trends of obesity amongst adolescent and particularly girls of low and middle socioeconomic status being at risk of NCD's like cardiovascular diseases and type two diabetes due to unhealthful eating patterns (Shukla, Shukla, Agarwal, Shukla & Sidhu, 2016; WHO, 2011).

All the participants' had similar views about the challenges of snack food consumption in schools. One of the vendor's perspective was: *"The problem is those "mashwamshwam" that are in big plastic bags. The kids were vomiting"(VD).* Another was also quoted*: "We chose these snacks because the others are not right for the kids. Because we saw that the children used to have ringworms because of hand-packaged snacks now we sell readily packed snacks" (VF).* A study conducted in the US has reported a limited offer of healthful foods around vending machines in colleges (Byrd - Bredbenner et al*, 2012), and vending machines were generally associated with unhealthful food choices in schools* (Park et al *,* 2010).

**SUB-THEME 2.2: The interruption of class attendance due to illness**

Both the learners and SGB highlighted the disruption of classes that are caused by experienced illnesses from snack consumption. Some of their direct narratives were: *"I will be happy if they sell fruits because learners will no longer be sick, cause they usually dizzy and others don't concentrate in class. (FGD1, LD).* Another response was: "I was saying they must sell fruits four times, sweets, once because if we buy it every day- every day, this interrupts our studies" *(FGD2, L*B*)*. Additionally, the other learner said: "*Other days we vomit or get sick and inform our teachers whereby they send us home. This ends up disturbing our learning process" (FGD3, LC).* This response from learners reflects that the learners are aware of the negative impact of high consumption of unhealthy snacks and it is a cry that needs urgent intervention.

Furthermore, the SGB also complained of fruitless efforts when it came to the teaching in class due to disruption by illness and disturbances by learners. Some of the points raised by SGB were: *"We have stopped them from selling handpicked snacks. Even the rate of vomiting kids has dropped. Now we send home 3 to 4 kids a day". (FGD3, SGB, D).* A similar point was highlighted: "*Again they don't concentrate in class as they are hyperactive, we are saying kids are not performing in schools. It's because of tetrazzini. We are in pain about this" (FGD2, SGB, G).*

It is disconcerting to find examples of illnesses due to unhealthy eating in schools experienced by poor communities in South Africa. They fall under quintile one, which is a category for communities that are the poorest of the poor and their main source of food is the NSNP (Department of Basic Education, 2008). Furthermore, it has been reported that a larger proportion of South African learners who are from disadvantaged backgrounds go to school either hungry or without having breakfast,

which can impact negatively on their stature due to chronic hunger including their cognitive ability to perform at school (Public Service Commission 2008; Richter, Rose & Griesel, 1997). The frustrations demonstrated by the learners and SGB's call for intervention; this brings the notion of where responsibility should lie, as said: *"The moral judgment should not be considered within one side of the paradigm"*. The acceptance of the responsibility should be in line with the recommendations and our actions in consideration of human justice and the possible impact (Nortje et al, 2017). Most of the vendors from this finding had shown a lack of responsibility or compassion towards the situation with some of their responses being: "*This is what the kids like. Do you see that there is no banana or apple here? It's because they don't buy fruits. They buy fried fish, crisps, sweets, and slap chips" (VE).*

**Sub-theme 2.3: School food environment indicated as a driver to buy unhealthy snacks**

The discussions with the participants revealed that the environments that are existing in schools are the ones' channelling food choices together with eating habits. This is supported by direct narratives: *"They sell all sorts of foods. So kids buy because, it is what is available" (FGD2, SGB, D).* The SGB also indicated that*: "These vendors come to sell here because they don't have jobs. They sell things that we don't approve of" (FGD1, SGB, A)*. One learner subsequently said: *"It's not right for kids to buy unhealthy foods at school. We are supposed to buy healthy foods"* (*FGD2, L* E). Furthermore, another learner also pointed out that: *"Learners buy sweets because they don't sell the fruits here at school even at the market" (FGD1, LH).* Most schools in South Africa are supported by the NSNP to alleviate hunger and contributing to learning through the provision of nutritious meals to learners (Basic Education, 2008). Foods, snacks sold outside the NSNP programme are referred to as competitive foods. According to the USDA, Food and Nutrition Services (2009); competitive foods are defined as foods of Minimal Nutritional Value or foods that provide a low amount of nutrients per portion (e.g. chips, biscuits, sweets etc.). However, food environments found in schools have a significant role in promoting or hindering healthy eating (Larson & Story, 2009). The environments have the potential to increase the preference, demand, and consumption of unhealthy foods which are of poor nutritional quality and challenges the choice of healthy foods (Roberto, Swinburn, Hawkes, Huang & Costa, 2015). Furthermore, these competitive foods available are not regulated by the schools nor

do they follow the guidelines of the Integrated School Health Policy of South Africa (2012).

Literature has a plethora of documents that state that the school has a platform to regulate; create an opportunity to promote healthy food environments as learners spend most of their times at school; learn and interact with each other; to enable accessibility; and better food choices (Faber et al*,* 2013; Hawkes, Smith, Jewell, Wardle, Hammond, Friel, Thow & Kain, 2015; Rathi, Riddell, & Worsley,2018).

**Sub-Theme 2.4: Neighbourhoods indicated as a contributing factor to the sale of snack foods**

The discussions with the school vendors SGB revealed that the shops within the proximity of schools were selling unhealthy snacks and that inhibited the sale of healthy snacks. That alone motivated learners to go and buy unhealthy snacks from outside, hence, they continued with the sale of unhealthy food snacks in schools. Subsequently, one SGB member also quoted the neighbourhoods as a contributing factor for the sale of unhealthy snacks with this statement: "If *we don't allow the vendors they go outside and buy at neighbouring shops where they sell dangerous things" (FGD1, SGB, A*). Additionally, the other SGB said: *"Even if we can write the policy on fruits, the kids will bring sweets from the nearer shops as they open early. The shops will encourage the buying of unhealthy snacks when they go outside the yard" (FGD2, SGB, F*). However, one school had a verbal agreement with the selling of snack foods that they deemed to be healthy while they are not. The SGB said: "*We do have a verbal agreement in selling inside the yard as learners no longer go to the shops outside" (FGD2, SGB, D).* Consistent views were highlighted by the vendors as they quoted that: *"We won't have a problem, but the challenge is that they will be running to the neighbouring shops to buy those snacks they say it's a problem" (VF).* Another one said: "If *you don't sell sweets and biscuits they buy from the shops next door" (VG).* Furthermore, another one said: *"We are selling because the school is next to the shops, don't you see? So let's just sell them as they will go to the shops outside. I don't have to narrate that" (V E).* Consistent views were found in Estrade, Dick, Crawford, Jepson, Ellaway, and McNeill, (2014) where one vendor said: *"The people who are health-conscious, they only think about that. The people who are not, they don't bother you even with 100 different options, they're going to pick the Coke out of it. You know, so this is not actually the question, what is available, what is not available.*

*If somebody wants something, they come here to buy that thing. They don't come here to [say] "okay, don't give me this, you can give me that".*

Some studies have reported that outlets within the school proximity sell foods that generally offer foods that exceed the recommended energy, fats, and saturated fats amounts (Crawford, Ellaway, Mackison & Mooney, 2012; Leite, Oliveira, Cremm, Abreu, Maron & Martins, 2012). Similarly, in South Africa, most schools have inside or outside settings that sell unhealthy snack options with low nutrient, high energy content to school children (Nortje, Faber & de Villiers, 2017). The findings revealed that vendors were aware that the unhealthful foods they offered are of public health concern however, they emphasised that this is what the learners wanted (Estrade et al, 2014). Built environments such as accessibility to healthful food establishments can facilitate the behaviour changes that will translate to improved weight status (Fietchner, Kleinman, Melly, Sharif, Marshall, Jason-Block, Cheng & Taveras, 2016). Furthermore, a study conducted by Burgoine, Mackenbach, Lakerveld, Forouhi, Griffin, Brage, Wareham, and Monsivais (2017) found that lower education attainment, overweight, and obesity was more associated with greater distance from supermarkets.

**THEME 3: DESCRIPTION BY LEARNERS, SGB AND VENDORS REGARDING DISPARITY AMONGST LEARNERS ON THE SALE OF SNACK FOODS**

Four Sub-themes about the description of disparity amongst learners regarding the sale of snack foods to learners emerged under these themes.

| **SUB –THEME** |
|---|
| 3.1 Provision of pocket money viewed as a stigma amongst children. |
| 3.2 The cost of fruits indicated as a factor for buying unhealthy snacks. |
| 3.3 Dislike of other foods and allergies was indicated as a factor for buying. |
| 3.4 Lack of palatability of NSNP meals described as a factor for buying snack foods. |

**Sub-theme 3.1: Provision of pocket money viewed as a stigma amongst learners**

A significant proportion of poorer households in South African provinces, depends on social grants as a source of income (Africa check. Fact sheets, 2015). Limpopo Province is one of the poorest provinces with a constituent of 89% population in the

rural area, 11% in a suburban area, and with a high rate (38.9%) of unemployment. Furthermore, the majority of primary schools are found in rural and peri-urban settings (Statistics South Africa, 2012). This suggests that learners in this study are of low socioeconomic status, hence, they depend on NSNP and further voiced "inequality" with regards to the conduct of other learners when buying snack foods during lunchtime. Some of them who raised their views were: "*Other learners buy these foods because they get R20, as pocket money as they present themselves as being rich" (FGD1, LD); and end up not eating school meals but buy bunny chows (FGD1, LH).* The other one said: *"Those who bring money to school must not be a lot that can afford them to buy junk foods but eat school meals" (FGD1, LB).* Additionally, similar sentiments were highlighted by the SGB: "*I think they cause pressure on our learners. Some learners don't eat the NSNP foods and those who don't have enough money they feel inferior as they can't afford other expensive foods" (FGD2,* SGB, *A).* Similarly, a study conducted in the Bronkhorstspruit District reported that learners did not consume the NSNP foods as they did not want to be perceived as being poor by their peers (Kupolati et al, 2015).

**Sub – Theme 3.2: Cost of fruits and other healthy options indicated as a factor for not buying fruits**

The majority of school children in South Africa have a cereal-based diet that lacks variety; hence, schools must offer healthy food options. However, the cost was a barrier to these meal options (Steyn et al, 2006). Further discussions with learners' revealed that the need for fruits is demanded by the majority of learners. They indicated that cost is a barrier to healthful options. Available cheap and tasty unhealthful foods pose a greater risk to obesity and other non-communicable diseases (Stuckler & Nestle, 2012). Direct narratives from one learner: *"Learners are from different backgrounds and they need to sell fruits that are affordable to other learners, if there is no trading at school, all learners will feel the same" (FGD1, LB).* Similar views were raised where nutritious meals in school were sold at higher prices (Rathi et al, 2018; Ronto*,* Ball, Pendergast & Harris, 2017). Concurring points were also indicated that schools have to offer nutritious meals at an affordable price to enable healthier food choices (Stephens, McNaughton, Crawford & Ball, 2015). Additionally*,* the other one said: *"Myself I think they decided to sell sweets as they are affordable and sellable to learners" (FGD1, LC).*

This is consistent with findings by Kupolati, Gericke, and MacIntyre, (2015) where unhealthy food choices were prompted by availability and low cost in resource-constrained *environments.* A further consistent finding was with the study by Ali *et al* (2015) as food snacks cost from vending machines was never mentioned and were found to be cheaper than the healthful ones in outlets. However, vendors highlighted various views as all of them complained that if they sell fruits most of the learners do not buy them due to preference for unhealthy snacks or cost. One vendor said: *"We did sell but it's expensive so they don't buy it" (FGD1, VB*). The other one said: "*The challenge with fruits is they get spoiled easily. It's not profitable. they love these snacks and they are not good as they have sugar and it will kill them" (FGD 2, VC).* Additionally, one also said: *"They are expensive and when you sell it for R2.00 they can't afford it. So they don't buy fruits, they don't buy it, they just look at them" (FGD 3, VG).*

Similarly, one study also reported that vendors also said cost and profitability was also a challenge when it came to healthier options as learners do not buy them (Estrade, Dick, Crawford, Jepson, Ellaway & McNeill, 2014; Sharpe, 2010). Subsequently, the selling of fruits was seen as a barrier by the vendors as it was provided in the NSNP meals around schools. One of the vendors indicated that: *"Fruits, they don't buy, they just look at them. This is because they provide them here in school" (FGD 2, VD).*

**Sub-theme 3.3: Dislike of other foods and allergies were indicated as a factor for not consuming NSNP meals**

Food aversion usually occurs in individuals who are less familiar or have less preference to the food item and either experience gastrointestinal symptoms like vomiting or bloating (Bernstein,2008). This impact negatively to human life as it dictates their food choices and eating behaviour (Garcia-Burgos, Wilhelm, Vögele & Munsch, 2019).With further engagement on the reasons why they bought snack foods; other learners indicated that they did not like, eat some of the offered foods, or some of the ingredients in the meals. One of the participants said: *"Some other days they serve milk and porridge so we decide not to eat that and we buy chips, fish, and atchaar (FGD 2, LB).* Another one said: *"Because some of the food provided we don't eat them, like butternut and I buy atchaar because it's nice" (FGD 2, L F).* Additionally, the other learner said: " *Some say they are allergic to fish or to beans so they buy*

*those foods (FGD3, LE).* A study done by Kupolati, Gericke, MacIntyre (2015) reported the dislike of vegetables by learners could be due to ignorance or fear of being perceived as poor by their peers).

However, craving and temptation were highlighted as a factor for buying these foods even when there were free meals provision in schools. One of the learners said: *"We crave for them and because they are tasty" (FGD3, LG).* Similarly, exposure to junk foods most of the time was reported to be tempting by one university student (Ali *et al,* 2015). Another study has indicated that the poor availability of healthful foods does interfere with the consumption of healthful ones by adolescents (Utter, Scragg, Percival & Beaglehole, 2009). Contrary to these findings, teachers indicated that learners were tempted mostly by the availability of cheap foods and interfered with choice and practice of what was learned in class (Kupolati, Gericke and MacIntyre (2015). Furthermore, lack of maturity and cognitive ability to make healthful choices have a major impact (Utter, Scragg, Percival & Beaglehole, 2009). Generally, young people acquire skills, knowledge, and attitude through socialisation for their ultimate functioning in society. The consumer socialisation, cognitive development model, and social learning model are intertwined. Cognitive development revolves around children's growth which translates to matters of ethnicity, income level, acquired skills influenced by persistent structural exposure (Brim, 1966;Moschis & Churchill, 1978 ??).

Moreover, the socialisation process such as structural settings where individuals interact with peers along with age, social class and acceptance (Sanan & Ahluwalia, 2018) also have a major impact on social orientation, consumption including student's food choices (Ali, Jarrar, Abo-El-Enen, Shamsi & Ashqar, 2015; Park, Sappenfield, Huang, Sherry & Bensyl, 2010).

**Sub-Theme 3.4: Lack of palatability of NSNP meals described as a factor for buying snack foods**

Some of the learners indicated that the NSNP meals were not tasty or not prepared well, that propelled them to buy this snack food. Some of their views were: *"We buy because the fish here at school has a lot of water" (FGD 3, L D).* The other one said: *"We buy atchaar because they give flavour to our foods" (FGD 2, LE).* Furthermore, the other one also said*: "We buy because atchaar, atchaar makes the food to be tasty" (FGD3, L F).* Similarly, other studies also reported that the availability of unhealthier

foods, unpalatable school meals, and limited eating time were some of the factors that learners chose unhealthy foods (Bauer, Yang & Austin, 2004;Bos, Van der Lans, Van Rijnsoever & Van Trijp, 2013). Contrary to this finding it was reported that teachers thought that learners would not refuse to eat certain foods if they were prepared in a tastier manner (Kupolati, Gericke and MacIntyre, 2015). Subsequently, Okeyo et al (2020*)* reported *various learners' positive views about NSNP foods being fresh, delicious, and well prepared.*

However, few of the learners perceived those who do not eat the school meals as portraying themselves as being better than others. Some of the learners were told by their parents not to eat school meals. Some of them said: "*Others bring their own lunch box as they present themselves as being rich" (FGD 1, LD).* Additionally, one also said: *"I don't eat these foods my mother makes me lunch box" (FGD3, LH).* In South Africa, previous studies have reported that children usually bring money to schools to buy foods from school tuck shops than bringing their lunch boxes (Cox, Anderson & Lean 1998; Warren, Parry, Lynch & Murphy, 2008). Divergent to this study, the majority of the learners ate school meals, additionally, they bought sweets and "mashwamshwam" at school and a few learners brought their lunch boxes. Subsequently, a study done by Bekker et al (2017) reported that learners in regulated healthy tuckshops brought a healthy lunch box while they also brought a significant amount of unhealthy snack foods from home. However, the NSNP for tuck shops guidelines states that parents and caregivers should provide a healthy lunch box as an alternative for learners.

## THEME 4. DESCRIPTION OF THE SUGGESTIONS FOR IMPROVEMENT OF THE SCHOOL FOOD ENVIRONMENT BY LEARNERS

Six sub-themes on the suggestions for improvement of the food environment emerged under these themes.

| SUB- THEME |
| --- |
| 4.1 Knowledge of the nutritional content of healthy snacks was described by learners. |
| 4.2 Description of food preparation by vendors. |
| 4.3 Concerns raised by learners related to the vendors' hygiene practices. |

4.4 Compilation of a food policy seen as a possible solution to improve the school food environment.

4.5 Creation of tuckshop viewed as an option to control the type of snack foods sold and hygiene.

4.6 Request for selling of labelled snacks by the SGBs'.

4.7 Plea for help regarding the sale of snack foods by the SGB's.

**Sub-theme 4.1: Description of knowledge on the nutritional content of healthy snacks was describe by learners**

The call for the improvement of the environments, most of the learners and SGB's requested the sale of fruits snacks while knowledge was also indicated. Direct narratives indicated *were: "Eeh. as I have already said, fruits have vitamins. They are nutritional on its own. Fruits are better than those" (FGD2.SGB, E).* The second participant highlighted that: *"Firstly, we understand that fruit is healthy and the best for our body. They can sell all kinds of fruits in season" (FGD3, SGB, C).* Furthermore, knowledge was indicated by learners: *"Need to sell fruits as they give us vitamins which help with mind growth (FGD 2, LD).* The other one said: *"I will be happy if they can sell fruits as they have vitamins and crisp has diseases" (FGD1, LH).* Similarly, Temple, Steyn, Myburgh, and Nel (2006) reported that learners demonstrated knowledge by differentiating healthy and unhealthy snacks. Consequently, nutrition subject where learners are taught about Life skills, Natural Science and Technology is part of the curriculum in South African primary schools. Topics such as eating habits, healthy eating, nutrients in food, food processing, and food hygiene are part of learning hence knowledge was demonstrated (DoBE, Republic of South Africa, 2011a; 2011b).

Subsequently, other learners indicated the need for the sale of both healthy and unhealthy snacks in schools. This is supported by narratives like: *"I will be happy if they can sell fruits the whole week and sweets once a day. (FGD1, LD).* Additionally, the other learner said: *"I will buy both sweets and fruits as sweets give us energy and fruits enhance mind growth"(FGD1, LB).* Consistent findings for the combined sale and need for both unhealthy and healthy sale of snacks by learners were reported (Bekker et al *,* 2017; Wiles, Green & Veldman, 2011). The creation of supportive environments

and advocacy for a generation of a healthy individual is relevant (Van den Berg & Meko, 2014) for the future growth of economies in SA and of great importance for global economic contribution (Anderson & Strutt, 2013;United Nations, 2015).

**Sub-theme 4.2: Description of food preparation by vendors**

Most learners were not happy with the fatty foods that were sold at school as they suggested for the reduction of fat when cooking "slap chips"/ deep-fried potatoes. This are some of their direct narratives: *"I was thinking that they must reduce fat when cooking chips" (FGD 1, LG).* Another one said: "*They use 2L oil when they cook chips and they don't drain or filter oil when packaging. They don't care, they just package" (FGD2, LC)*. Additionally, the SGB indicated the same sentiments: *"There are no fruits but fatty foods like fried fish. They are not healthy, the reason our kids have ringworms or rash" (FGD2, SGB*, B). Comparatively foods of high energy like fried samosa and french fried chips were also observed in Indiana school (Rathi et al, 2018*).* Again similar deep-frying; using trans-fat and saturated fat as raised in this study (Kaushik, Narang & Parakh, 2011).

However, other learners indicated that the oil used for deep frying of chips was used until it turns black, indicating the need to be changed, and also they requested that vendors should stop selling fatty foods. Some of the highlighted views were: "*When they cook fat cakes they don't change oil, the following day they use it again" (FGD 2, LF).* The other learner said: *"I agree with H, that they don't change the oil but use it until it turns black because we usually find burnt chips inside the packets" (FGD1, LC).* Additionally, the other learner said: *"They need to stop selling bunny chow, slap chips, and viennas because they have a lot of fat" (FGD2, LG).* Contradictory to these findings, the students suggested nutrition education tips on vending machines (Bergen & Yeh, 2006) and also food labelling in vending machines together with educational posters enabled students to make healthier food choices (French, Jeffery, Story, Breitlow, Baxter & Hannan*,* 2001) Furthermore, a similar study conducted by Ali et al (2015) nutrition education via web sites, electronic bulletin, and nutrition activities were also suggested.

**Sub-theme 4.3: Concerns raised by learners related to the vendors' hygiene practices**

Most of the learners were concerned about hygiene practices and food handling by the vendors. They suggested that they wash their hands or wear gloves. One of the

learner's views: *"When the vendors have to add sauce on top if it does not flow they use their fingers to remove curdled sauce, and you are not sure if they washed their hands, you can have cholera because of unsafe things" (FGD1, LC).* Another one said: *"They should stop selling self-packaged potato crisp as they use bare hands while we don't know if they wash their hands. "We request that they wear gloves" (FGD 2, LC).* Additionally, another one said: "*We find used match sticks inside the food" (FGD3, LA).* This is consistent with the findings by Rathi et al, (2018) about a small proportion of learners who observed unhygienic practices. Moreover, other studies reported similar unhygienic practices of unclean workstations, lack of handwashing, and the use of hand gloves or changing of hand gloves (Rodríguez-Caturla, Valero, Carrasco, Posada, García-Gimeno & Zurera, 2012; Tan, Bakar, Karim, Lee & Mahyudin 2013).

However, other learners indicated that fruits and the sold food were placed on the floor or ground rather than in containers while they sold in the open space. The concern was: *"The other problem is that when they sell fruits they put them on the mat openly not in a container" (FGD1, LD).* Additionally, also the SGB were concerned with hygiene as they sold in open space. They also said: "*I don't think the place is appropriate for selling in Spring there is a lot of dust, so what happens to those foods? You don't know if they cover or not" (FGD 2, SGB, A).* Another SGB said*:* "*It's not the right place to sell food as they sit in the sun for a long time when the food is not finished they sell them again tomorrow" (FGD1, SGB, A).* Both the learners and SGB were of concern that this unhygienic procedure employed by the vendors could cause foodborne diseases that can result in infectious diseases to the learners (Gupta & Gupta, 2009;Soon, Singh & Baines, 2011).

Furthermore, learners were happy with the fruits provided at school as they are clean. Their supporting statement was: *"When they give us fruits here at school they wash them first" (FGD1, LH).* Another one said: *"We are happy with the fruits they provide at school as they wash them and you see that they are watery" (FGD1, LC).*

**Sub-theme 4.4: Compilation of a school food policy seen as a solution by SGB's on the type of snack foods sold**

Discussions with the SGB about the school food policy on the sale of snack foods revealed that there is no policy or regulations regarding sales. One of the SGB said: "*Honestly we don't have a school food policy. I think if the school teachers and parents*

*can have an agreement about formulating the school policy, maybe it will be better" (FGD1, SGB, D).* Another one said: "*We once had a policy together with the parents that there should be no selling of unhealthy stuff, but they continued. We don't know who they are. They do things on their own" (FGD2, SGB, G).* Additionally, another one said: *"No, we don't have a food policy, we will draft it. We do have a verbal agreement that they should sell inside the yard as learners no longer go to the shops outside. We agreed that they sell nutritious snack foods because we don't need those crisps that they usually put on the ground" (FGD3, SGBD).*

These engagements with the SGB's revealed that schools around the Dimamo circuit do not have a written food policy of which was also reported in other studies (Rathi et al, 2017). The NOURISHING FRAMEWORK was developed by the World Cancer Research Fund International to promote healthy diets, reduction of obesity, and other diet-related non-communicable diseases (WCRFI, 2015). The framework has ten policy areas called NOURISHING that have three domains namely the Food Environment, Food Systems, and Behavior Change Communication, and countries need to develop action policy on each domain and adapt according to their context to influence populations on how and what to eat (WCRI, 2015). The O acronym from NOURIS of the food environment domain refers to offering healthy foods, set standards in public institutions, and other specific settings. In light of the above, the South African government, through the Department of Education and the Department of Health, has developed the ISHP (2012) and the Tuckshop Guidelines under the NSNP, (2014) to assist SGB's, learners, tuckshop operators and communities to implement these guidelines. Lack of communication, accountability, or consensus with other stakeholders resulted in the non-implementation of the guidelines around the schools.

With further engagement, the sentiments of the SGB's were that involvement of parents in formulating schools' food policies can be helpful. Some of their views were: *"I think it would be better if the school teachers and parents can have an agreement about formulating the school food policy" (FGD1, SGB, D).* Another one said: *"We don't know what to write as we don't have authority. If we can write as SGB members it will be a problem without the support of parents (FGD2, SGB, C). Subsequently, the other one said: The parents will have a final say" (FGD2, SGB, E).* The plea of the SGBs' indicated that with the cooperation of the parents' on the implementation of school

food policy can be fruitful (Van Ansem, Schrijvers, Rodenburg, Schuit & Van de Mheen, 2013).

**Sub-theme 4.5: Creation of tuckshop viewed as an option to control the type of snack foods sold and hygiene**

Various views were raised by participants in light of the tuckshops at schools. Creation of tuckshops in schools was seen as an option for control on what is made available to the learners as currently, interventions are directed to school tuckshops due to the larger proportion of meals that are consumed during the school hours (Temple, Steyn & Myburgh et al, 2006). This was supported by some of their direct narratives: "*We talked with them about the selling of fruits, but they said the government is providing the fruits and that makes it a challenge as learners don't buy fruits. Maybe we can have a school cafeteria so that the vendors can no longer sell here" (FGD1, SGB, D).* Another one said: *"It's not that we can't expel them from the schoolyard and start our own tuckshop for kids to buy what we approve".* The SGB further quoted*: "So having a tuckshop means hygiene is possible, but when they sell in open space, it's not superb as germs travel through the air" (FGD3, SGB, D).*

However, few learners viewed the school tuckshop as an option to sell both healthy and unhealthy snacks. The participant said: *"Schools should have their tuckshops so that they can sell nutritious foods"*. With further probing about nutritious snacks the learner further said: *"They should sell foods like burger, hot dogs, things that will satisfy our needs including fruits and vegetables" (FGD3, LD).* Similar views were raised by learners from a non-regulated school that the majority preferred healthy foods while two preferred unhealthy ones (Bekker et al, 2017). Furthermore, the study reported that schools that had regulated tuckshops had a positive influence on the consumption of healthy foods (Bekker et al, 2017). According to the guidelines for school tuck shops, principals are viewed as gatekeepers that have the powers to facilitate or restrict the adoption, implementation, and sustainability of school food guidelines (Roberts, McLeod, Montemurr, Veugelers, Gleddie & Storey, 2016; NSNP, Tuckshop guidelines, 2014). At all times accessibility of healthier foods should be promoted whereas prohibiting unhealthy ones (Briefel, Crepinsek & Cabili*,* 2009).

**Sub-theme 4.6: Request for selling of labelled snacks by the SGBs'**

The findings revealed that most snacks sold at schools were not labeled as the SGBs' complained about the type of unlabeled snacks with no manufacturing address,

nutritional information and most sold were self-packaged out of a big plastic sack. Their direct statements were: *"I also say they must sell fruits three times a week as they nourish the body but they must sell sweets that are labelled (FGD3, SGB, A).* A further statement was: *"They are not labelled; we don't know where they are manufactured"* Raising voice*. (FGD2, SGB, G).* Additionally, another one also said: *"They sell all sorts of foods. It's just mixed up and they don't know their nutritional content". (FGD2, SGB, D).* Furthermore, one of the SGB also indicated that: *"They sell mysterious sweets and you don't know where they stock them. So Eeii... (shaking head) they affect our kids in a bad way" (FGD3, SGB, C*). A study conducted by Ali et al*,* (2015) reported contradictory results where university student stated time as a barrier for not reading labelling of snacks while others requested healthy signs on vending machines, and improvements of snacks that had nutritional information, labelling to make informed choices when buying snacks from vending machines.

In South Africa, the government has implemented Food Stuffs, Cosmetics & Disinfectants Act 54/1972 Regulations R146/2010 as a code of conduct to the manufactures with the purpose to protect its citizens from misleading claims and to enable the customer to make an informed choice (Dept. of Health, 2010). Such labelling regulatory initiatives should be scaled down to the school food environment as it is not written in the school tuckshop guidelines. Furthermore, Pharis et al (2017) have reported a high sale of labelled drinks and healthy snacks after the implementation of vending machines standards around the Philippines city. Labelling and promotion of healthy snacks are interventions that have the potential to influence decision making when purchasing and brings out healthy eating habits and social norms benefits (French, Hannan, Harnack Mitchell, Toomey & Gerlach*,* 2010).

**Sub-theme 4.7: Plea for help regarding the sale of snack foods**

The SGBs' found themselves helpless to what was transpiring as they reported to have no authority over what was being sold at schools. Similarly, to the situation, it has been reported that most developing countries lack strict measures and regulations regarding what is being sold in schools (Gupta, Goel, Shah & Misra, 2012). As they pleaded for help to change the food environment they narrated that: "*They don't care if their kids are sick. We plead with the Dept. of Health to come and help us, for the sake of the learners. If it was possible I would say they must not come even tomorrow. They don't know anything about the health of the children. You can imagine if the child eats*

*tetrazzini every day from Grade R until the end of the primary" (FGD2, SGB, G).* These concerns over health were observed from previous studies on dietary transition and obesity of adults in Sub-Saharan countries including primary school children. Consequently, observation of a gradual rise in overweight, obesity, and diseases of the lifestyle are reported together with public health interventions being advocated (Armstrong, Lambert, Sharwood & Lambert, 2006; Steyn & Mchiza*,* 2014*).* Another one said: *"We tried to talk with them to register with us, but they don't want to, they are selling without our permission. This is a problem we have" (FGD2, SGB, C).* Furthermore, the other SGB viewed that: "*We understand they are trying to make a living due to unemployment, but they are killing our children. We don't know who is going to help us. Sweets that they sell you can't find them in shops, learners complain of dizziness in class" (FGD3, SGB, C).*

In disagreement to these findings, a study by Nichol (2004) reported one of the school board trustee members saying: *"It's just the right thing to do, we can't hold our children's health to the highest bidder".* Furthermore, this trustee statement is regarded as breaking ground data that emerged from school governance in taking stance on their moral responsibility of bringing change to school food environments without any legislative act (Levay, Chapman, Seed & Wittman, 2018).

### 4.3 APPLICATION OF THEORETICAL FRAMEWORK

The Foodscapes ecological framework was used in this study and is particularly applied in multiple food environmental levels. Ecological models are used to describe individual behaviour and influences of multiple levels regarding food. They bring about modifiable measures of childhood obesity and chronic diseases. This study focused on three levels such as individual, social interaction, and food environmental level. The purpose is to understand the food environmental factors and their influences on people's behaviour concerning food interactions outside their homes (Mikkelsen, 2011).

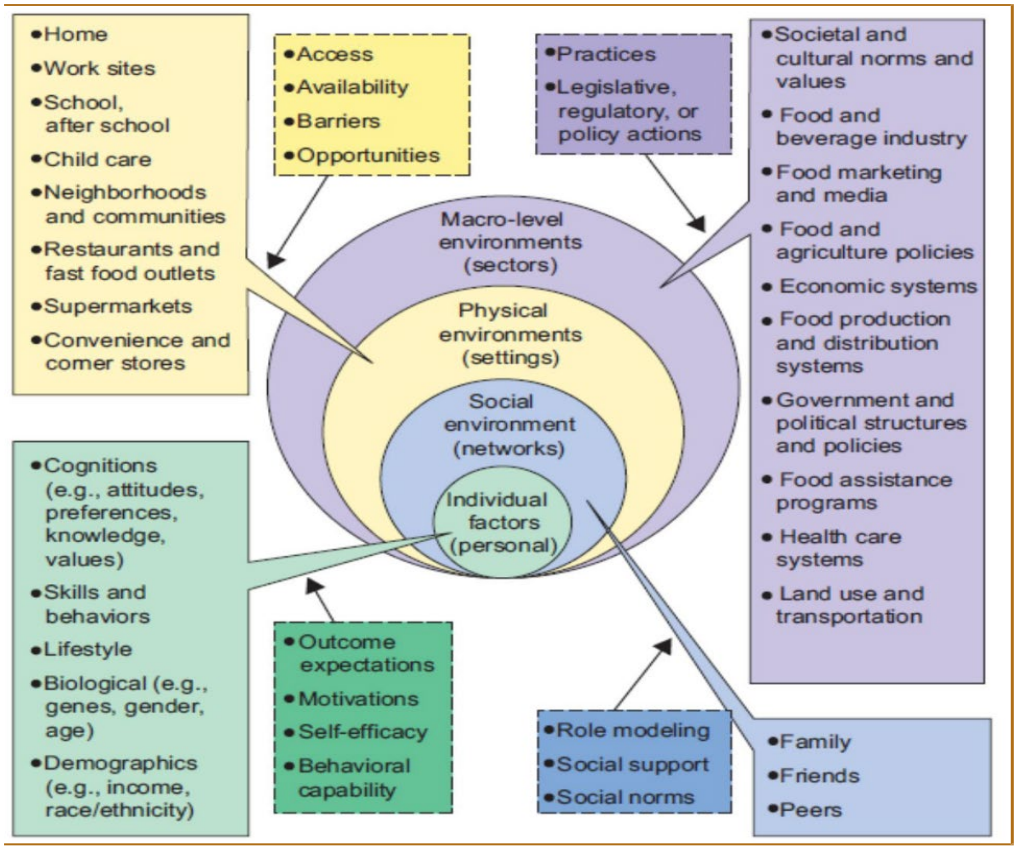


Figure 4.1: Foodscapes ecological framework on multiple level influences (Story et al , 2008:273).

### 4.3.1 Individual Factors

*One's behaviour and food choices within the food environment confined.*

This refers to cognition factors (attitudes, preferences, values, and knowledge), skills and behaviours, Lifestyles, Biological (age, gender, and genes) and Demographics factors (income and race) that dictate the learner's decisions within their food environment . People's choices concerning food are usually determined by the settings they find themselves (Story et al,2008). Food environments play a significant role in dictating the kind of foods available together with, as it largely determines the food choices of individuals. In this study, the participants indicated that the type of snack foods available are unhealthy due to their preparation method. While the participants had a positive attitude and preference towards the sale of fruits; the cost was also seen as a barrier to the consumption of fruits. Knowledge also was demonstrated towards the nutritional content of fruits; hence, they raised the need for the sale of fruits. However, few learners from the senior grades indicated the need for unhealthy snack sales as they are tasty. The study revealed that participants perceived the snack

foods available as unhealthy and demonstrated a positive attitude towards the sale of fruits. Knowledge of the nutritional content of healthy snacks like fruit was also indicated again they preferred fruits to be sold four days in a week and one day for unhealthy ones. For the vendors this study revealed that they sold these unhealthy snacks as learners preferred them on the other hand provision of fruits through the NSNP, short shelf life, cost, and neighbourhoods' was a barrier.

### 4.3.2 Social Environments (networks)

*One's opinions towards social interactions and influences of peers and food choices.*

This refers to the interaction with friends and peers as they affect food choices through mechanism that includes role modelling, social support, and social norms*(*Story et al*, 2008:273).* This social interaction within learners and the available food environment impact directly with their eating behaviours as individuals. In this study, the SGB's revealed that the availability of these unhealthy snacks sold by vendors pressurised other learners to buy as their peers buy these snack foods. Subsequently, the learners indicated disparity of inequality and temptations led to buying these cheaper snack foods. This study found that peers, friends exert pressure and influence similar behaviourism that results in eating together.

### 4.3.3 Physical environments(settings)

*One's opinions on the possible barriers that are found within food environments.*

This refers to the physical environments like multiple settings where people eat or procure foods such as their homes, schools, workplace, and neighbourhoods like restaurants or supermarkets (Story et al, 2008:273). Physical settings in the community influence ones' dietary intake, also determine prospects or barriers that promote or hinder healthy eating.

This study uncovered that an unsupportive food environment that includes the sale of high energy foods, saturated fats, and sweets promotes unhealthy dietary habits amongst learners. Furthermore, the participants were concerned with the type of food environments due to diseases that could be brought by the type of snacks available. Whilst the vendors indicated that the provision of fruits through the NSNP was a barrier for them as they are freely available, and neighbourhoods hindered the sale of healthy snacks as they had an alternative for the learners.The SGB indicated a lack of authority on the implementation of regulations to sell healthy snacks and called for

help from other stakeholders like the Department of Health. Furthermore, the SGB's saw compilation of a school food policy, the establishment of a tuckshop within schools as a solution to control what is to sobe sold

### 4.3.4 CONCLUSION

This chapter presented four (4) themes that described detailed various views of participants. All the views were aligned to three theoretical frameworks level (Environmental Factors , Social Environments and Physical environments) in order to reveal the participants opinions. The research findings exposed the negative perceptions towards the sale of snack foods by school governing bodies. The learners also regarded them as unhealthy and requested the sale of healthy foods three to four times a week. Furthermore,the school vendors regarded the provision of fruits through the NSNP in schools as a lack of support or barrier on the sale of healthy snacks. Furthermore, the School Governing Body saw the implementation of school food policy as a better option to regulate the vendors.

# CHAPTER 5
# SUMMARY, RECOMMENDATIONS, AND CONCLUSION

## 5.1 INTRODUCTION
Summary of the research report, a description of the recommendations that are based on the themes and limitations together with conclusions drawn from the study will be highlighted thereof.

## 5.2 SUMMARY
The discussions of the study findings are aligned along with the objectives about the perspectives of the learners, SGB, and vendors selling snack foods around the Dimamo circuit in the Mankweng area.

### 5.2.1 The aim of the study
The aim of the study was:
Determine the perspectives of the learners, SGB, and school vendors selling snack foods around the Dimamo circuit in Mankweng area.

### 5.2.2 The objectives of the study
The study strived to achieve the following objectives:

- Explore the vendors' perspectives on selling snack food at schools.
- Explore the learners' perspectives for buying snack foods.
- Explore the School Governing Body's perspectives on the school food environment.

### 5.2.3 Research question
- What are the vendors' perspectives for selling snack foods to the learners?
- What are the learners' perspectives on buying snack foods?
- What are the School Governing Body's perspectives toward the school food environment?

### 5.2.4 Research Methods
An explorative research design was undertaken in this study. Explorative research was conducted to investigate the research problem through focus group discussion

and interviews, to elicit information and gain insight into the phenomenon among the community or the individuals with similar characteristics for generating inferences (Guetterman, Fetter & Creswell, 2015). A descriptive element was also included in the study, to describe the felt effects of the variables concerned without causation or a hypothesis (Bloor & Wood, 2006; Vaismoradi, Turunen & Bondas, 2013). The study was undertaken at the Dimamo circuit in the Mankweng area, and group discussions together with one-on-one interviews were done through semi-structured interviews as a guide, and data were collected until saturation was reached.

### 5.2.5 Research Findings

**The study findings indicated the following themes as discussed in the prior chapter**

The findings of this study exposed that the learners perceived the snacks foods bought at school as unhealthy. They also denoted a positive attitude towards the sale of healthy snacks like fruits. Subsequently, a preference that fruits should be sold most of the days of the week, as unhealthy snacks bring diseases like vomiting, and ringworms.

Inequality due to affordability and temptations towards the availability of only unhealthy snacks was highlighted as a barrier to healthy eating. Although, the vendors highlighted that learners preferred unhealthy snacks. They further indicated that the provision of fruits through the NSNP, cost and the shelf life of fruits was a challenge. The shops around schools were a barrier as learners opted to buy from them after school, hence, the vendors continued selling unhealthy snacks. The SGB raised concerns about the unsupportive school food environments as vendors do not head to their cues for the sale of healthy snacks. They viewed compilation of a school food policy and creation of school tuckshops as a solution as they will have control over sales. The following themes emerged as part of the research findings:

**THEME 1: Explanations of Learners', Vendors' and SGBs' perceptions related to the sale of snack foods at school**

Under these theme four sub-themes discovered that learners were not happy with the type of snack foods sold as they perceived them unhealthy due to their fat and sugar contents. The learners indicated that there were no fruits sold in school. However, they love junk foods, hence, they buy them. Consequently, the SGB also indicated that the vendors sold unhealthy snack foods, and it was a challenge as they are not

cooperative in selling fruits in schools. Vendors also said the snacks are unhealthy. However, learners preferred unhealthy snacks, hence, they sell unhealthy snacks. They also highlighted that to implement the SGB's recommendation it was a challenge as fruits get spoiled easily.

**THEME 2: The description of challenges experienced by learners, vendors, and SGB related to snack foods**

This theme has four subthemes that exposed that both learners and SGB, were concerned with the consumption and availability of unhealthy snacks only as they caused them to vomit, and developed ringworms. Additionally, the SGB raised their challenge of unhealthy snacks. The learners do not concentrate in class, and it was a challenge for learning for they had to send them home. The need for the sale of fruits was indicated by both the learners and SGB. However, the vendors highlighted that the provision of fruits through the NSNP and neighbouring shops that sold sweets and fried chips posed as a barrier for selling healthy snacks as learners will go and buy the very same foods they are not supposed to sell to learners.

**THEME 3: Description by learners, SGB, and vendors regarding disparity amongst learners on the sale of snack foods**

The four sub-themes of the findings revealed disparity amongst learners as they perceived those who do not consume the NSNP foods as rich. They also revealed that the cost of fruits as a barrier to healthful foods considering their different backgrounds. This can be true as the school is classified under quintile one that meets the criteria for support by the NSNP. Subsequently, similar views were raised by the SGB as they understood that learners who cannot afford to buy competitive foods make them feel inferior to their peers, also pressurised other learners to buy them. However, further deliberations indicated that some learners do not eat NSNP foods as parents prepared lunch boxes for them. While other learners highlighted the palatability of NSNP foods, so, they bought condiments like "atchaar" to make the food taste nicer. They emphasised that junk foods were tempting because they are tastier. The vendors also highlighted the cost as a factor for the learners as they preferred cheaper unhealthy snacks. Provision of free fruits through the NSNP and neighbourhoods are seen as a barrier, again they said fruits were not profitable as they had a short shelf life**scription of suggestions for improvement of the school food environment by learners**

Seven sub-themes under this theme revealed that learners suggested the sale of fruits four times a week. They also demonstrated knowledge of their nutritional benefits. The knowledge demonstrated can be due to nutrition as a subject in their curriculum. Furthermore, the reduction of fat in cooking and the change of the used oil was suggested, as they found hair and match sticks in their snack foods. Inadequate hygiene practices such as the washing of fruits by the school vendors and wearing of gloves were indicated by learners. The SGB was concerned with unhygienic environments such as selling foods in the sun. The SGB blamed such environments also a lack of registration by the vendors. They further indicated that the development of school food policy has the potential to manage the sale of snack foods, also the creation of tuckshop as an alternative to control the availability and sale of healthy snacks to the learners. Frustration with the conduct of the vendors was evident as they called for help from other stakeholders like the Department of Health.

## 5.3 RECOMMENDATIONS

Recommendations were identified based on the themes that emerged in this study.

### 5.3.1 Explanation of Learners', Vendors', and SGBs' perceptions related to the sale of snack foods at school

- The learners have shown a need for a healthy snack, despite the food environment not being able to facilitate such behaviour. Individual behaviour is generally influenced by multiple factors such as attitudes, available foods, age, and cost (Cohen & Babey, 2012; Story et al, 2008). The School Governing Body should enable healthy eating at all times and limit the availability of unhealthy snacks to one day weekly.
- The schools should liaise with the Dietetic Department of local clinics to render nutrition education lessons, to vendors and the possible impact of the foods they are selling to prevent childhood obesity and the early onset of NCD's.
- The SGB should create a nutrition committee that is made up of parents, vendors, and teachers to reach a consensus that will support a healthy eating environment.
- The SGB has to ensure that parents are conversant with the current tuckshop guidelines to gain support from them (NSNP, Guidelines for tuckshops, 2014).

**THEME 2: The description of challenges experienced by learners, vendors, and SGB related to snack foods**

- The learners find themselves in vulnerable situations that predispose them to various diseases. The SGB should ensure that the committee follows the NSNP, tuckshop guidelines as stipulated in the Department of Basic Education policy (NSNP, tuckshop guidelines, 2014).
- The neighbouring shops that are within a 500M radius to the schools should also be given nutrition education by the local health care clinics with the purpose to have a common understanding, and practices to healthy school food environments. The environments have the potential to promote the preference, demand, and consumption of unhealthy eating (Roberto, Swinburn, Hawkes, Huang & Costa, 2015) and this will reverse the goal to the provision of healthy meals, and hunger in poorer communities; that is supposed to gain from the NSNP (Department of Basic Education, 2008).
- The provincials Department of Education should support the SGB in engaging the vendors and the neighbouring shops in complying to the school tuckshop guidelines.

**THEME 3: Description by learners, SGB, and vendors regarding disparity amongst learners on the sale of snack foods**

- The selling of junk foods like bunny chow and slap chips by vendors should be prohibited, as it promotes unhealthy eating amongst the learners. Most schools in rural provinces are found within low socioeconomic communities and the majority of children from these communities usually have a cereal-based diet. Thus, the school meals are of importance as they are a healthy option (Steyn, Nel, Nantel et al, 2006).
- Vendors need to offer healthy snack options at affordable prices to all learners (Stephens, McNaughton, Crawford & Ball, 2015).
- The Department of Health through local clinic's Dietitians, should work hand in hand with school vendors, and neighbouring shops to develop healthy snack options that cannot replace the NSNP meals.
- Training of NSNP workers in basic cooking skills to improve the palatability and retaining of nutrients in meals is a necessity.

**THEME 4: Explanation of suggestions for improvement of the school food environment**

- The Department of Education should liaise with the Environmental Health Practitioners to train school vendors in sanitation, and food handling procedures. Appropriate food handling procedures are necessary to prevent food contamination and foodborne diseases that can result in infectious disease to learners (Campell, 2011; Soon, Singh & Baines, 2011).
- The Department of Education should build shelter areas or tuckshop that have ablution and clean running water to improve the unfavourable working conditions of vendors (Von Holy & Makhoane, 2006).
- The vendors should offer healthy snacks that are labelled and packaged accordingly.
- The National Department of Education and stakeholders such as parents, SGB's with the help of the Department of Health should draw an explicit school food policy to improve the food environment in schools as they have a fundamental straightforward responsibility towards the children (Nortje, Faber & De Villiers, 2017).

## 5.4 LIMITATIONS OF THE STUDY

The current study had several limitations. Firstly, the findings of this study were limited to one circuit in the Mankweng cluster. Accordingly, its findings cannot be generalised to all schools in the Mankweng cluster. There were limitations related to the amount of data as one school had three members of the school governing body that did not avail themselves. Because of this limitation, the researcher did not obtain access to the full scope of their opinions. Secondly, one school vendor also did not avail herself on the day of data collection. Thirdly, vendors were not willing to respond directly to other questions.Therefore, we did not get the scope of data we anticipated. The neighbouring shops did not participate in the study as they claimed they were supplying the vendors as learners were not allowed to go outside the schoolyard.

Furthermore, the findings of this study particularly the views and suggestions of the learner participants support the intervention strategies that are already in the NSNP tuckshop guidelines. Therefore, the experienced illness by learners, frustrations of the school governing bodies in facilitating healthy food environments and control over what is accessible to learners can be used, as a basis to pass the implementation of a school food policy. Lastely , while the SGB's were concerned with the learners ringworms, it shouls be noted that it is a fungal infection with many causes. Education

of members of the community is essential. Children who vomit in class and need to be sent home could have contracted a bacterial or viral infection from causes other than just the food sold by vendors.

## 5.5 CONCLUSION

A negative perception of the sale of snack foods sold in schools at the Dimamo circuit was raised as a major concern in this study. Furthermore, the vendors were willing to sell healthy snacks. However, they raised the fact that learners mainly preferred unhealthy snacks due to affordability. Moreover, the majority of school governing bodies saw compilation of the school food policy as the only alternative. Additionally, they pleaded for help from the Department of Health to facilitate healthy school food environments to protect the vulnerable children, who are exposed to such unacceptable unhealthy food environments that counteract the goals of the NSNP.

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## ANNEXURE A: Ethical Clearance Certificate

University of Limpopo
Department of Research Administration and Development
Private Bag Sovenga, 0727, South Africa
Tel: (015) 268 3935, Fax: (015) 268 2306, Email: anastasia.ngobe@ul.ac.za

TURF-LOOP RESEARCH ETHICS COMMITTEE

ETHICS CLEARANCE CERTIFICATE

MEETING: 14 May 2019

PROJECT NUMBER: TREC/114/2019: PG

PROJECT:

| | |
|---|---|
| Title: | The perspectives of vendors, learners, and School Governing Body on snacks sale in selected primary schools of Dimamo Circuit, Limpopo Province, South Africa. |
| Researcher: | CM Mothapo |
| Supervisor: | Mrs. DA Rabodiba |
| Co-Supervisor/s: | Prof TM Mothiba |
| School: | Health Care Sciences |
| Degree: | Master of Science in Dietetics |

PROF F P MASOKO

CHAIRPERSON: TURF-LOOP RESEARCH ETHICS COMMITTEE The Turfloop Research Ethics Committee (TREC) is registered with the National Health Research Ethics Council, Registration Number: REC-0310111-031

Note:
i) This Ethics Clearance Certificate will be valid for one (1) year, as from the abovementioned date. Application for annual renewal (or annual review) need to be received by TREC one month before lapse of this period.
ii) Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee, together with the Application for Amendment form.
iii) PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.

Finding solutions for Africa

**ANNEXURE B: Ethical Clearance Provincial Depart of Education**

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF

DEPARTMENT OF EDUCATION

Ref: 2/2/2 Enq: Mabogo MG Tel No: 015 290 9365 E-mail:MabogoMG@edu.limpopo.gov.za

Mothapo CM

University of Limpopo

Sovenga

0727

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

1. The above bears reference.

2. The Department wishes to inform you that your request to conduct research has been approved. Topic of the research proposal: "THE PERSPECTIVE OF SCHOOL VENDORS LEARNERS AND SCHOOL GOVERNING BODY ON THE SALE OF SNACK FOODS IN SELECTED PRIMARY SCHOOLS OF THE DIMAMO CIRCUIT LIMPOPO PROVINCE, SOUTH AFRICA".

3. The following conditions should be considered:

3.1 The research should not have any financial implications for Limpopo Department of Education.

3.2Arrangements should be made with the Circuit Office and the schools concerned.

3.3The conduct of research should not in anyhow disrupt the academic programs at the schools.

3.4The research should not be conducted during the time of Examinations especially the fourth term.

3.5principle of voluntary participation (the people involved should be respected

principle of voluntary participation (the people involved should be respected).

NB: Mabogo MG Request Permitted 24/01/2019

**ANNEXURE C: Ethical Clearace, Dimamo Circuit**

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

## CAPRICORN SOUTH DISTRICT

**ENQ.: KGOPA M.S**

**CONTACT: 0828178889**

**TO THE SELECTED SCHOOL PRINCIPALS**

**DIMAMO CIRCUIT**

SUPPORT TO THE STUDENT RESEARCHER: MOTHAPO CM ( UNIVERSITY OF LIMPOPO)

1. The above matter refers
2. The researcher is permitted to conduct research as attached at the following schools:

2.1. Sebayeng Primary
2.2. Mantheding Primary
2.3. Moraro Primary
2.4. Maboyane/l<onoto Primaries

3. Your support to this project will benefit the Limpopo Department of Education.
4. The schools have no financial implications to incur.

.....
CIRCUIT MANAGER

**ANNEXURE D: Consent Form: School Vendor and SGB**

**UNIVERSITY OF LIMPOPO ENGLISH CONSENT FORM**

**THE PERSPECTIVES OF VENDOR'S, LEARNERS AND SCHOOL GOVERNING BODY ON SNACKS SALE IN SELECTED PRIMARY SCHOOLS OF DIMAMO CIRCUIT IN LIMPOPO PROVINCE, SOUTH FRICA.**

Declaration

I have read the information on the aims and objectives of the study and was provided the opportunity to ask questions and given adequate time to rethink the issue. The aim and objectives of the study are sufficiently clear to me. I have not been pressurized to participate in any way.

I understand that participation in this study is completely voluntary and that I may withdraw from it at any time without supplying reasons.

I hereby give consent to participate in this research.

---------- ----------

School Vendor / SGB Signature

---------- ----------

Place Date

**Statement by the researcher**

I provided written information regarding this research

I agree to answer any future questions regarding the research as best as I am able.

I will adhere to the approved protocol.

---------- ---------- ----------

Name of the researcher Signature Date

**ANNEXURE E: Consent Form Sepedi (Morekiši, SGB le Motswadi)**

**UNIVERSITY OF LIMPOPO (SEPEDI CONSENT FORM)**

**THE PERSPECTIVES OF VENDORS, LEARNERS, AND SCHOOL GOVERNING BODY ON SNACKS SALE IN SELECTED PRIMARY SCHOOLS OF DIMAMO CIRCUIT IN LIMPOPO PROVINCE, SOUTH AFRICA.**

Ke badile/ ke kwele ka tshedimišo mabapi le maikemišetšo le morero wa dinyakišišo tšeo di šišintšwego gomme ke ile ka fiwa sebaka sa go botšiša dipotšišo, ka be ka fiwa nako yeo e lekanego gore ke naganešiše ka ga taba ye. Ke tloga ke kwišiša maikemišetšo le morero wa di dinyakišišo tše gabotse. Ga se ka gapeletšwa go kgatha tema ka tsela efe goba efe.

Ke ya kwišiša gore go kgatha tema dinyakišišong tše, ke ka boithaopo gomme nka tlogela nakong efe goba efe ntle le gofa mabaka. Se seka se be le khuetšo efe goba efe go maemo aka.

Ke ya tseba gore dinyakišišo tše di dumeletšwe ke ba Kgoro Ya Thuto, Hlogo ya sekolo le Yunibesithi ya Limpopo. Ke tseba gabotse gore dipoelo tša dinyakišišo tše di tla dirišetšwa merero le bo ramahlale gomme di ka

phatlalatšwa. Ke dumelelana lese, ge fela bosephiri bjaka bo ka tiišetšwa.

Mowe ke fa tumelelo ya go kgatha tema dinyakišišong.

| | | |
|---|---|---|
| ---------- | ---------- | ---------- |
| Morekiši / lekgotla taolo la sekolo | Lefelo | Letšatši kgwedi |

**ANNEXURE F: Consent Form for Parents**

This form will be used by parents/guardian of children from 7 to 17 years, who agree that their children can participate in the study.

**TITLE: THE PERSPECTIVES OF VENDOR'S, LEARNERS AND SCHOOL GOVERNING BODY ON SNACKS SALE IN SELECTED PRIMARY SCHOOLS OF DIMAMO CIRCUIT IN LIMPOPO PROVINCE, SOUTH AFRICA**

Your child ---------- has been selected to participate in a study.
Declaration by parents
I have read the information on the aims and objectives of the study as enclosed and was provided the opportunity to ask question and given adequate time to rethink the issue. The aim and objectives of the study are sufficiently clear to me. I have not been pressurized to participate in any way.
I understand that participation of my child in this study is completely voluntary and that she/he may withdraw from it at any time without supplying reasons.

I hereby give consent for my child ---------- to participate in this study.

---------- ---------- ----------

Parent's Signature Place Date

**Statement by the researcher**

I provided written information regarding this research
I agree to answer any future questions regarding the research as best as I am able.

I will adhere to the approved protocol.

---------- ---------- ----------

Name of the researcher Signature Date

**ANNEXURE G : Assent Form for Learners**

**This form will be used to obtain an agreement to collect data from a. child, aged 7 to 17 years. This form should be accompanied with the consent form from the parent/ guardian.**

**TITLE: THE PERSPECTIVES OF VENDOR'S, LEARNERS AND SCHOOL GOVERNING BODY ON SNACKS SALE IN SELECTED PRIMARY SCHOOLS OF DIMAMO CIRCUIT IN LIMPOPO PROVINCE, SOUTH AFRICA**

Declaration by a minor

I have read the information on the aims and objectives of the study and was provided the opportunity to ask question and given adequate time to rethink the issue. The aim and objectives of the study are sufficiently clear to me. I have not been pressurized to participate in any way.

I understand that participation in this study is completely voluntary and that I may withdraw from it at any time without supplying reasons.

I hereby give consent to participate in this study.

--- --- ---

Learner's Signature Place Date

**Statement by the researcher**

I provided written information regarding this research

I agree to answer any future questions regarding the research as best as I am able.

I will adhere to the approved protocol.

Name of the researcher Signature Date

--- --- ---

**ANNEXURE H: Demographic Information and Interview Guide**

**THE PERSPECTIVE OF VENDORS', LEARNERS' AND SCHOOL GOVERNING BODIES ON SNACKS SALE IN SELECTED PRIMARY SCHOOLS OF DIMAMO CIRCUIT, LIMPOPO PROVINCE, SOUTH AFRICA.**

**A: DEMOGRAPHIC INFORMATION**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Age | 45-55 years | | 55- 65years | | 10-12 years | | 13-14years | |
| Gender | Male | 0 | Male | 7 | Male | 6 | Male | 7 |
| | Female | 9 | Female | 12 | Female | 10 | Female | 18 |
| Level of education | Tertiary | 13 | High school | 6 | Primary | 46 | | 0 |
| Marital status | Single | 11 | Married | 17 | Other | 0 | | 0 |
| Employment | | 13 | unemployed | 15 | | - | | - |
| Pensioners | | 0 | | 04 | | - | | - |

**B: INTERVIEW GUIDE**

**ONE CENTRAL QUESTION**

Learners:

- **'What are your views about the school food environment?"**
- **'What are the reasons for buying the food snacks sold by the school vendors?''.**

*Vendors:*

- **'What are the reasons for selling these type food snacks to the learners?**

School Governing Bodies:

- **‘What are your views about the school food environment?’’**.

**PROBING QUESTIONS**

If they can sell fruits will you buy them and how many times in a week would you like the selling of fruits?

If they can sell both fruits and other snacks what will you buy?

What changes would you like to see regarding the snacks sold?

How can the school support you so that you sell fruits?

Does the school have a food policy?

If you can draw a school food policy, what points will you include?

What do you think of the conditions that the vendors are selling at?

## ANNEXURE I: Editing Certificate

RIGHTMOVE MULTIMEDIA

09 July 2020


Mrs. C. M Mothapo
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To whom it may concern,

This document certifies that the dissertation was professionally edited for: Mrs. C.M Mothapo

This editing certificate is meant to acknowledge that we, Mrs. K. L Malatji, and Dr. E. J Malatji professional Editors under a registered company RightMove Multimedia, have meticulously edited the Dissertation of

Mrs. C. M Mothapo (200405770) Master of Dietetics at the university of Limpopo. Entitled: "THE PERSPECTIVE OF VENDORS', LEARNERS' AND SCHOOL GOVERNING BODIES ON SNACKS SALE IN SELECTED PRIMARY SCHOOLS OF DEMAMO CIRCUIT, LIMPOPO PROVINCE, SOUTH AFRICA."
Thus, I confirm that the readability of this work in question is of a high standard.

Sincerely, Mrs. K. L Malatji

# Annexure J : TURNITIN REPORT

## DISSERTATION (MASTER IN DIETETICS)

ORIGINALITY REPORT

| 14% | 11% | 4% | 9% |
|---|---|---|---|
| SIMILARITY INDEX | INTERNET SOURCES | PUBLICATIONS | STUDENT PAPERS |

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| Exclude bibliography | On | | |