

**FACTORS INFLUENCING HEALTHY EATING HABITS OF STUDENTS AT
UNIVERSITIES IN ESWATINI**

by

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DECLARATION

I, Busisiwe Betty Ngwenya, hereby declare that the dissertation, which I hereby submit for the degree of Master of Consumer Science at the University of South Africa, is my own work and has not previously been submitted by me for a degree at this or any other institution.

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I declare that during my study I adhered to the Research Ethics Policy of the University of South Africa, received ethics approval for the duration of my study prior to the commencement of data gathering, and have not acted outside the approval conditions.

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DEDICATION

I dedicate this dissertation to my parents, husband and children (Hlengiwe, Sphesihle, Michelle and Kukahle Ngwenya).

Their love and support have made my dream a reality. They have been my inspiration.

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ABSTRACT

Healthy eating and healthy eating habits are generally known to be important in the process of physical and mental growth. In particular, eating habits have a huge role to play in the academic performance of students at various levels of education. Recent international studies reporting on healthy eating among university students have established the need to develop an understanding of the eating habits of students according to their levels of education and other variables. This study reports on the factors influencing healthy eating habits among final year university students, focusing specifically on students taking courses in Consumer Science. This study aimed at answering the following questions: a) What individual factors influence healthy eating habits of students at universities in Eswatini? b) What social factors influence healthy eating habits of students at universities in Eswatini? c) What environmental factors influence healthy eating habits of students at universities in Eswatini? d) What strategies could promote healthy eating habits among university students in Eswatini? Underpinned by an ecological theoretical framework, the study adopted a qualitative approach, relying on forty (40) purposefully-sampled Consumer Science final year students from two Universities. Semi-structured interviews and focus group discussions were used to gather data, which was analysed using thematic analysis. The findings of this study showed that among many factors: insufficient income, university related stress, lack of taste in meals, lack of nutritional knowledge, family members and background, friends and peers, social media, cost of food and reliance on university food outlets were all common influences of healthy eating habits among university students. Compulsory eating of healthy meals by all students at the dining hall, increasing student income, maximising nutritional knowledge, use of social media and low food cost were some of the strategies highlighted in promoting healthy eating habits of students. These could be enforced by the universities in an effort to improve student academic performance.

Healthy eating habits

University

Students

TABLE OF CONTENTS

<i>DECLARATION</i>	<i>ii</i>
<i>DEDICATION</i>	<i>iii</i>
<i>ACKNOWLEDGEMENTS</i>	<i>iv</i>
<i>ABSTRACT</i>	<i>v</i>
<i>LIST OF TABLES</i>	<i>viii</i>
<i>LIST OF FIGURES</i>	<i>viii</i>
<i>ABBREVIATIONS</i>	<i>ix</i>
<i>CHAPTER 1 INTRODUCTION</i>	<i>1</i>
1.1 Background to the study	1
1.2 Problem statement	3
1.3 Aim of the study	4
1.4 Research objectives	4
1.5 Research questions	4
1.6 Significance of the study	4
1.7 Definition of terms	5
1.8 Organisation of the study	5
<i>CHAPTER 2 LITERATURE REVIEW</i>	<i>7</i>
2.1 Introduction	7
2.2 Theoretical framework	7
2.3 Factors influencing university students healthy eating habits	8
2.4 Strategies to promote healthy eating habits in universities	17
2.5 Summary	18
<i>CHAPTER 3 RESEARCH DESIGN AND METHODOLOGY</i>	<i>20</i>
3.1 Introduction	20
3.2 Research paradigm	20
3.3 Research design	20
3.4 Research area	20
3.5 Study population and sampling	21
3.6 Research instruments and data collection methods	22
3.7 Data analysis	24
3.8 Quality control	24

3.9 Ethical considerations	25
3.10 Conclusion.....	25
CHAPTER 4 RESULTS.....	26
4.1 Introduction	26
4.2 Demographic data of participants	26
4.3 Factors influencing healthy eating habits of university students.....	29
4.4 Strategies to promote healthy eating habits.....	42
4.5 Summary	43
CHAPTER 5 DISCUSSION.....	45
5.1 Introduction	45
5.2 Discussion of demographic characteristics of students	45
5.3 Factors influencing university students healthy eating habits.....	46
5.4 Strategies to promote healthy eating habits among university students.....	52
CHAPTER 6 CONCLUSIONS AND RECOMMENDATIONS.....	53
6.1 Introduction	53
6.2 Conclusions	53
6.3 Recommendations.....	55
6.4 Limitations of the study	57
REFERENCES	58
APPENDICES.....	68
Appendix A Budget.....	68
Appendix B Interview guide for students.....	69
Appendix C Focus group discussion questions	71
Appendix D Informed consent form	72
Appendix E Letter from supervisor (UNISA).....	73
Appendix F Letter to the Ministry of Education & Training.....	75
Appendix G Letter to the University of Eswatini (UNESWA)	77
Appendix I Letter from the Ministry of Education & Training.....	81
Appendix J Letter from Southern African Nazarene (SANU)	82
Appendix K Letter from the University of Eswatini (UNESWA)	83
Appendix L Ethical clearance certificate	84

LIST OF TABLES

Table 3.1 : Study sample summary	22
Table 4.1 : Demographic data of participants	26
Table 4.2 : Themes and sub-themes developed from data.....	27

LIST OF FIGURES

Figure 2.1 : A theoretical framework showing factors influencing healthy eating habits among university students (adapted from Kabir et al., 2018).....	8
Figure 3.1 : A map of Eswatini showing the location of Manzini region	21

ABBREVIATIONS

BMI	Body Mass Index
CAES	College of Agriculture and Environmental Sciences (CAES)
FGD	Focus group discussion
FGDs	Focus group discussions
ITV	Interview
ITVs	Interviews
MEPD	Ministry of Economic Planning and Development
NCD	Non communicable disease
NDS	National Development Strategy
OVC	Orphaned and Vulnerable Children
SANU	Southern Africa Nazarene University
UNICEF	United Nations' Children Fund
UNISA	University of South Africa
UNESWA	University of Eswatini
UNSH	Uneswa No Student Hungry
WHO	World Health Organization

CHAPTER 1

INTRODUCTION

1.1 Background to the study

Healthy eating and eating habits are generally known to be important in the process of physical and mental growth. In particular, eating habits have a huge role to play in the academic performance of students at various levels of education. Recent international studies found that young adult's healthy eating habits change as they make independent eating decisions, moving to independent living or living with age mates in universities (Deliens *et al.*, 2014; Kabir *et al.*, 2018; Reuter *et al.*, 2020). Previous studies have reported that healthy eating habits of young adults have been a public concern as eating habits determine the health status of an individual (El Ansari *et al.*, 2015; Ganasegeran *et al.*, 2012; Wong *et al.*, 2014). In addition, public health authorities have launched several initiatives worldwide with the goal of promoting healthy eating through information that focuses on the nutritive value of food and its health effect (Vaillancourt *et al.*, 2019). In addition, Kunene and Taukobong (2017) found that unhealthy eating habits are among dangerous factors contributing to fatal diseases worldwide.

To illustrate that students' healthy eating habits change in universities, Kristo *et al.* (2020) found that students at universities skipped breakfast due to academic activities. In support, Kabir *et al.* (2018) concurred that students skipped meals especially breakfast due to academic pressure. Findings from previous studies reported that, eating breakfast regularly is important in order to prevent tiredness caused by busy learning schedule and other health complications (Ganasegeran *et al.*, 2012; Kabir *et al.*, 2018).

Further, El Ansari *et al.* (2012) revealed that some students are obese in universities. To highlight the idea of obesity among young adults at universities, in a study conducted in Auburn University on the impact of physical activity on body weight and fat gains during the first 3 years of college, Gropper *et al.* (2012) found that females increased weight and percent of body fat over three years, while males who were engaged in strength training gained more weight across time. At the end of third year there were less students categorized as normal weight from (15% to 24%) and a greater category of obese students (70% to 79%). This indicates that university students do not follow healthy eating habits.

Previous studies pointed out that, students healthy eating habits change at universities. Gresse *et al.* (2015) conducted a study in South Africa on: eating, drinking and physical

activity in Faculty of Health Sciences students compared to other students at a South African university. Students in the faculty of Health Sciences were expected to follow a healthy lifestyle because they had more knowledge on healthy living than other students. The results indicated that most students did not follow healthy eating habits. The results showed that 65% of Health Science students and 67% of students in the other faculties ate less than one fruit daily, 70% of Health Science students and 64% of students in other faculties ate less than one vegetable per day. Furthermore, 91% of Health Science students and 93% of students in the other faculties consumed less than two glasses of milk daily. The researchers also found that, about 4% of Health Science students and 9% of students in the other faculties had alcohol more than two times a week. Binge drinking was more common in students in the Health Sciences. In support, Jansen (2011) of the University of Free State discovered that a significant number of students were studying without eating on a regular basis. Jansen found that these were often students with strong academic records but without adequate funding for regular meals.

This study reports on the effects of healthy eating habits among final year university students, focusing specifically on students taking courses in Consumer Science in two universities in Eswatini. Due to economic difficulties, the eve of the twenty-first century saw the government of Eswatini slowly begin to explore new ways of cutting down on university subsidization. The government of Eswatini reviewed the scholarship policy for funding tertiary education due to the economic downturn, leaving a number of students admitted into the university without funding (Swaziland education for all review report, 2000 – 2015). This carried implications on the eating habits of university students. This became a cause for concern for university authorities, specifically the Campus Student Counselling office at one of the University of Eswatini campus, which reported a rise in the number of students who came to the office looking for help towards food and other basic needs (UNSH, 2020: unpublished). Consistently, a report of the pilot mentorship programme also confirmed this plight and appealed for help for the needy first years as they settled into the university (Jansen, 2011).

As a result of the surge in student complaints on food and other basic needs in 2012 the Campus Student Counselling office in Eswatini started screening students coming through and found that most of them came from seriously disadvantaged backgrounds, which coupled with the country's economic downturn and lack of government funding had an adverse effect on the eating habits of university students. Following the results of the screening process, in July 2013 the Campus Student Counselling office, working with the

campus Warden found itself compelled to conduct a snap survey of the economic background of its first-year students. Of the 218 first year students that had been enrolled into one campus of the University of Eswatini for the academic year 2013/2014, the survey revealed that 20% were Orphan and Vulnerable Children (OVC) and 31% were from single parent families, 27% of these children from single parent families came from families that were headed by mothers, and only 4% of them had only fathers (UNSH, 2020: Unpublished).

While it has been our saying as Swazis that “Lijaha sisu”, meaning one needs food first before one can engage energetically in what one sets out to do, and that motivation only happens when a person’s basic needs have been met (Maslow), it is also evident that educationists in the country have attempted to feed the mind while the body is hungry, a very impossible endeavor (Jansen, 2011).

While emphasis has been made that eating have direct implications on one’s performance it has also been a trend in Eswatini not to enforce any eating programmes at its universities to lay the foundation for good performance of university students. Furthermore, since 2011 Eswatini government decided to review eligibility for scholarship among prospective university students, there are no studies that have been conducted in the country on the impact carried by this and on how this might influence the eating habits of students.

1.2 Problem statement

Some of the students have been found to be overweight due to unhealthy eating habits, which include eating a lot of snacks, ready-made food, fast foods, and less of fruits and vegetables. Against the backdrop of incessant protests against campus food in the 1980s in Eswatini universities, subsequently leading to personal feeding, the advent of personal feeding has seen students relying on themselves for ensuring a proper meal at the end of the day. Scholars dealing in nutrition have revealed that poor eating habits not only cause the appearance of chronic pathologies; but also affect the performance of university students (Cleveland, 2016; Deliens *et al.*, 2014). Unfortunately, no study has been conducted on factors influencing healthy eating habits of students at universities in Eswatini. Against this background, this study explores and describes factors influencing healthy eating habits of students at universities in Eswatini.

1.3 Aim of the study

The aim of the study was to explore and describe the factors that influence healthy eating habits of students at two universities in Eswatini.

1.4 Research objectives

The study aimed at achieving the following objectives:

- 1.4.1** To explore and describe individual factors influencing healthy eating habits of students at universities in Eswatini.
- 1.4.2** To explore and describe social factors influencing healthy eating habits of students at universities in Eswatini.
- 1.4.3** To explore and describe environmental factors influencing healthy eating habits of students at universities in Eswatini.
- 1.4.4** To explore and describe strategies for promoting healthy eating habits among universities students in Eswatini.

1.5 Research questions

This study was guided by the following research questions:

- 1.5.1** What individual factors influence healthy eating habits of students at universities in Eswatini?
- 1.5.2** What social factors influence healthy eating habits of students at universities in Eswatini?
- 1.5.3** What environmental factors influence healthy eating habits of students at universities in Eswatini?
- 1.5.4** What strategies could promote healthy eating habits among university students in Eswatini?

1.6 Significance of the study

The study is of significance for several reasons. It has potential to enhance researchers and health educators understanding of factors influencing healthy eating habits of students at universities in Eswatini. Researchers, parents, scholarship providers, academics and all other stakeholders would be able to recommend changes to university students eating habits.

The study could be of significance to policy makers at tertiary and national level because it has potential to inform policy regarding factors influencing healthy eating habits of students

at universities in Eswatini. Further, the findings of the study will assist the Ministry of Health and Social Welfare because it could unveil factors influencing healthy eating habits of students at universities in Eswatini. Thus, the findings can inform interventions geared towards improving university students eating habits.

These developments can sustain healthy eating habits through policy change, programme development or other intermediations. Lastly, the findings have the potential to improve Eswatini university students' self-efficacy in making healthy choices in accordance with the governments' health for all by 2022 initiative (Swaziland: A framework for national development strategy, 2013). The next section presents definition of terms used in this study.

1.7 Definition of terms

Term	Definition
Healthy eating habit	Healthy eating habits – a practice of eating a variety of foods that provide nutrients needed to maintain good health such as; protein, carbohydrates, fat, water, vitamins, and minerals.
Dietary patterns	Eating habits, food choices and preferences for students at university during the period of study.
University student	In this context refers to somebody who studies at any higher institution either college or university.
Nutrition knowledge	Refers to the understanding of nutrients, their functions, diet and nutritional diseases.

1.8 Organisation of the study

This dissertation is made up of six chapters.

Chapter 1: Introduction to the study, aims and objectives. The chapter also include the research questions, rationale of the study and its significance. Finally, the chapter deals with the definitions of some important terms captured in the study.

Chapter 2: Covers literature review of the study.

Chapter 3: Gives the methodology of the research undertaken.

Chapter 4: The results of the study are contained in this chapter.

Chapter 5: Covers the discussion session.

Chapter 6: Covers the conclusion and recommendation parts of the study.

Finally, the last section contains the references and appendices part of the dissertation.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature related to university students healthy eating habits. Three sections are discussed in this chapter. The first section presents the theoretical framework that underpins the study. The second section presents a review of related studies conducted on individual, social and environmental factors affecting students eating habits. The third section presents strategies for enhancing healthy eating habits among university students as revealed by other studies. In each case, there is a clear explanation as to how the reviewed literature informs the present study. The last section is the summary of the chapter.

2.2 Theoretical framework

The study is crouched under a theoretical framework developed by Kabir *et al.* (2018) on healthy eating habits among university students. Following the view by Labaree (2009) that a theoretical framework ought to reveal and clarify the theory that justifies the existence of the problem being studied, Kabir *et al.* (2018) hold the theoretical view that factors such as individual, environmental, social, and other university-related factors influence the eating habits of university students and may affect the health of students. The contributions Kabir *et al.* (2018) make in this study is the provision of a breakdown of these factors into subcategories. These subcategories provided the study with a theoretical underpinning, which in turn justified the existence of the problem of developing healthy eating habits among university students, thus providing the present study with in-depth awareness of the issues surrounding the topic. This awareness informed both the research questions and objectives of the study.

In support, Labaree (2009) revealed that theories are constructed to enlighten, foresee and make sense of the phenomena under study. Labaree also states that a theoretical framework minimizes the scope of the related data by concentrating on particular variables while clarifying researcher's unique point of view in the process of data collection and analyses. In addition, Adom *et al.* (2016) observes that a theoretical framework helps in inspiring scientific inquiry whilst promoting the expansion of understanding, shedding light to the direction of the study and heighten the practicality and accuracy of a research.

The theoretical framework below reveals four significant factors influencing students eating habits namely: factors related to university, individual, societal and environmental factors related to eating habits of university students. Each of the factors is further divided into sub-factors (Fig: 2.1).

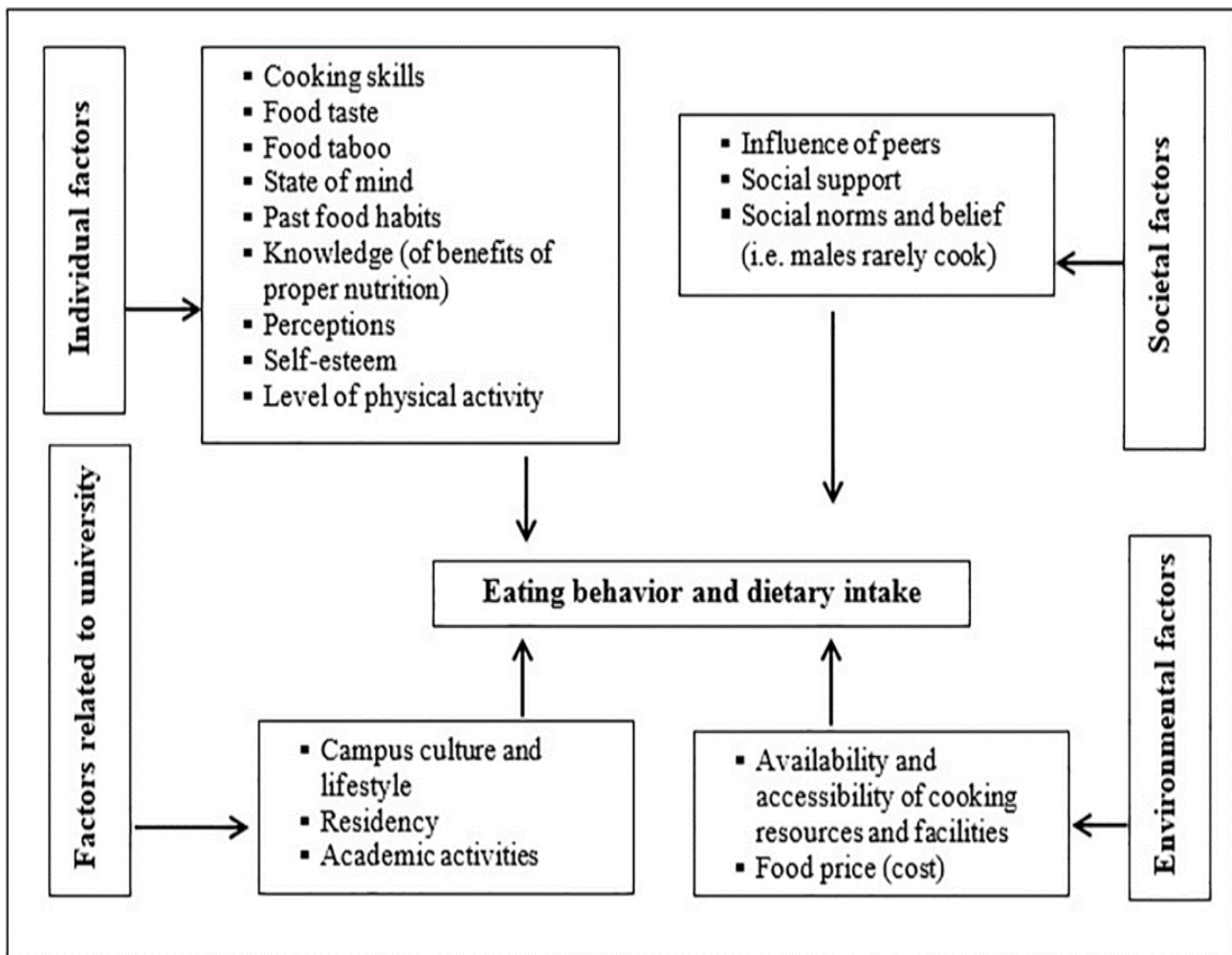


Figure 2.1: A Theoretical framework showing factors influencing healthy eating habits among university students (adapted from Kabir *et al.*, 2018)

2.3 Factors influencing university students healthy eating habits

Researchers have found that university students eating habits were influenced by a number of factors such as individual, social and environmental that may contribute to health problems (Jarrar *et al.*, 2015; Kabir *et al.*, 2018; Sogari *et al.*, 2018).

The discussion that follows unpacks factors that were found to be influencing the healthy eating habits of university students by researchers across the globe. Firstly, individual factors influencing healthy eating habits of university students were discussed: eating

habits, income, time, taste of food, university stress, body image, meal patterns, nutritional knowledge and gender norms and differences. Social factors will follow which include: family members and background, friends and peers, social media, societal and cultural norms and values. Cost of food, food insecurity, higher institutions, convenience stores, vending machines and government policies will be discussed under environmental factors.

2.3.1 Individual factors

This section presents a discussion of the relevant studies that investigated the eating habits of students.

2.3.1.1 Eating habits of university students

Studies across the globe have revealed that some background demographics influence healthy eating habits. In a quantitative study conducted by Wen, Tchung and Ching (2015) in China it was observed that the eating habits of university students were affected by background demographics such as: gender, year level, study session and their personality. Kabir *et al.* (2016) complemented this position when they observed that a large number of students skipped breakfast and ate one healthy meal a day not meeting the dietary guide lines and increasing the risks of chronic diseases. Furthermore, Pendergast *et al.* (2016) concurred in their Web of Science and Informit search study that young adults did not consume regular meals, eat fewer fruits, vegetables and more energy-dense snacks. In addition, Deliens *et al.* (2014) conducted a study in Europe on determinants of eating behaviour in university students: a qualitative study using focus group discussions. The study revealed that students regularly ate sweet snacks due to poor sleeping habits and unstructured lifestyle. In contrast, in a quantitative study by Abraham *et al.* (2018) conducted in Indiana (USA) observed a total of 121 students on eating habits and knowledge of nutritional requirements. The study found that many students consumed fresh fruits regularly and convenience food. The present study followed the qualitative approach in an effort to uncover the factors that influence the healthy eating habits of university students in a different environment, Eswatini.

2.3.1.2 Lack of income

A large number of students in higher institutions experience great financial difficulties. To highlight that students experience financial constraints in universities, Van den Berg and Raubenheimer (2015) conducted a cross sectional survey in one university in South Africa to investigate food insecurity in students in a developing country with high food insecurity. In a population of thirty-one thousand and fourteen students, one thousand four hundred

and sixteen students completed a self-administered web-based questionnaire. The study found that most students relied on parents or relatives for food and money. Some students searched for employment in order to cope with the financial pressure though being employed affected their academic work. Van den Berg and Raubenheimer revealed that a large number of students use their money to support: other students, children, siblings and parents. Students borrowed money to buy food from other students, sold their possessions or even stole food from others. In addition, first year students were underperforming due to financial constraints as they sent money received from bursaries home leaving little to survive (Kassier & Veldman, 2013; Gallegos *et al.*, 2014). The present study relied on a different sample, that is, final year students since it assumed that the number of years spent at the university could also influence their general individual behaviour and collective culture.

2.3.1.3 Lack of time

Time has been found to be another factor influencing the healthy eating habits of university students. In a qualitative study conducted in Europe by Deliens *et al.* (2014), the researchers found that students did not have sufficient time due to their busy study schedule. They preferred to spend their valuable time on other activities than preparing healthy meals. The same observation was made by Hilger *et al.* (2017) in a study on eating behaviour of university students in Germany: dietary intake, barriers to healthy eating and changes in eating behaviour since the time of matriculation. The study found that students lacked time to prepare healthy meals due to academic pressure.

Similarly, Verstraeten *et al.* (2014) revealed that students did not eat breakfast due to insufficient time to prepare healthier meals, thus chose convenience food in order to save time. On a complementary manner, Deliens *et al.* (2014) revealed that easiness and convenience in preparing food affect students healthy eating patterns. In addition, a study by Botha (2018) on nutritional behaviours and perceived barriers among university students: a cross-sectional study on Jordanian university students, lack of time posed a barrier against choosing to eat healthy amongst university students. The present study therefore also conceptualises time as another construct for healthy eating habits of university students.

2.3.1.4 Taste of food

Studies have also revealed that taste of food can also play a crucial role in students' choice of what to eat. In a qualitative study conducted in Bangladesh by Kabir *et al.* (2018), 25 in-

depth interviews and 13 focus group discussions were conducted with students from various disciplines and semesters to investigate factors that influence eating behaviour and dietary intake among resident students in a public university of Bangladesh. The study revealed that taste was an individual factor influencing the eating behaviour and dietary intake of Bangladeshi university students. The taste of food students preferred was influenced by familiarity and experiences linked to their regional backgrounds. Students felt food served from the canteen of residence hall was monotonous in taste as a result they preferred to prepare meals in their rooms and to buy from restaurants. In support, Abraham *et al.* (2018) revealed that in spite of students' nutritional knowledge, they still chose food because of taste preference other than its nutritional content.

In support, Deliens *et al.* (2014) revealed that taste was an individual factor influencing students healthy eating habits. Students revealed that taste was an important factor influencing their food choices and making them to eat healthy and unhealthy food. Deliens *et al.* further observed that appeal and taste of food had a negative impact on students healthy eating habits, in such a way that they preferred appealing, tasty, but unhealthy food over unappealing, healthy food. Verstraeten *et al.* (2014) agrees that vegetables or salads were linked with unlikeable taste as compared to the taste of sweets and fatty foods. In addition, Abraham *et al.* (2018) concurred that tertiary students selected food based on taste, and that these eating practices and preferences often influenced the healthy eating habits of university students. Following Deliens *et al.* (2014), the present study sought to find the influences of university students collecting eating behaviour through the use of focus group discussions.

2.3.1.5 Students' meal pattern

The term 'meal pattern' describes a personal eating pattern at the level of a meal such as the main meal (breakfast, lunch or dinner) or a small meal such as supper or a snack (Leech *et al.*, 2015). Pendergast *et al.* (2016) conducted a Web of Science and Informit platforms search on correlates of meal skipping in young adults where a systematic review of thirty-five studies was conducted. The study reported on the causes of meal skipping habit, essentially of any meal throughout the day. It was reported that breakfast was the most frequently skipped meal at the rate of 14 – 88% compared to lunch which was moderately skipped at 8 – 57%. The study reported that dinner was the least skipped at 4 – 57%, which was due to adequate time when dinner was to be either prepared or eaten. Skipping breakfast was more common among men while lunch or dinner skipping was common in women. In agreement, a number of scholars have revealed that students in

universities skipped meals and fail to meet the recommended dietary guidelines (Ganasegeran *et al.*, 2012; Verstaeten *et al.*, 2014; Plotnikoff *et al.*, 2015; Pendergast *et al.*, 2016; Kabir *et al.*, 2018; Sogari *et al.*, 2018).

2.3.1.6 University related stress

A study by Bongers and Jansen (2016) conducted using PsyINFO revealed that stress resulted in emotional eating, a tendency of consuming food in reaction to bad feelings. Tahir (2016) agreed that stress was associated both with unhealthy emotional eating behaviour and imbalanced dietary pattern. Other studies found that, due to the pressure of expecting high marks students eating pattern worsen (Deliens *et al.*, 2014; Kabir *et al.*, 2018). In addition, a study conducted in a Malaysian medical school by Ganasegeran *et al.* (2012) found that students' diet was influenced by stress from study workload, finances and personal needs.

2.3.1.7 Body image

University students practise unhealthy eating habits such as meal skipping and engage in different eating styles of losing weight (Ganasegeran *et al.*, 2012). Quick and Byrd-Bredbenner (2013) conducted an online survey on disturbed eating behaviours and associated psychographic characteristics of college students in three large public US universities. The study concluded that many participants engaged in disturbed eating practices. A quarter of women and a fifth of men engaged in dietary restraint to keep in shape, which led to students' bodies not absorbing key nutrients such as folic acid, calcium, potassium, fibre, and iron. One in seven students admitted regular binge-eating, one-third of them used wrong compensatory behaviours such as self-induced vomiting, medicine misuse and excessive exercise to control weight. These unhealthy behaviours demonstrate that body image influence the healthy eating habits of university students.

2.3.1.8 Nutritional knowledge

Lack of nutritional knowledge has also been reported to affect the eating habits of university students. A qualitative study conducted in Europe by Deliens *et al.* (2014) revealed that nutritional knowledge was crucial for students to change their eating patterns, as students raised in more healthy environments were likely to consume healthy food such as fruits and vegetables. Furthermore, Abraham *et al.* (2018) found that students with knowledge in nutrition preferred consuming unhealthy food because of its interesting taste and convenience. However, university students ate unhealthy food due to lack of nutritional

knowledge leading to wrong food choices affecting their academic performance (Ganasegeran *et al.*, 2012; Deliens *et al.*, 2014; Mpofu, 2015; Abraham *et al.*, 2018; Kabir *et al.*, 2018). This shows that lack of knowledge on healthy eating habits contributes to poor eating patterns. The present study therefore conceptualises that level of nutritional knowledge could be one construct of university students' eating behaviour.

2.3.1.9 Gender norms and differences

Studies across the globe have also revealed that gender norms and differences influence the eating habits of university students. Fleming and Agnew-Brune (2015) described gender norms as social and community made roles, chores, and expectations for boys and girls. These scholars also stated that conforming to gender norms can have health implications because certain behaviours known to be for a particular gender may be associated with health outcomes. Furthermore, in his study, Mpofu (2015) revealed that there were different nutritional requirements between genders as female nutritional requirements vary during menstruation, pregnancy and breast feeding.

The above sentiments were also shared by Deliens *et al.* (2014) that gender difference is a factor contributing to rejection of food, as female students were more prone to eating fruits than males preferring fast foods. In addition, Al-Otaibi *et al.* (2013) revealed that men in tertiary institutions increase food intake so to build muscles, while women eat less in order to lose weight.

This section has discussed individual factors that researchers, working on influences of healthy eating habits at universities across the globe, have found. The present study views these views scholars researching on food habits elsewhere in the world to be the main constructs of the influences of the healthy eating habits of students at universities. The next section discusses the social factors which scholars have found to be of influence to healthy eating, which are family and family background, friends and peers, social media and societal and cultural norms and values.

2.3.2 Social Factors

In this section I present an outline of the relevant studies that have empirically found that there are some factors that could be attributed to social relationships that also have massive influence the food choices of students at universities.

2.3.2.1 Family members and background

Research has revealed that family members and family background are related factors influencing students' choice of what to eat at university. A study by Verstraeten *et al.* (2014) revealed that parents were good role models for their children as they instilled rules on healthy eating. However, the parents' inconsistency did not always set good examples. Similarly, a study by Mpofu (2015) on the impact of dietary patterns on academic performance of Zimbabwean college students found that parents had a great influence on children's diet as they provide food for the family. In support, Platania *et al.* (2016) revealed that students independent food choices such as selecting and developing food consumption and purchasing patterns were largely influenced by food consumption choices of their families. Moreover, Hardcastle *et al.* (2015) observed that students who have family and friends with stricter rules on healthy eating, behavioural control and confidence have very slim chances of consuming unhealthy meals. This shows that family has a great influence on healthy eating patterns of university students.

2.3.2.2 Friends and peers

There is evidence that friends and peers also play a major role in influencing one's choice of what to eat at college or university. Higgs and Thomas (2016) revealed that positive social feedback from peers increases an interest towards food as well as the internal valuation of the food. Similarly, a study in Europe on determinants of eating behaviour in university students by Deliens *et al.* (2014) found that students copy eating habits from their peers in such a way that they change from eating healthy foods to eating unhealthy food due to the influence of friends. In support, Verstaeten *et al.* (2014) revealed that students were afraid of being mocked by their peers if they eat healthy meals. In agreement, Mpofu (2015) found that students were influenced by peer pressure not to consume fruits, juice, vegetables and low-fat foods. This shows that students are influenced by people around them to eat healthy or unhealthy food.

2.3.2.3 Social media

Students eating habits reflected values learned from mass media (Khanom *et al.*, 2015; Amore *et al.*, 2019). In support, Banna *et al.* (2016) conducted a study on influences on eating: a qualitative study of adolescents in a peri urban area in Lima, Peru. Semi-structured interviews and pile sort activities were conducted with 14 adolescents. The study found that all except one participant had used internet to search for nutrition information. Furthermore, Verstraeten *et al.* (2014) revealed that food advertisements target the youth

thus greatly influencing their eating habits. To add, Mollen *et al.* (2013) found that an environment with many overweight people and more media advertisement on unhealthy eating habits might increase the number of overweight cases. These demonstrate that young people eating patterns are influenced by social media.

2.3.2.4 Societal and cultural norms and values

Higgs and Thomas (2016) revealed that eating habits are largely determined by social environment. Mollen *et al.* (2013) concurred that the change in the social context makes it very hard for students to sustain balanced quality meals. The change in socio-cultural environment has contributed to the increase in the availability of sweets and processed foods as compared to traditional meals and meal patterns which used to be practiced in the past (Verstraeten *et al.*, 2014).

This section has discussed social factors which researchers, working on healthy eating habits elsewhere, have found to be of major influence. The next sub-section will unpack the environmental factors that have been empirically found to be of influence when healthy eating is concerned. These are: food cost, food insecurity, higher institutions, convenience stores, fast-food outlet and vending machines and government policies.

2.3.3 Environmental Factors

2.3.3.1 Cost of food

There has been a reported interplay of environmental factors resulting to one's choice of what to eat at university. Verstraeten *et al.* (2014) argued that cost of healthy food was a barrier for healthy eating among students. In support, Headey and Alderman (2019) study that compared relative caloric prices (RCPs) for food categories across 176 countries and ascertained their associations with dietary indicators and nutrition reported that relative caloric prices of healthy and unhealthy foods differ systematically across income levels and continents. The study found that most nutritious foods were expensive in lower-income countries leading to low consumption patterns. The study also revealed that eggs and milk were 10 times expensive as starchy staples in caloric terms. Furthermore, a study conducted by Kassier and Veldman (2013) in KwaZulu–Natal agreed that nutritious foods such as fruit and vegetables were more expensive than other foods. To support, Ganasegeran *et al.* (2012) revealed that food choice is influenced by the price and the money students have. In addition, Deliens *et al.* (2014) concurred that price greatly influenced the type of meals people consumed, as the choice gets limited due to tight budgets.

2.3.3.2 Food insecurity

Van den Berg and Raubenheimer (2015) defined food insecurity as shortage of food, resulting in hunger, inability to afford more food, poor quality diets that results from limited food choice and being worried about where to get meals or relying on assistance to get meals. Furthermore, food insecurity occurs when there is insufficient access to the quantities of quality, socially accepted and nutritious rich meals in a socially acceptable way (Gallegos *et al.* 2014).

A study by Bruening *et al.* (2018) conducted in US found that there was a high rate of food insecurity among university students ranging from 12.5% to 84%. In support, Gallegos *et al.* (2014) found that students used meal allowance sourced from government or university scholarship schemes for tuition and for other fees instead of food. Furthermore, Deliens *et al.* (2014) revealed that at some universities food supplies were often limited and the kitchens were not equipped, as a result, facilities could not be used to prepare healthy meals.

Cleveland (2016) revealed that food insecurity among university students was caused by lack of experience, comprehension and expertise to organize food resources effectively because of first home-away experience. Furthermore, Gallegos *et al.* (2014) agreed that food insecurity was associated with low household income, reliance on income support or equity-based scholarships and renting or boarding as opposed to living at home. In Eswatini there is wide spread of worsening poverty and persistent food insecurity resulting in about 69% of the populace classified as poor with 40% of the population unemployed (UNICEF, 2009).

The above sections have discussed the factors that have been found by researchers working on eating habits to be of influence on what to eat at different universities. It has also been explicitly stated as to how these studies have informed and shaped the present study. The following section brings in other categories of influencing factors on healthy eating habits as found by researchers.

2.3.3.3 Higher institutions, convenience stores, fast food outlets and vending machines

Plotnikoff *et al.* (2015) found that higher institutions supply commercialized meals and take-aways. Further, Cleveland (2016) revealed that higher education institutions were often

characterised by scarcity of food stores, and infrastructure with barely any food preparation equipment.

Abraham *et al.* (2018) stated that students did not consider the nutritive value of food, but instead bought food from vending machines due to convenience, taste, inadequate time and money. In support, Ganasegeran *et al.* (2012) agreed that multiplication of shopping malls, convenience stores, vending machines and fast-food stores were environmental factors that developed a shocking scenario among students who embraced unhealthy eating practices.

2.3.3.4 Government policies

Government policies reportedly play a major role on the eating habits of university students. Swinburn *et al.* (2013) found that a potential powerful way of institutionalizing protection and promoting of population health in government processes was to have a 'health-in-all policies' approach that involve health impact assessments for new policies used to support environmental protection for health in some governments. Furthermore, Maynard *et al.* (2016) revealed that reduction in state contribution to higher institutions, high cost of tuition, other costs and financial aid policies associated with enrolment at the institution contributed to food insecurity among students. The next section will deliberate on strategies to promote healthy eating habits in universities.

2.4 Strategies to promote healthy eating habits in universities

This section discusses the research conducted on the strategies that were put in place in some universities across the globe. Plotnikoff *et al.* (2015) describes successful intervention strategies for students in higher institutions as those that seek to empower students to attain their full potential in creating learning and support improving health, wellbeing and sustainability within the communities. Moreover, it was opined that tertiary institutions were an appropriate place for promoting healthy eating habits, as they had the potential of engaging higher numbers of students in behavioural change interventions. In support, Abraham *et al.* (2018) suggested the importance of developing interventions to promote healthy eating patterns among university students such as eating five servings of fruits a day, which Cleveland (2016) argued could be achieved if higher institutions provided students with enough space to store and prepare food on campus.

Students rely on their allowances to pay for other fees required by the institution beside tuition, thus an increase in student awareness regarding financial resources obtained from government and other scholarships to reduce food insecurity was necessary (Gallegos *et al.* (2014). In support, Cleveland (2016) concurred that there was an increase in awareness of resources on campus, increase in availability of food pantries and workshops created to teach students on ways of supporting basic necessities. Higher education institutions are an ideal setting for promoting healthy eating patterns as intervention strategies have the possibility to exist for students to initiate strategies based on their education in becoming health-conscious practitioners (Plotnikoff *et al.*, 2015).

Gilliland *et al.* (2015) conducted a study on using a smart application to promote healthy dietary behaviours and local food consumption. The study used the SmartAPPetite experienced more changes in their eating behaviour. In support, Plotnikoff *et al.* (2015) concurred that there are many structures, resources, health-conscious experts for facilitating programs targeting lifestyle-related health issues in tertiary institutions. In agreement, Abraham *et al.* (2018) found that students changed their poor eating habits after receiving a nutrition text and after learning a nutrition course.

The literature reviewed in this chapter indicated that although there have been numerous studies conducted across the globe on factors influencing eating habits of university students, the views of university students in Eswatini have not been described. The present study seeks to address this gap.

2.5 Summary

This chapter has presented a theoretical framework underpinning the study and a review of literature related to factors influencing healthy eating habits of students. The body of available related literature has revealed that globally, there are common influences to healthy eating at university, which range from financial difficulties, university related stress; body image; nutritional knowledge and gender norms and differences. Friends and peers, social media and societal and cultural norms and values were also reported to be major influences to healthy eating at universities. The availability or not of convenience stores and vending machines were also found to be significant to the level of healthy eating, together with time management issues by students, preferences for certain tastes in food, and general lack or presence of nutritional knowledge in particular individuals. The diversity of methodology used ranging from observational studies to quantitative ones on the subject is

also worth-noting, as it provides a triangulated view and minimises the inconsistencies that could be played by methodology on the collective research results. It is however worth-noting that the available literature was conducted elsewhere, not in Eswatini, and not in the SADC region. Studies also did not consider the significance of acquired university behaviour and the understanding of the hidden curriculum, which could be exhibited with many years spent at university. It becomes important therefore that a study that focuses on the eating habits of final year students at universities in Eswatini be conducted as it is clear that an attempt to understand such will be a significant contribution to the extant literature. The next section focuses on the research design and methodology used in this study.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter outlines the research design, methodology, quality control and ethical considerations that were used to carry out this study. The map of Eswatini was provided in this chapter to show the region where the study was conducted.

3.2 Research paradigm

A paradigm is a driving force for undertaking research (Babbie & Mouton, 2004). The study employed an interpretative paradigm. Babbie and Mouton (2010) stated that an interpretative paradigm helps researchers try to understand people's beliefs, actions, motifs and way of life in a particular context. Babbie and Mouton (2010) further explained that the interpretative paradigm affords researchers a chance to analyse and view the world in the eyes of the participants. The researcher studies the phenomenon while placing more understanding on the method of gaining new insights. Therefore, the interpretative paradigm gives the researcher the chance of providing valuable descriptions as well as making sense of participants' behaviour and events.

3.3 Research design

The design of this study was a qualitative multiple case study. The researcher wanted to study and describe issues of healthy eating habits among university students, with the aim of describing factors leading to poor eating habits an in-depth exploration of the phenomena was needed. The study attempted to produce a descriptive analysis that focused on a deep and interpretive understanding of the phenomenon under investigation. The focus of this study was on gaining insights and familiarity with the factors influencing healthy eating habits of students from two universities in Eswatini.

3.4 Research area

The study was conducted at two universities, University A and B located in the Manzini region of Eswatini. These are the only two universities in the country offering Consumer Science, and both have been purposively selected for the study.



Figure: 3.1: A Map of Eswatini showing the location of Manzini region

3.5 Study population and sampling

3.5.1 Study Population

The population of the study comprised of all 131 final year Consumer Science students in two universities of Eswatini. There were 62 Consumer Science final year students in university A and 69 Consumer Science final year students in university B. These students had been exposed to university lifestyle for some years.

3.5.2 Sample and Sampling Technique

Of the 62 Consumer Science final year students from university A and 69 from university B, 20 participants were purposively selected from each institution. These resulted in a total of 40 purposively selected participants. The selection of 20 participants was done after groups of 5 participants were individually interviewed in a day, on the eleventh to the fifteenth interview participants began to repeat responses; it was possible that theoretical saturation had been reached with five additional interviews being performed. Theoretical saturation is reached in interviews when the researcher begins to hear the same comments again and again (Saunders *et al.*, 2018; Nascimento *et al.*, 2018).

Purposive sampling is deliberately selecting participants thought to be able to yield rich information about a topic using limited resources (McMillan & Schumacher, 2010; Palinkas *et al.*, 2015; Etikan *et al.*, 2016; Magagula 2016). The researcher had confidence that final year Consumer Science students were considered to be having typical characteristics that would probably give better information that would meet these objectives as they were students who had spent time at universities and would have some understanding of healthy eating and healthy eating habits. The sample described in Table 3.1 below therefore presents the sample selected from N= 131.

Table 3.1: Study sample summary

Description of participants	Gender		Total Number of participants
	F	M	
University A	14	6	20
University B	16	4	20
Total	20	20	40

3.6 Research instruments and data collection methods

A research instrument is a tool used to facilitate data collection. A self-developed semi-structured interview and focus group discussion guide were used as tools for data collection in relation to the objectives of the study.

3.6.1 Data Collection

Data were collected by the researcher during scheduled contact sessions of students' study week to minimise interruptions of lectures. The semi-structured interviews and focus group discussion sessions were recorded in one of the Consumer Science class rooms of University A and University B.

3.6.1.1 Semi-structured interview schedule

A semi-structured interview schedule (Appendix B) was used to gather in-depth information from the participants. Five participants were individually interviewed in a day, until theoretical saturation was reached. The semi-structured interviews were conducted for the specific purpose of obtaining research-relevant information, and were held along the lines of the content specified by the research objectives of systematic description, prediction, or explanation (Cohen, Manion & Morrison, 2007). Participants were informed that the interviews were going to last between 30 and 45 minutes to allow them time to talk freely about their perceptions.

An interview allows the participants to express their views, opinions, feelings and experiences about the subject being studied by employing probing questions. Utilising the interview method aids the researcher in making follow up questions and encourages participants to explain emerging issues and unclear misconceptions (Creswell, 2012).

3.6.1.2 Focus group discussions (FGDs)

Two focus group discussions with participants from each university were held. Each group comprised of 10 interviewed members. The discussions were recorded using a recording device to ensure that all potentially important information was captured. Findings from the interview data were used to formulate the focus group discussion. Kelly (2006) recommended a smaller group for a focus group discussion as participants are likely to talk more and be emotionally involved with the topic. A focus group guide was used to collect data related to the objectives of the study (Appendix C). The focus group discussion was useful to cross validate data from the semi-structured interviews and offered group dialogue. The group dialogue further generated valuable data, because the participants' views ignited the discussion of other personal experiences and opinions which ended up simplifying and deducing meaning from very hard and complicated topics.

3.7 Data analysis

Data analysis refers to the process of deducing meaning from data gathered from the participants while aligning it with the main objectives of the study. The semi-structured interviews and focus group discussions data that occurred were descriptive in nature. Data were transcribed, organised, summarised and identified as per the headings. The coding procedure was used to bring together patterns and themes that surfaced from data. Data were analysed using thematic analysis procedures (Braun & Clarke, 2006; 2013).

3.7.1 Data Presentation

A summary of data for each question of the interview and focus group discussions was made, and unique details and sentiments of each response highlighted. Thereafter, a number of excerpts were extracted from transcribed data to demonstrate and shed light to the summary. Finally, conclusions were drawn from data analysis and interpretation.

3.8 Quality control

Reliability and validity are indispensable features of all scientific studies. McMillan and Schumacher (2010) found that a process is reliable when it produces similar results when repeated under the same conditions. The researcher conducted the interviews consistently and the pilot study prior to the main study to improve the reliability of the interview schedules.

According to Gleason *et al.* (2010) validity is the extent to which a tool assesses what it was designed to assess. An assistance of a team of experts was sought and pilot testing done to institute validity of the study. The purpose of this was to ascertain if the interview schedules assessed what they were designed to assess, represented the content, suitable for the sample and whether they were exhaustive enough to gather all the necessary data to attend to the aim and objectives of the study. Three nutrition experts and one research expert from the education department were asked to review the interview schedule. This was achieved by reviewing the interview questions, simplifying complex and obscure questions, fine tuning or eliminating other questions where appropriate.

3.8.1 Pilot Study

Pilot testing is very vital when conducting a research study. Pilot testing is done before the main study and is a small-scale study done to determine the appropriateness of a research tool (Lawrence & Worsley, 2007). Piloting exercise helped the researcher to eliminate or rephrase questions that were inappropriate or ambiguous in the manner in which they were formulated prior to the study. The researcher also found out ways of probing for answers

that would yield rich information since the focus group would allow exploring of new perspectives from other group members that would add value to the study.

Data generation tools were pilot-tested with a group of 20 participants in the Consumer Science department from one college in Manzini region which was not part of this study. The sample of the pilot study consisted of 20 participants. All 20 participants were individually interviewed and 10 participants were interviewed for the second time in the focus group discussion. The interview schedules and focus group were conducted twice, and both sessions took place in one of the Consumer Science lecture rooms in the institution. The sessions were conducted during students' the study break in the Consumer Science lab of the institution to minimise disturbances since no lectures were taking place. The researcher clarified the objectives of the study and the reasons for carrying out the pilot study. The results of the pilot study were compared; modifications and expert opinion were implemented to be in line with the pilot test. The same results that were attained confirmed reliability of the interview schedule.

3.9 Ethical considerations

Collecting of data only proceeded after UNISA's Ethics Committee of the Agriculture and Environmental Sciences (CAES) (See Appendix L) endorsed the ethical clearance REC reference number: 2018/CAES/157. The researcher also got permission from the Ministry of Education in Eswatini (See Appendix I), the two universities and from the participants (See Appendices J and K) to conduct the study. The written consent of the participants was obtained (See Appendix D), and all of them were over 18 years of age. In the consent form, the conditions of informed consent were observed. The researcher made sure that it was clearly indicated and fully understood by the participants that involvement in the study was optional and confidentiality was guaranteed. This was done by not requesting names of participants but using codes to identify individuals. The records would be kept for a period of five years for audit purposes then permanently destroyed. Electronic information would be deleted permanently from the hard drive.

3.10 Conclusion

The research paradigm, research design, research area, study population and sampling, research instrument and data collection methods, data analysis, quality control and ethical considerations were outlined in this chapter. The next chapter will present data gathered from this study.

CHAPTER 4

RESULTS

4.1 Introduction

This chapter presents research findings of the study. The purpose of this study was to explore and describe factors influencing the healthy eating habits of university students in Eswatini. This chapter presents the demographic data of participants; data gathered through the use of semi-structured interviews and focus group discussions.

4.2 Demographic data of participants

Table 4.1: Presents demographic data of participant from University A and B.

Table 4.1: Demographic data of participants (n=40)

	University A	University B
Total participants	20	20
Age		
• 18 – 24	4	6
• 25 – 30	12	14
• 31 +	1	3
Gender		
• M	6	4
• F	14	16
Level of study	3	4
Type of sponsor		
• Private	1	2
• Government	19	18
Type of accommodation		
• On-campus	0	14
• Off-campus	20	6

The demographic variables in the analysis were gender, age, type of residential accommodation, number of years spent at university and the type of sponsor for students.

4.2.1 Age

Results in table 4.1 showed that there were 26 participants between ages 25 to 30 years and 10 participants between the ages 19 to 24 years. There were only 4 participants from the age of 31 years and above in the sample population.

4.2.2 Gender

The results in table 4.1 indicated that in University A there were 6 male and 14 female Consumer Science participants. In University B there were 4 male and 16 female Consumer Science participants.

4.2.3 Level of Study

The results in table 4.1 showed that 3 years was a period of study in University A and 4 years was a period of study in University B.

4.2.4 Sponsor

Results in table 4.1 indicated that in University A only 1 participant was privately sponsored and 19 participants were government sponsored. In University B there were 2 participants that were privately sponsored and 18 participants were government sponsored.

4.2.5 Residential Accommodation

The results in table 4.1 showed that all the 20 participants in University A were off-campus residence as the University does not allow students to reside on-campus. In University B there were only 14 on-campus participants and 6 off-campus participants.

The findings from the participants' responses are presented in themes and sub-themes below:

Table 4.2: Themes and sub-themes developed from data

FACTORS INFLUENCING HEALTHY EATING HABITS OF STUDENTS IN UNIVERSITIES	
THEMES	SUB-THEME
"What individual factors influence healthy eating habits of students at universities in Eswatini?"	
1. Healthy eating	1. Explanation of healthy eating
2. Students eating habits	2. Students eating habits at universities
3. Income (Allowance)	2. Influence of income on healthy eating habits of students

4. Time	3. a) Influence of time to on-campus students healthy eating habits b) Influence of time to off-campus students healthy eating habits
5. Stress	4. Influence of stress on students healthy eating habits
6. Taste of food	5. Influence of the taste of food on students healthy eating habits
7. Meal Patterns	6. Influence of meal patterns on students healthy eating habits
8. Students eating habits	7. Influence of students eating habits on their healthy eating patterns
9. Body Image	8. Influence of body image on students healthy eating habits
10. Dietary Knowledge	9. Influence of dietary knowledge on student's healthy eating habits
"What social factors influence healthy eating habits of students at universities in Eswatini?"	
11. Family members and background	10. Influence of family members and background
12. Peer Pressure	11. Influence of peer pressure on healthy eating habits of students
13. Marketing and Media	12. Influence of marketing and media on healthy eating habits of students
14. Cost of food	13. Influence of the cost of food on healthy eating habits of students
"What environmental factors influence healthy eating habits of students at universities in Eswatini?"	
15. Food insecurity	14. Influence of food insecurity on student's healthy eating habits
16. Type Food Outlets	15. Influence of the type of food outlet on students healthy eating habits

17. Type of Meals Served	16. The influence of the type of meal served at the outlets on students healthy eating habits
18. Lack of Cooking Facilities	17. Lack of cooking facilities influence on students healthy eating habits
THEMES AND SUB-THEMES RESPONDING TO RESEARCH QUESTION 4 “What strategies promote healthy eating habits of students at universities in Eswatini?”	
18. Strategies	18. Strategies to promote healthy eating habits of students

4.3 Factors influencing healthy eating habits of university students

According to the ecological framework, analyses showed that personal and environmental factors greatly influence healthy eating habits of students at universities. Factors influencing the healthy eating habits of university students were explored through collecting information on the following themes and sub-themes.

4.3.1 What is healthy eating?

4.3.1.1 Theme 1: Healthy eating

Sub-theme 1: Explanation of healthy eating

A number of participants lacked knowledge on nutrition and healthy eating though they knew that food was needed by the body to function well. This is confirmed by one participant from university A in the ITV:

“Eating food that is adequate for your body to function well.”

Similarly, another participant from university B said in the FGD:

“Is eating the correct proportion of food that is needed by the body to operate.”

4.3.2 Research Question 1: What individual factors influence healthy eating habits of university students?

4.3.2.1 Theme 1: Students eating habits

Sub-theme 1: Students eating habits at universities

Participants often ate: one balance meal a day (protein, carbohydrate and vegetables), barbecued chicken and porridge, fast foods (fried chips, sausages), bread, buns, doughnuts, cookies, fizzy drinks/juices, chocolates and sweets. This was due to lack of: taste of healthy meals, time and funds to buy expensive healthy meals at the dining hall. The following is a remark made by one male participant from university B in the interviews (ITVs):

“I enjoy fast food especially fried chips and bread.”

The following is a remark made by a female participant from university B in the interviews (ITVs):

“I eat less food and more of fruits and vegetables.”

Another male participant from university A reported in the focus group discussions (FGD):

“Mm, I eat barbecued chicken and porridge, fast foods from food outlets around campus, buns, doughnuts I rarely eat fruits and vegetables.”

A female participant from university A reported in the focus group discussions (FGD):

“I eat one heavy meal a day and fruits and vegetables for supper.”

4.3.2.2 Theme 2: Income (allowance)

Sub-theme 2: Influence of income on healthy eating habits of students

Income was commonly reported to be an outstanding factor influencing healthy eating habits of university students. Insufficient income influenced most participants to compromise their healthy eating habits. Participants indicated that income received from the

sponsor was not adequate for them to follow healthy eating habits. They used the income for food, personal needs and to buy expensive prescribed books and stationery required by university. They expressed concern about their income not being increased yet food and books were expensive, as a result some students were forced to engage in promiscuous behaviour just to get money for food and personal needs. One participant from university A commented in an ITV:

“The income we get is not adequate to buy healthy food because we also use it for our personal needs, to buy expensive books and stationery required at university.”

Another participant from university B said:

“The income we are currently receiving is too low to cater for most of our needs thus we sometime engage in bad behaviours just to get money.”

Similarly, one participant from university B in the FGD said this:

“Oh! Our allowance is not sufficient for us to follow healthy eating habits. Healthy food is expensive. Some students even engage in prostitution just to get money for food, personal needs and to buy expensive books required at university.”

The following is a remark by another participant from university A.

“Our sponsor does not raise our income thus we tend to buy cheaper junk food in order to save our limited income.”

4.3.2.3 Theme 3: Time

Sub-theme 3a): The influence of time to on-campus students healthy eating habits

Time influenced healthy eating habits of on-campus participants. On-campus students did not have sufficient time to eat healthy meals as they were always under pressure to complete assignments. They had sufficient time to eat healthy meals on weekends only if they had adequate funds to buy healthy meals as they were expensive. This was confirmed by one participant from university B in an ITV:

“We don’t have sufficient time to sit and enjoy healthy meals during the week as we are always rushing to complete our assignments. We get adequate time on weekends unfortunately our funds are limited to always buy healthy food as it is expensive.”

Another participant from university A in the FGD said:

“We have limited time here on campus to enjoy healthy meals as we are always under pressure to submit assignments. We only get enough time on weekends unfortunately our funds are limited.”

Sub-theme 3b): The influence of time to off-campus students to have healthy eating habits

Time influenced the healthy eating habits of university students residing off-campus. Off-campus participants reported that preparing healthy food required more time yet they had limited time due to school work. They mentioned that they spent most of their time doing assignments than preparing meals. The participants highlighted that they got to their place of residence late and exhausted to prepare healthy meals instead used pre-packed food to prepare quick meals. It was possible for them to prepare healthy meals on weekends only if they had sufficient funds. Another participant from university B shared this sentiment in an ITV:

“I get home late and preparing healthy food needs more time which I don’t have. Assignments, tests and projects need most of my time such that I end up having no time to prepare and eat healthy meals but junk and pre-packed food in order to complete assignments. I only get time to prepare healthy meals on weekends only if I have sufficient funds.”

Similarly, another participant from university A said in the FGD:

“Cooking waste time, yet I need more time to study and do assignments. But I try on weekends.”

4.3.2.4 Theme 4: University related stress

Sub-theme 4: The influence of stress on students' healthy eating habits

Stress was another factor commonly reported as influencing the healthy eating habits of university students. A number of participants expressed that stress caused by too many assignments made it difficult for them to follow healthy eating habits as a result they skipped meals, eat junk and fast food. One participant from university B mentioned this in the ITV:

"It is difficult for us to follow healthy eating habits here at university as we are always under pressure to do assignments thus; we eat anything ready, mostly junk and fast food."

Similarly, in the FGD one participant from university A said:

"Oh no! We are always stressed by too many assignments thus you do not think about eating healthily, you just grab whatever is ready such as snacks."

Another participant from university B stated this:

"I eat a lot due to stress especially sweets."

4.3.2.5 Theme 8: Nutritional knowledge

Sub-theme 8: Influence of dietary knowledge on student's healthy eating habits

Nutritional knowledge appeared as a factor influencing university students healthy eating habits. A large number of participants' in the Consumer science programme had learnt nutrition but did not apply what they had learnt due to convenience and better taste of unhealthy food. Some participants revealed that they did not do the nutrition courses but other courses in the Consumer science programme such as clothing and textile. They stated that they would follow healthy eating habits if they had knowledge on nutrition. One interviewed participant from university A in the ITV said:

“We know what to eat in order to be healthy as we have done the nutrition courses but unhealthy food is tasty and always available to cater for our busy schedule.”

Another participant from university B commented:

Ah! I don't know anything on nutrition as I do the clothing and textile courses; I think we would be eating healthily if we learnt the nutrition courses immediately, we entered university.”

Similarly, one participant from university A stated this in the FGD:

“I know what to eat in order to be healthy unfortunately I don't have time to prepare nutritious meals.”

Another participant from university B mentioned this:

“I don't have knowledge on nutrition as I am doing other courses.”

4.3.2.6 Theme 5: Taste of food

Sub-theme 5: Influence of the taste of meals on students healthy eating habits

A number of participants did not follow healthy eating habits at universities because meals at the dining hall were not tasty at times. Some participants expressed concern that, the menu served at the dining hall did not change thus resort to eating tasty fast food and junk sold around campus. One participant from university A mentioned that:

“At the dining hall we are served with nutritious food, but the food is not tasty and appealing as junk food. Also, the menu does not change. Thus, we prefer eating tasty appealing food sold around campus.”

One participant from university B in the FGD expressed that:

“Healthy meals at the dining hall are sometimes boring and not tasty thus we buy fast

food from the vendors and restaurants.”

Another participant from university A stated that:

“We are tired of being served with the same menu at the dining hall as a result we end up eating appealing fast food and junk around campus.”

4.3.2.7 Theme 6: Meal patterns

Sub-theme 6: Influence of meal patterns on students healthy eating habits

Meal patterns of university students influenced their healthy eating habits. Most participants reported that they sometimes skipped meals especially breakfast due to lack of time and funds. This is confirmed by one participant from university B in the ITV:

“I tend to skip breakfast due to insufficient funds. I save the little money I have for one heavy meal such as a lunch or supper.”

Another participant from university A in the ITV indicated that:

“Even if I had enough money, time is not sufficient here at university to eat all three meals of the day due to too much school work.”

Similarly, one participant from university B in the FGD said:

“I eat only lunch due to insufficient funds.”

Another participant from university A mentioned that:

“There is no time to eat all three meals at the campus as we are always rushing to do work thus; we grab any junk we come across.”

4.3.2.8 Theme 7: Body Image

Sub-theme 7: Influence of Body Image on Students Healthy Eating Habits

Participants reported that the body image compromise their healthy eating habits. Some female participants ate less food because they were concerned with the way they look. Few male participants were eating body building foods such as protein shakes and exercising in order to build muscles. This is confirmed by one female participant from university B in the ITV:

“I want to look good, so I eat less food and more of fruits and vegetables.”

A male participant from university B mentioned this:

“Ahh! We guys want to have big muscles so we drink protein shakes to build body muscles.”

Another female participant from university A in the FGD said:

“Oh! Some of us ladies like to take care of our bodies in order not to lose shape thus we eat less food and more of fruits and vegetables.”

Another male participant from university A explained this in the following quote in the FGD:

“We men want to have big muscles so we eat lot of protein food and exercise.”

4.3.3 Research Question 2: What social factors influence healthy eating habits of university students?

4.3.3.1 Theme 9: Family members and background

Sub-theme 9: Influence of family members and background

A number of participants revealed that they followed the pattern of eating from home. Some participants did not like the type of food eaten at the dining hall and the methods used to cook certain dishes. They preferred methods of cooking that were used by family members than what they ate at university thus tend to eating junk food. One participant from university B in the ITV mentioned that:

“I am used to eating two meals of the day as we do at home.”

Similar evidence was stated in the FGD from university A:

“I don’t like the way they cook the stews here at university, I am used to boiling only.”

4.3.3.2 Theme 10: Peer Pressure

Sub-theme 10: Influence of peer pressure on healthy eating habits of students

Peer pressure was reported to be influential in university students healthy eating habits. A number of participants expressed that they followed their friends and shared junk food. This was done for social support and fame. This is confirmed by one participant from university B in the ITV:

“We share similar food with friends especially snacks for social support and to be seen as a special group on campus.”

Similarly, one participant from university A explained this situation in the FGD:

“I am following my friends and it feels good to eat what my friends eat. We usually by boxes of snacks and chocolates to enjoy.”

4.3.3.3 Theme 11: Social media

Sub-theme 11: Influence of social media on healthy eating habits of students

Participants revealed that social media was a factor influencing their healthy eating habits. Participants revealed that they learnt more about healthy and unhealthy eating habits through social media as it was easy to access and information was always available. Some participants wanted to follow healthy eating habits because they wanted to look like important personalities on social media. The following is a remark made by one of the participants from university B in the ITV:

“We learn healthy and unhealthy eating habits from social media as we like to follow people we admire. Also, it is easy because we always have our cell phone to search information we want.”

One participant from university A in the FGD stated this remark:

“We are tempted to follow appealing healthy and unhealthy behaviours shown on the media as they are always repeated.”

4.3.4 Research Question 3: What environmental factors influence healthy eating habits of students at universities of Eswatini?

4.3.4.1 Theme 12: Cost of food

Sub-theme 12: Influence of the cost of food on healthy eating habits of students

Most participants reported the cost of food as a factor influencing their healthy eating habits. Participants expressed that it was difficult to follow healthy eating habits as the cost of healthy food was high thus tend to buying cheaper fast food and junk. One participant from university B in the ITV shared this sentiment:

Our funds are limited and the cost of healthy meals at the dining hall is too high, as a result we eat one meal a day and eat snacks for the other parts of the day.

Similarly, another participant from university A stated in the FGD:

“Meals at the dining hall are very expensive than meals we buy from street vendors. Also, vendors do not weigh their food they just serve home servings, so we feel they are worth our money.”

Another participant from university B mentioned this:

“Ah! We prefer to eat cheaper fast food or bread and noodles as we don't have enough money to buy expensive healthy meals at the dining hall.”

4.3.4.2 Theme 13: Food Insecurity

Sub-theme 13: Influence of Food Insecurity on Student's Healthy Eating Habits

Food insecurity was reported to be a factor influencing students healthy eating habits. Participants did not have enough food to follow healthy eating habits due to insufficient

funds. Participants engage in immoral behaviour to get money for food. One participant from university A expressed that in the ITV:

“I only eat once a day just to save my limited funds especially towards the end of each semester.”

Another participant from university B commented:

“We sometimes starve at university due to insufficient funds. When life becomes tough, we even eat bread and paste it with banana, just to have something in our stomach.”

Similar evidence from university A was stated in the FGD:

“When my allowance gets finished, I sometime go to class without a meal especially towards the end of each semester. My friends prefer to engage in immoral behaviour just to get money for food.”

4.3.4.3 Theme 14: Type of food outlets

Sub-theme 14: Influence of the type of food outlet towards students healthy eating habits

The type of food outlets was reported to be a factor influencing healthy eating habits of university students. Participants revealed that food was purchased from the: dining hall, restaurants, vendors, market and tuck-shop. This is confirmed by one participant from university B in the ITV:

“If we have sufficient funds, we usually purchase food from the dining hall because it is where we get healthy meals. We buy fast food such as fish and chips from restaurants. We buy buns, drinks, snacks and sweets from the tuck-shop. We also buy some food such as grilled chicken and porridge from the vendors and markets exposing ourselves to food contamination as hygiene measures are not practiced.”

Similarly, another participant from university A shared this sentiment from the FGD:

“Esh, I usually buy meals from the vendors and market as they are affordable and not weighed than those provided by the dining hall.”

4.3.4.4 Theme 15: Type of Meals Served

Sub-theme 15: Influence of the type of meals served at university’s food outlets on students healthy eating habits

The type of meals served at the food outlets was indicated to be an important factor influencing the healthy eating habits of university students. Most participants reported that healthy meals were served at the dining hall but were sometimes not tasty and the menu did not change. Some participants revealed that restaurants mostly sold appealing tasty fast food such as fried: chips, fish, chicken and variety of stews. Few participants mentioned that street vendors sold food at a low price such as: tasty barbecued chicken, porridge and salads. The market sold fruits, vegetables etc. The tuck-shop sold bread, buns, biscuits drinks, sweets and other snacks. Off-campus participants packed left over food and sandwiches from their place of residence.

One participant from university B from the ITV shared this sentiment:

“The dining hall serves healthy meals though sometimes not tasty and boring as the menu does not change. Restaurants sell tasty fast foods such as: fried Russian, fish, chicken, chips and a variety of stews. The tuck-shop sells junk such as bread, buns, biscuits, fizzy drinks, snacks and a variety of sweets.”

Another participant from university A said:

“We buy food we enjoy most from street vendors such as tasty barbecued chicken and porridge as it is affordable. The market sells fruits and vegetables. Unfortunately, food is likely to be contaminated as there is no water and toilets.”

Another participant from university B stated that:

“I stay off campus I sometimes pack left over food or sandwiches from my place.”

Similarly, one participant from university A mentioned this in the FGD:

“A variety of balanced meals are served at the dining hall but not tasty and appealing at times. The tuck-shop sells junk.”

Another participant from university B said:

“We buy food such as tasty barbecued chicken, porridge, fruits and vegetables from; street vendors and market because it is not weighed and affordable. Unfortunately, we face danger of food poisoning as they practice poor hygiene measures. Sometimes we carry sandwiches as some of us stay out of campus.”

4.3.4.5 Theme 16: Lack of Cooking Facilities

Sub-theme 16: Influence of Lack of Cooking Facilities on Students healthy Eating Habits

Lack of cooking facilities was reported also to be a factor influencing healthy eating habits of university students. Participants with knowledge in nutrition indicated that, there would prefer cooking interesting healthy meals during their spare time if cooking facilities were available in order to save their limited funds. Few participants indicated that they ate fast foods because cooking was prohibited on campus. This was echoed by one participant from university A in the ITV:

“We only get sufficient time during weekends, thus if cooking facilities were available on campus, we were going to prepare interesting cheaper nutritious meals in order to save our limited funds.

Another participant from university B said:

“We are not allowed to cook on campus even if we had some money to buy fresh healthy food. If we bring our hot plate and cook the security-guard reports us to the warden.”

Similarly, one participant from university A in the FGD stated this remark:

“At times, when we have money, we wish to prepare healthy meals, unfortunately there are no cooking facilities at the campus and cooking is prohibited thus we tend to eat fast food and junk.”

4.4 Strategies to promote healthy eating habits

The following section presents participants’ views on strategies that were believed to have the potential to promote healthy eating habits.

4.4.1 Research Question 4: What strategies promote healthy eating habits of students at universities in Eswatini?

4.4.1.1 Theme 17: Strategies

Sub-theme 17: Strategies to promote healthy eating habits of students at universities

A number of participants reported that, students eating habits would improve if their income/allowance is increased and eating at the dining hall made compulsory for all students. Some participants revealed that cooking staff should be well trained on healthy cooking and menu planning. Participants indicated that lecturers should not give them too much work so that they can have time for eating healthy meals. Some participants indicated that students healthy eating habits would improve if all students were educated on nutrition immediately, they entered university. Other participants expressed that, in order to promote healthy eating habits among university students’ food outlets should only sell nutritious food not junk. Participants mentioned that students would eat healthy interesting meals if cooking facilities would be made available on campus. The evidence is shown below:

One participant from university B in the ITV commented:

“Our eating habits can improve if our income can be raised and eating at the dining hall made compulsory for all students. The university cooking staff should be well trained on healthy cooking and planning of interesting menus. Lecturers should not give us too much work so that we get adequate time to eat healthy meals.”

Another participant from university A said:

“Our eating habits would improve if all students were educated on the importance of healthy eating immediately, they entered college. Also, students would follow healthy eating habits if food outlets around universities sell healthy food and cooking facilities provided on campus so that we cook healthy interesting meals on our spare time.”

Similarly, one participant from university B expressed this evidence in the FGD:

“Healthy eating habits can be promoted if universities would increase our income and reduce the meal price in order for all students to eat healthy meals. All students should eat at the dining hall so that they eat balanced meals.”

Another participant from university A mentioned this:

“Lecturers should avoid giving us lot of assignments so that we have enough time to dine and eat healthy meals instead of eating junk and rush to do assignments. Food outlets should not be allowed to sell junk in order to promote healthy eating.”

Another from university B stated this:

“Student should be educated on healthy eating immediately they enrol at university. There should be an information-desk or students form social media groups to inform others on healthy living. Universities should allow us to cook our own interesting dishes.”

4.5 Summary

The main objective of the study was to explore and describe factors influencing healthy eating habits of university students in Eswatini. Demographic and factors influencing the healthy eating habits of university students were established from data collected using qualitative data in this study. Themes and sub-themes occurred from this study under each research question. The study revealed that factors influencing university students healthy eating habits were; lack of income; time; university related stress; nutritional knowledge, taste of food; meal patterns; body image; family members and background; peer pressure;

social media; cost of food; food insecurity; type of food outlets; type of meals served and lack of cooking facilities. Strategies to promote healthy eating habits of university students were also revealed.

CHAPTER 5

DISCUSSION

5.1 Introduction

The purpose of this chapter was to give an in-depth discussion of the findings and compare our findings with what was reported in the past from various studies. The following section discusses the factors influencing the healthy eating habits of university students in Eswatini based on the findings.

5.2 Discussion of demographic characteristics of students

5.2.1 Age

There is evidence that most participants engaged in poor eating habits as majority of participants were within age range 18 - 24 and 25 - 30. This is in line with an observation made by Sprake *et al.* (2018) that a majority of students within the age range 20 – 25 consumed unhealthy food.

5.2.2 Gender

There is evidence that gender is one factor that could influence an individual's eating habits. A majority of students who engaged in unhealthy eating habits at the universities usually eating fewer fruits and vegetables and consuming food with high fat content, were males. This confirms previous findings in the literature that men in tertiary institutions increase food intake in order to build muscles while women ate less food and more fruits and vegetables in order to lose weight (Al-Otaibi *et al.*, 2013; Deliens *et al.*, 2014). Wen *et al.* (2015) also reported that eating habits of students in universities changed because of gender and personalities.

5.2.3 Level of study

The evidence from the study is inconclusive that level of study had an influence on healthy eating habits of university students since all participants were students in their final year. This was probably due to the fact that all of them were in their final year and the year level could not discriminate in their eating habits.

5.2.4 Type of sponsor

The study has identified two types of participants, categorised by their source of funding. Some students were government sponsored, while only a few students, 7.5% of the study

sample, were privately funded. With a majority of the study sample being government funded, it is convincing to say that in order to promote healthy eating habits among students at universities the government, which is the main sponsor ought to raise students' allowances to cater for the inflation rate. 92.5% of the population will therefore be in a position to better their eating habits.

5.2.5 Type of residential accommodation

There is evidence that students staying off-campus lacked a control in their meal patterns. This is because this study found that most participants stayed off-campus, and a majority of them did not eat healthy meals. These findings are consistent with the findings by Mpofu (2015) who observed that it was easier to control students eating patterns especially the main meals if students were accommodated at university halls rather than in their private places. These results suggested that most students would follow healthy eating habits better if they stayed on-campus

5.3 Factors influencing university students healthy eating habits

After students' responses were examined, it was discovered that individual and environmental factors as a product of the ecological framework were mostly discussed. Our analysis revealed individual factors influencing the healthy eating habits of university students to be as follows: poor eating habits; insufficient income, inadequate time, academic stress, lack of taste in meals; poor meal patterns and lack of nutritional knowledge. Social factors influencing the healthy eating habits of university students were: family members and background; friends and peers and social media. The cost of food; food insecurity; type of meals served at university food outlets and lack of cooking facilities were found to be environmental factors influencing the healthy eating habits of university students. Strategies to promote healthy eating habits among university students were also described.

5.3.1 Individual factors

The following section describes the individual factors influencing healthy eating habits of university students.

5.3.1.1 Poor eating habits

Some students eating habits were found to have a bearing on the individual factors. Information gathered through the current study indicated that most students engaged in poor eating habits at universities. Most students ate fried chips, sausages, bread, buns,

biscuits, fat cakes, fizzy drinks, juices, chocolates, sweets, barbecued chicken and porridge, fast foods and less fruits and vegetables. Our findings are in line with previous studies that revealed that many students engaged in unhealthy eating habits at universities usually eating fewer fruits and vegetables and consuming food with high fat content (Deshpande *et al.*, 2009; Deliens *et al.*, 2014; Verstraeten *et al.*, 2014; Tanton *et al.*, 2015; Pendergast *et al.*, 2016). This is not consistent with a study by Abraham *et al.* (2018) which found that many students consumed fresh fruits regularly. The findings in this study suggested that poor eating habits of university students influence their healthy eating habits.

5.3.1.2 Insufficient income

Insufficient income received from the sponsor was notably cited by many participants to be an individual factor influencing the healthy eating habits of students. Participants in our study reported that, the income received from the sponsor was not adequate to cater for: healthy meals, personal needs and expensive books required by university. This is in line with previous studies that have identified insufficient income as a factor influencing the healthy eating habits of university students as students relied from families, friends and some searched for employment to cope with financial pressure in universities (Kassier and Veldman, 2013; Gallegos *et al.*, 2014; Van den Berg & Raubenheimer, 2015; Cleveland & Jay, 2021). The findings of this study may be indicating that insufficient income probably had a negative effect on the healthy eating habits of university students as students ate poorly due to insufficient funds

5.3.1.3 Inadequate time

In the current study, lack of time was another important factor reported to be influencing the healthy eating habits of university students. A number of participants indicated that time was insufficient to prepare and eat healthy meals as they were always busy with academic activities. This is consistent with previous studies that, preparing healthy meals required more time than convenience food (Deliens *et al.*, 2014; Verstraeten *et al.*, 2014; Hilger *et al.*, 2017; Abraham, 2018; Botha, 2018; Amore *et al.*, 2019). These findings suggest that sufficient time is vital for university students to practice healthy eating habits.

5.3.1.4 University related stress

Academic stress was also cited as an individual factor influencing the healthy eating habits of university students. The information acquired through the current study showed that academic pressure such as: to complete assignments; studying for tests and examinations; expectation of high marks and insufficient income highly influenced the healthy eating

habits of university students. Similarly, these findings are in line with several other studies which reported that stress has a negative influence on the behaviour and health of students due to difficulties in coping skills and expectation of high academic achievement, finances and personal needs (Ganasegeran *et al.*, 2012; Deliens *et al.*, 2014; Khan *et al.*, 2016; Kabir *et al.*, 2018). The above findings show that stress influence students healthy eating habits as they would eat unhealthily due to too much pressure caused by academic activities, lack of funds, time and personal needs.

5.3.1.5 Lack of taste in meals

Lack of taste in meals was viewed as another factor influencing the healthy eating habits of university students. The findings of this study revealed that, meals at the dining hall were at times not tasty and not appealing and the menu did not change as a result student preferred to eat unhealthy tasty food sold in other food outlets around university. This confirms previous findings in the literature that students bought tasty attractive meals in food outlets around university to escape boring meals served at university dining halls (Deliens *et al.*, 2014; Abraham *et al.*, 2018; Kabir *et al.*, 2018; Amore *et al.*, 2019). A study conducted in Ecuador concurred with our findings that university students preferred sweet and fatty foods rather than vegetables and salads (Verstraeten *et al.*, 2014). Our findings are in agreement with a study conducted in Hawai'i by Amore *et al.* (2019) that stated that students preferred unhealthy food options due to their better taste and flavour. These findings suggest that taste of food had an influence on the healthy eating habits of university students.

5.3.1.6 Poor meal patterns

The poor meal patterns of students were found to be an individual factor influencing their healthy eating habits. Our study found that most students usually skipped meals especially breakfast and a few missed lunch or supper as well due to academic activities, lack of time and funds. These findings are in agreement with previous studies that revealed that students skipped breakfast due to lack of funds, time and academic activities (Ganasegeran *et al.*, 2012; Verstaeten *et al.*, 2014; Plotnikoff *et al.*, 2015; Pendergast *et al.*, 2016; Kabir *et al.*, 2018; Sogari *et al.*, 2018). The above findings suggest that students at universities follow poor eating patterns due to academic pressure, insufficient time and funds.

5.3.1.7 Lack of nutritional knowledge

The nutritional knowledge of students was noted to be another individual factor influencing the healthy eating habits of university students. The current study found that a number of

participants did not understand the meaning of healthy eating as they lacked nutritional knowledge due to studying other courses in the Consumer Science programme. These findings are in line with previous studies that had recognised lack of nutritional knowledge as a factor influencing the healthy eating habits of university students as students had frequent snacks and high consumption of fast food failing to meet the recommended intake of fruits and vegetables (Ganasegeran *et al.*, 2012; Deliens *et al.*, 2014; Mpofu, 2015; Abraham *et al.*, 2018; Kabir *et al.*, 2018).

Moreover, some participants with an understanding on nutrition also failed to follow healthy eating habits as well due to lack of: funds, time and taste in meals. Our study share similarities with a study by Abraham *et al.* (2018) conducted in Indiana that revealed that, students did not follow healthy eating habits though they studied nutrition due to the interesting taste and convenience of unhealthy food. These findings suggest that students choice of food is determined by taste and convenience rather than its nutritive value.

5.3.2 Social factors

The following section describes those factors that were found to be social.

5.3.2.1 Family members and background

Family members and background were deemed to be a social factor influencing the healthy eating habits of university students. Some participants preferred eating the type of food usually eaten with family members and to follow the eating patterns they were familiar with. This is in agreement with previous studies that indicated that parents: provide food, instil rules and are good role models for their children (Verstraeten *et al.*, 2014; Mpofu, 2015; Platania *et al.*, 2016). These findings suggest that family members and background have a great influence on the healthy eating habits of university students.

5.3.2.2 Friends and peers

The study revealed that friends and peer pressure was another social factor influencing the healthy eating habits of university students. In the current study, most participants indicated that they ate unhealthy food because they wanted to be accepted by their friends for social support. Our findings are consistent with previous studies that identified peer pressure as a factor influencing the healthy eating habits of university students as students ate food that was unhealthy because they were following their peers (Delliens *et al.*, 2014; Verstaeten *et al.*, 2014; Mpofu, 2015; Higgs & Thomas, 2016; Amore *et al.*, 2019). There is evidence therefore that peer pressure influence the healthy eating habits of university students.

5.3.2.2 Social media

Social media was identified as a social factor influencing the healthy eating habits of university students under the social level. In the current study, some participants viewed social media as promoting healthy and unhealthy eating habits. The findings of this current study align with previous studies that found that, students learn more about healthy eating on social media as they search for more information frequently (Mollen *et al.*, 2013; Khanom *et al.*, 2015; Banna *et al.* 2016; Amore *et al.*, 2019). These findings suggest that social media also have an influence on the healthy eating habits of university students.

5.3.3 Environmental factors

This section describes environmental factors indicated in the findings.

5.3.3.2 Cost of food

Our study found that the cost of nutritious food was expensive at the dining hall as compared to unhealthy food in the other food outlets around university. These findings are in line with other studies that revealed that nutritious food is expensive and a barrier for promoting healthy eating habits as university students preferred cheaper unhealthy food due to insufficient funds (Ganasegeran *et al.*, 2012; Deliens *et al.*, 2014; Verstraeten *et al.*, 2014; Headey & Alderman, 2019). These findings are also in line with previous studies that reported that the price of fruits, vegetables and other nutritious foods are higher than any other food (Kassier & Veldman, 2013; Amore *et al.*, 2019). The above findings suggest that university students might be eating unhealthy food due to the high cost of nutritious food.

5.3.3.3 Food insecurity

There is evidence that some participants lacked adequate food due to insufficient funds. Other participants in this study ate unhealthy food as a result of inadequate funds to buy nutritious food. Our findings were in line with previous studies that revealed that food insecurity was associated with insufficient funds to buy adequate nutritious food as students used meal allowance for school needs (Kassier & Veldman, 2013; Gallegos *et al.*, 2014; Cleveland, 2016; Bruening *et al.*, 2018). Other studies concurred with our study that there was high rate of food insecurity among students at universities due to lack of experience in students of organizing food resources and less equipped kitchens for preparing healthy meals (UNICEF, 2009; Deliens *et al.*, 2014; Cleveland, 2016).

5.3.3.4 Type of meals served at university food outlets

The type of meals served at universities food outlets was cited as another environmental factor influencing the healthy eating habits of students in the current study. Most participants revealed that the dining hall served healthy meals however not tasty at times and the menu was not changed. Some participants revealed that restaurants and other food outlets mostly sold appealing tasty fast food such as boiled rice, porridge, variety of stews, fried: chips, fish and chicken. Fewer participants mentioned that street vendors sold food at a low price such as: tasty barbecued chicken and porridge. The current study aligns with other studies that reported that students considered: price, convenience, taste and appeal in the choice of food than its nutritional content (Murimi *et al.*, 2016; Abraham *et al.*, 2018).

Our study revealed that the market areas within the two universities sold fruits, vegetables and other food stuffs. This is in line with previous studies that have found that the university environment promotes healthy eating (Amore *et al.*, 2019). The tuck-shop sold bread, buns, biscuits, drinks, sweets and other snacks. These findings support other studies that reported that some university outlets do not sell healthy food (Tseng *et al.*, 2016). The above findings suggest that the type of food available in food outlets around universities would influence the healthy eating habits of students, as they would buy any available cheaper and tasty appealing food available.

5.3.3.5 Lack of cooking facilities

In the current study lack of cooking facilities was cited as an environmental factor influencing the healthy eating habits of university students. Some participants with nutritional knowledge reported that, they would prefer cooking healthy interesting meals during their spare time if cooking facilities were available instead of consuming fast foods. This confirms previous findings in the literature that university kitchens were not fully equipped thus students were not able to use the facilities to prepare healthy meals (Deliens *et al.*, 2014; Cleveland, 2016; Amore *et al.*, 2019). Our study share similarities with Kabir *et al.* (2018) findings that revealed that, students were more likely to cook where there were good cooking facilities. In this study, however, we are adamant that lack of cooking facilities had a large influence on healthy eating habits of university students since most participants were non-campus resident, and were believably from other preferred residential places where sufficient cooking facilities would presumably be available.

5.4 Strategies to promote healthy eating habits among university students

This section discusses strategies that could be adopted to promote healthy eating habits among university students. Findings from this study revealed that students eating habits would improve if eating at the dining hall is made compulsory. Our findings are in line with previous studies that revealed that it was easier to control the eating patterns of students in university halls than in their isolated places (Mpofu, 2015).

Participants in this study reported that students eating habits would improve if the income/allowance is increased to cater for the high cost of meals. The findings of this current study supported previous studies that found that awareness regarding financial resources from government and other scholarships should increase in order to reduce food insecurity (Gallegos *et al.*, 2014).

A number of participants reported that healthy eating habits would improve if all students were educated on nutrition immediately they entered university. Our findings are in line with previous studies that revealed that university students change their unhealthy eating patterns once they learnt a health nutrition course (Deliens *et al.*, 2014; Mpofu, 2015; Abraham *et al.*, 2018; Kabir *et al.*, 2018).

Participants reported that in order to promote healthy eating habits among university students, university food outlets should not sell unhealthy food. The findings of the current study are supported by other studies that revealed that food outlets around universities sell unhealthy food (Murimi *et al.*, 2016; Tseng *et al.*, 2016; Abraham *et al.*, 2018).

Lastly our study also found that healthy eating habits would improve if cooking facilities were made available for students at higher institutions. The finding of this current study aligns with previous studies that found that it was easier for students to cook healthier meals if they were provided with cooking facilities (Kabir *et al.*, 2018). In support, Cleveland (2016) reported that universities should provide students with cooking and storage facilities.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

The aim of this qualitative study was to explore and describe factors influencing the healthy eating habits of university students in Eswatini. Purposive sampling method was used to select participants for the study in two universities of Eswatini offering Consumer Science in Manzini region. Twenty (20) final year Consumer Science students from each of the two Universities were selected for the study. Data was collected using semi-structured interviews and focus group discussions. Furthermore, the study sought opinions of the participants on the factors influencing their healthy eating habits.

Chapter six presents conclusions on the key findings responding to the questions of this study - What individual factors influence the healthy eating habits of students at universities in Eswatini? What social factors influence healthy eating habits of students at universities in Eswatini? What environmental factors influencing healthy eating habits of students at universities in Eswatini? What strategies promote healthy eating habits among Eswatini university students? This chapter also presents recommendations in relation to the findings of this study. In addition, the chapter presents the limitations of the study.

6.2 Conclusions

This study concluded that some of the individual factors influencing the healthy eating habits of university students in Eswatini were: poor eating habits, insufficient income, inadequate time, academic stress, lack of taste in meals, poor meal patterns and lack of nutritional knowledge.

This study established that, insufficient income was a major factor influencing the healthy eating habits of university students in Eswatini. The income students received from their sponsor was insufficient for them to follow healthy eating habits as the income was also used to: cater for personal needs, purchase expensive prescribed books and stationery.

Furthermore, the outcome of this study revealed that Eswatini university students had inadequate time to prepare and eat healthy meals. Students used most of their time to do: assignments; research projects; studying for tests and exams thus time to prepare and eat healthy meals was limited.

The current study also found that university related stress was another important factor influencing the healthy eating habits of university students in Eswatini. Most students were pressured by: too many assignments, studying for tests and doing research work as a result they reduced stress by eating unhealthy food such as chocolates and other unhealthy snacks.

In addition, the current study established that lack of taste in meals was another factor influencing the healthy eating habits of university students. This study found that students did not engage in healthy eating habits due to lack of taste and variety in healthy meals served at the dining hall. They preferred eating unhealthy tasty attractive food sold in other food outlets around the university.

Furthermore, the outcome of the study revealed that students followed poor eating patterns. Students skipped meals especially breakfast to make more time for academic activities. They also skipped some meals of the day due to insufficient funds. They preferred to eat one meal of the day and junk food in order to save the little money they had for other days.

This study also found that most students lacked the understanding of healthy eating and healthy eating habits as they did not study nutrition but other courses in the Consumer Science programme. Some students that had studied nutrition failed to follow healthy eating habits due to lack of: funds, time and taste in meals.

The social factors influencing the healthy eating habits of university students in Eswatini were: family members and background, friends and peer influence and social media. There is overwhelming evidence to prove that family members and background were social factors influencing the healthy eating habits of university students. Students preferred to follow eating patterns and eating the type of food that eaten at home. They failed to follow eating patterns and to eat the type of food served at the university dining halls.

The current study found that students followed unhealthy eating habits because they wanted to be accepted by friends and peers. Students preferred to eat unhealthy food such as snacks and other junk food in order to be accepted by peers. They also shared bulk groceries of convenience food with friends in order to save their limited funds.

Furthermore, social media had been identified as another factor influencing the healthy eating habits of university students. Students revealed that they copied healthy and

unhealthy eating habits from social media. The social media platform was identified as a quicker way of conveying information.

The current study further concluded that: high price in food, type of food outlets, poor quality food served at university food outlets and lack of cooking facilities were environmental factors influencing the healthy eating habits of university students in Eswatini.

6.2.1 Strategies Promoting Healthy Eating Habits among University Students

In order to promote healthy eating habits among students at universities: eating healthy meals at the dining hall should be made compulsory; the sponsor should raise students' income/allowance to cater for the inflation rate. Students should not be given too many assignments so that they have enough time to prepare and eat healthy meals. University kitchen staff and all students should be educated on healthy eating and food preparation in order to follow healthy eating habits.

Social media platforms were revealed to be strategies that should be used to promote healthy eating habits in universities. Furthermore, the study found that reducing the cost of meals in universities will encourage healthy eating habits among university students. Also, restricting all students to eating meals at the dining hall would promote healthy eating habits among students in universities. Many students would follow healthy eating habits if university food outlets would be encouraged to sell healthy food. Lastly, providing students with cooking facilities was cited as a strategy to promote healthy eating habits as students would cook healthy interesting dishes. It is very important for young adults to follow healthy eating habits to be healthy throughout life.

6.3 Recommendations

The researcher would like to highlight the following recommendations based on the findings:

6.3.1 Recommendations for practice

The findings of the study revealed that for students to follow healthy eating habits, healthy eating is enforced at university eating chambers by making it compulsory for all students to eat healthy meals at the dining hall. Furthermore the findings exposed that, policies which are currently in place concerning students' income especially: meal allowance, book

allowance and personal allowance should be revised and amended in such a way that they cater for inflation rate.

The findings revealed that the ministry of: Education and Training, Public service and Health also Academic Institutions should team up and conduct more studies on factors influencing healthy eating habits of students at universities in Eswatini with a larger population size, so that more insight on healthy eating habits of students are obtained and to further establish ways on which these eating habits are improved.

The findings of the study further revealed that public health education using university venues, media, social groups and leaflets should be used in distributing proper information on healthy eating habits for university students. In addition, parents and guardians should be responsible for their children's welfare while studying at universities and promote healthy eating habits. Furthermore, the findings revealed that the time table at higher institutions should be flexible to allow in between breaks so that students do assignments and have enough time to eat healthy meals.

Further, universities should employ a dietician to educate the university kitchen staff on nutrition and on the preparation and cooking of healthy meals including proper menu planning and rotation. In addition, regular monitoring visits should be done by the Ministry of Health to assess meals served to students at the dining hall and provide technical assistance so that better health is obtained among university students.

The research findings also exposed that health education programmes should be implemented in communities to educate members of the community on nutrition and healthy eating habits as communities have a great influence on individuals.

The findings of this study indicated that all food outlets around universities should be encouraged to sell healthy food in order to promote healthy eating habits among university students.

Lastly, cooking facilities should be provided to students so that it is easier for them to prepare healthy interesting meals.

6.3.2 Recommendation for further study

The researcher recommends that a similar study be carried out in other universities of Eswatini as this was a small-scale study carried out in two universities using final year Consumer Science students. The researcher also recommends that a study be done

focusing on the nutritional content of food prepared for students in universities of Eswatini. In addition, another study could be carried out to assess the nutritional status of students in universities of Eswatini.

6.4 Limitations of the study

This study was limited to two universities offering Consumer Science in one region of Eswatini thus the findings may not be generalised to other universities in the country. It may not represent the entire population of university students of Eswatini as only final year Consumer Science students that have signed consent forms were represented.

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APPENDICES

Appendix A

Budget

<u>Items</u>		<u>Amount (R)</u>
1.	Laptop	7000.00
2.	Stationery	800.00
3.	Internet access	1000.00
4	Transport and accommodation during consultation and presentations	3000.00
5.	Tuition	40 000
6	Contingencies (10% of budget)	5 180
Total		56, 980.00

Appendix B
Interview guide for students

My name is Busisiwe Ngwenya who is currently a student at UNISA doing a Master in Consumer Science. I am conducting a study on factors influencing healthy eating habits of students at universities in Eswatini. This study is for academic purposes only and the data collected will be used for academic purposes only. Kindly answer the following questions:

INTERVIEW QUESTIONS

Demographic data

1. Age
2. Type of Gender
3. Number of years at university
4. Type of sponsor
5. Type of accommodation (on/off-campus)

Research question 1: What individual factors influence healthy eating habits of students at universities in Eswatini?

6. What type of food do you normally eat at university and how often?

Probe: Please explain your intake of fruits and vegetables at university?

7. Is the income (allowance) provided by the sponsor sufficient for healthy meals?

Probe: Yes/no please explain.

8. Do feel you have adequate time for eating and preparing healthy meals at university?

Probe: If yes/no explain fully.

9. Does stress influence your healthy eating habits?

Probe: Please elaborate.

10. What can you say about the taste of meals at the food outlets?

Probe: Please elaborate.

11. Do you eat the three meals (breakfast, lunch and supper) of the day at university?

Probe: Please explain.

12. What do you understand about healthy eating and eating habits?

13. Are there any other individual factors influencing your healthy eating habits except the

ones mentioned above?

Probe: Please explain.

Research question 2: What social factors influence healthy eating habits of students at universities in Eswatini?

14. Do you think your family members and background influence the way you eat at university?

Probe: If yes/no please explain.

15. How do your friends and peers influence your healthy eating habits?

Probe: Please elaborate.

16. Does social media influence your healthy eating habits?

Probe: Please explain how?

17. Are there any other social factors influencing your healthy eating habits?

Probe: Please explain.

Research question 3: What are the environmental factors influencing healthy eating habits of students at universities in Eswatini?

18. Does the cost of food influence your healthy eating habits?

Probe: Please elaborate

19. What type of food outlets are around university?

20. What type of food is usually sold in the food outlets?

Probe: Please elaborate.

21. Are there any other environmental factors influencing your healthy eating habits except the ones above?

Probe: If so please explain.

Research question 4: What are the strategies to promote healthy eating habits among Eswatini university students?

22. What can university do to promote healthy eating habits among students?

Probe: Please explain in detail.

Appendix C

Focus group discussion questions

Introduction

My name is Busisiwe Ngwenya who is currently a student at UNISA doing a Master in Consumer Science. I am conducting a study investigating factors influencing healthy eating habits of students at universities in Eswatini. This study is for academic purposes only including the data collected. Kindly answer the following questions.

The focus group discussion questions below were used to collect data which answer the research questions for this study.

1. Who sponsor your education at the university?
2. Do you stay on/off campus?
3. What are the individual factors influencing your healthy eating habits at the university?
Probe: Please explain how each factor influence your healthy eating habits.
4. Are there any social factors influencing your healthy eating habits at the university?
Probe: If so, how do they influence your healthy eating habits?
5. What are the environmental factors influencing your healthy eating habits at the university?
Probe: Please explain how they influence your healthy eating habits?
6. What can university do to promote healthy eating habits among students?
Probe: Please explain in detail.

Thank you for your cooperation.

Appendix D
Informed consent form

Dear Respondent,

My name is Busisiwe Ngwenya. I am currently a student at UNISA doing a Master in Consumer Sciences. I am conducting a study investigating the factors influencing healthy eating habits of students at universities in Eswatini.

For ethical reasons, please note that your identity will not be disclosed as pseudonym will be used in the study. I request you to participate in the study in an interview or focus group discussion. Your responses will be kept confidential until the completion of the study. The responses will be kept in a safe place and will then be destroyed after five years. Information will be destroyed if necessary, for example hard copies will be shredded and electronic copies will be permanently deleted from the hard drive of the computer through the use of a relevant software programme.

Please note that there will be no financial benefit for you as a respondent in this study, and that you have the right to recuse yourself from taking part in this study at any time you feel like doing so. I am nevertheless requesting you to participate in this research.

Respondent:

I, have read this consent form. I agree to participate in this study out of my free will. I understand that I can stop participating in this study at any time I want. I also understand that there is no financial benefit attached with participating in this research.

Respondents

Name:

Respondent's signature:

Date:

Appendix E
Letter from supervisor (UNISA)

University of South Africa (UNISA)
Science Campus (Florida), c/o Christiaan
De Wet & Pioneer Ave, Florida,
Roodepoort, South Africa,
1709
Tel number: 011 6709727
Email: mathyr@unisa.ac.za

Letter of Recommendation

Date: 15 November 2018

To whom it may concern:

Research Study: Factors Influencing Healthy Eating Habits of Students at Universities in Eswatini

Mrs. Busisiwe Betty Ngwenya has been my student since January 2017 enrolled for the Master degree in Consumer sciences in the Department of Life & Consumer Sciences.

I, Mr Risuna Mathye the supervisor, humbly request for your permission that Mrs Busisiwe Betty Ngwenya may conduct her research study in your institution. I also kindly ask that your students take part in the above-mentioned research study. The purpose of the study is to explore and describe factors influencing healthy eating habits of students at universities in Eswatini.

The benefit for her participation in the study includes her contributions to assessing Factors influencing healthy eating habits of students at universities in Eswatini.

I believe her research strengths to be of high standard subsequently infused by her cognitive ability and work ethic. She is able to successfully complete multiple tasks with favourable results despite deadline pressure.

It is for these reasons that I highly recommend Mrs Busisiwe Betty Ngwenya for any opportunity to assist her in improving her academic qualifications without reservation. We will highly appreciate your response and permission.

Regards

R Mathye

Name: Mr Mathye

Position/Job Title: Senior Lecturer

Project Leader: Community Engagement Health and Life Skills Training

Course Coordinator

Department of Life & Consumer Sciences

Direct Phone number: +27(0)11 471 2171

Appendix F
Letter to the Ministry of Education & Training

Ministry of Education & Training
The Director of Teaching Service Commission
P. O. Box 39
Mbabane

10 November 2018

Dear Sir/madam,

RE: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY

I hereby apply to be granted permission to conduct a research study at your institution. As a student doing Masters in Consumer Science at the University of South Africa (UNISA). The title of my topic is **FACTORS INFLUENCING HEALTHY EATING HABITS OF STUDENTS AT UNIVERSITIES IN ESWATINI**. My research project will involve final year students in Consumer Science.

This study will involve semi-structured interviews and a focus group discussion which will take approximately 30 minutes per session in any free consumer science class room. I will do audio recordings and take some notes during the interviewing process. Participants will not be forced to participate but will have a right to withdraw during the course of the project. The information obtained will be treated with **the strictest confidentiality** and will be used solely for this research purposes only. There is no known risk involved in the research and there are no costs involved.

It is my presumption that the research findings will make a creditable contribution for formulation of health improvements to the university nutrition environment. The environmental improvements can support healthy eating habits through policy change, program development, or other interventions. Supplying university students with nutrition information and a healthy environment will increase their self-efficacy to make healthy choices and fulfil the government in Eswatini initiation of health for all by 2022.

Yours sincerely

Researcher.....

Supervisor

Busisiwe Betty Ngwenya

Mr R Mathye

Cell number: 268 76021911

Tel: +27(0)11 471 2171

Email address: busisiwengwenya57@yahoo.com

Appendix G
Letter to the University of Eswatini (UNESWA)

Dean (Academics)
Faculty of Consumer Science
University in Eswatini (UNESWA)
Luyengo Campus

10 November 2018

Dear Sir/madam,

RE: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY

I hereby apply to be granted permission to conduct a research study at your institution. As a student doing Masters in Consumer Science at the University of South Africa (UNISA). The title of my topic is **FACTORS INFLUENCING HEALTHY EATING HABITS OF STUDENTS AT UNIVERSITIES IN ESWATINI**. My research project will involve final year students in Consumer Science.

This study will involve semi-structured interviews and a focus group discussion which will take approximately 30 minutes per session in any free consumer science class room. I will do audio recordings and take some notes during the interviewing process. Participants will not be forced to participate but will have a right to withdraw during the course of the project. The information obtained will be treated with **the strictest confidentiality** and will be used solely for this research purposes only. There is no known risk involved in the research and there are no costs involved.

It is my presumption that the research findings will make a creditable contribution for formulation of health improvements to the university nutrition environment. The environmental improvements can support healthy eating habits through policy change, program development, or other interventions. Supplying university students with nutrition information and a healthy environment will increase their self-efficacy to make healthy choices and fulfil the government in Eswatini initiation of health for all by 2022.

Yours sincerely

Researcher.....

Supervisor

Busisiwe Betty Ngwenya

Mr R Mathye

Cell number: 268 76021911

Tel: +27(0)11 471 2171

Email address: busisiwengwenya57@yahoo.com

Appendix H
Letter to Southern Africa Nazarene (SANU)

Dean (Academics)
Faculty of Education
Southern African Nazarene University (SANU)
Manzini

10 November 2018

Dear Sir/madam,

RE: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY

I hereby apply to be granted permission to conduct a research study at your institution. As a student doing Masters in Consumer Science at the University of South Africa (UNISA). The title of my topic is **FACTORS INFLUENCING HEALTHY EATING HABITS OF STUDENTS AT UNIVERSITIES IN ESWATINI**. My research project will involve final year students in Consumer Science.

This study will involve semi-structured interviews and a focus group discussion which will take approximately 30 minutes per session in any free consumer science class room. I will do audio recordings and take some notes during the interviewing process. Participants will not be forced to participate but will have a right to withdraw during the course of the project. The information obtained will be treated with **the strictest confidentiality** and will be used solely for this research purposes only. There is no known risk involved in the research and there are no costs involved.

It is my presumption that the research findings will make a creditable contribution for formulation of health improvements to the university nutrition environment. The environmental improvements can support healthy eating habits through policy change, program development, or other interventions. Supplying university students with nutrition information and a healthy environment will increase their self-efficacy to make healthy choices and fulfil the government in Eswatini initiation of health for all by 2022.

Yours sincerely

Researcher.....

Busisiwe Betty Ngwenya

Cell number: 268 76021911

Email address: busisiwengwenya57@yahoo.com

Supervisor

Mr R Mathye

Tel: +27(0)11 471 2171

Appendix I

Letter from the Ministry of Education & Training

The Government of the Kingdom of Swaziland



Ministry of Education & Training

Tel: (+268) 2 4042491/5
Fax: (+268) 2 404 3880

P. O. Box 39
Mbabane, SWAZILAND

22nd January, 2019

Attention:

Head Teacher:

Dean Academics – Faculty of Consumer
Science, UNISWA – Luyengo Campus

Dean Academics – Faculty of Education,
Southern Africa Nazarene University - SANU

THROUGH

Manzini Regional Education Officer

Dear Colleague,

RE: REQUEST FOR PERMISSION TO COLLECT DATA FOR UNIVERSITY OF SOUTH AFRICA (UNISA) STUDENT – MRS. BUSISIWE BETTY NGWENYA.

1. The Ministry of Education and Training has received a request from Mrs. Busisiwe Betty Ngwenya, a student at the University of South Africa (UNISA) that in order for her to fulfill her academic requirements at the University she has to collect data (conduct research) and her study or research topic is: *“factors influencing healthy eating habits of consumer science students at University students at universities of Eswatini”*. The population for her study comprises of 60 final year students doing consumer science in the above mentioned institutions in the Manzini Region. All details concerning the study are stated in the participants’ consent form which will have to be signed by all participants before Mrs. Busisiwe B. Ngwenya begins her data collection. Please note that parents will have to consent for all the participants below the age of 18 years participating in this study.
2. The Ministry of Education and Training requests your office to assist Mrs. Ngwenya by allowing her to use above mentioned school in the Manzini regions as her research site as well as facilitate her by giving her all the support she needs in her data collection process. Data collection is one month.


M.E. KHUMALO
ACTING DIRECTOR OF EDUCATION AND TRAINING



Cc: Regional Education Officer – Manzini
Chief Inspector – Tertiary
2 Head Teacher of the above mentioned school
Mr. R. Mathye – Research Supervisor

Page 1

Appendix J

Letter from Southern African Nazarene (SANU)



SANU

SOUTHERN AFRICA NAZARENE UNIVERSITY

ADMINISTRATION

P.O. Box 6800 Manzini M200, Kingdom of Swaziland
Tel: (+268) 2505 5749 Fax: (+268) 2505 2539
Email: admin@sanu.ac.sz, Manzini Nazarene Mission Station

MEMORANDUM

FROM : PVC-Administration

TO: Ngwenya Busisiwe Betty

CC : Prof. W. Nhlengethwa; Vice Chancellor, Pro Vice Chancellor Academic Dr. B.F. Mngomezulu, Mr. S. Ngqwane; Registrar, Mr. E. Shongwe ;CE Director, Mr. M. Langa; IT Director, Mr. P. Mavuso; Marketing Manager , Mr. M. Ndzinisa; Bursar, Sr. L.G. Dean; FOHS, Ms BSB Lukhele; Dean FOE and Rev. C. Magagula Dean; FOT.

DATE: 22nd January 2019

SUBJECT: APPLICATION FOR PERMISSION TO ACCESS UNIVERSITY RECORDS

The Executive Management Committee meeting considered your application for permission to access university records. Please be advised that Management was happy to accede to your application. This approval is subject to the following conditions and limitations:

1. To note that the University requires a report and bound Thesis copy on completion of the work. Thus the Researcher should give a written undertaking to provide the written report and Thesis copy and comply with the approval in its generality
 2. To ensure that the research will not involve any breach of privacy, breach of any ethical codes, or any disclosure of information that is of confidential nature, access to any and all necessary documents will be limited to the SANU premises
 3. To note that confidential documents referred to may not be scanned, photographed or photocopied.
 4. To note that complementary academic data/information may be available from the University of Swaziland (Board of Affiliated Institutions for information since 1989)
- Thank you


Southern Africa Nazarene University
P.O. Box 6800 Manzini M200, Kingdom of Swaziland
Tel: (+268) 2505 5749, Fax: (+268) 2505 2539
ADMINISTRATION

Appendix K
Letter from the University of Eswatini (UNESWA)



UNIVERSITY OF ESWATINI
Faculty of Consumer Sciences
P. O. Box Luyengo, M205, Eswatini
Tel: (+268) 25170500, Ext.70521
Fax: (+268) 25274441
wsolomon@uniswa.sz
DEAN

30th January, 2019

Ms. Busisiwe Ngwenya
University of South Africa
P. O. Box 392
UNISA: 0003
Republic of South Africa

Dear Madam

RE: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY IN THE FACULTY OF CONSUMER SCIENCES (FCS)

I am in receipt of your letter dated the 16th January, 2019 requesting permission to conduct a research study in the Faculty. The Faculty grants you permission to conduct the study.

The Faculty will assist you in every possible way.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'W. Solomon'.

Prof. W. Solomon
A/Dean - Faculty of Consumer Sciences

cc Mr. R. Mathya (Supervisor)
Senior Assistant Registrar (Luyengo)

Appendix L
Ethical clearance certificate



CAES HEALTH RESEARCH ETHICS COMMITTEE

Date: 03/12/2018

Dear Ms Ngwenya

NHREC Registration # : REC-170616-051
REC Reference # : 2018/CAES/157
Name : Ms BB Ngwenya
Student # : 47240016

**Decision: Ethics Approval from
01/12/2018 to 30/11/2019**

Researcher(s): Ms BB Ngwenya
47240016@mylife.unisa.ac.za

Supervisor (s): Mr R Mathye
mathyr@unisa.ac.za; 011-670-9727

Prof SL Lebelo
lebelol@unisa.ac.za; 011-471-3644

Working title of research:

Factors influencing healthy eating habits of Consumer Science students at universities of Eswatini

Qualification: M Consumer Science

Thank you for the application for research ethics clearance by the CAES Health Research Ethics Committee for the above mentioned research. Ethics approval is granted for a one-year period. After one year the researcher is required to submit a progress report, upon which the ethics clearance may be renewed for another year.

Due date for progress report: 30 November 2019

Please note the points below for further action:

1. The researcher will make use of qualitative research methods. The committee has concerns whether the research proposal shows sufficient understanding of the application of such a research approach. Can the supervisors clarify their level of experience with qualitative research, which would allow them to guide the student effectively in the execution of this project?



University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

2. The researcher indicates that she will use purposive sampling, but the method described is convenient sampling. There is no motivation for the selection of Consumer Science students specifically.

3. Will the questions in the interview guide address all the objectives? The researcher indicates that a pilot study will be done; should the pilot study show that the interview guide needs to be amended, the revised guide must be submitted to the committee.

4. The consent form indicates that ethics clearance has not yet been obtained. This must be updated before the consent form is distributed to participants.

*The **medium risk application** was reviewed by the CAES Health Research Ethics Committee on 29 November 2018 in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.*

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the Committee.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.
5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.

7. No field work activities may continue after the expiry date. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:

*The reference number **2018/CAES/157** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*


Yours sincerely,



Prof EL Kempen
Chair of CAES Health REC

E-mail: kempeel@unisa.ac.za

Tel: (011) 471-2241



Prof MJ Linington
Executive Dean : CAES

E-mail: lininmj@unisa.ac.za

Tel: (011) 471-3806