Survey of health-risk behaviours among learners in selected Secondary Schools of Thembisile Hani Municipality, Mpumalanga.

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DECLARATION

I, Nonhlanhla Petunia Lucia Zwane declare that the mini dissertation titled: "**Survey of health-risk behaviours among learners in selected Secondary Schools of Thembisile Hani Municipality, Mpumalanga.**" submitted by me has not been submitted previously for a degree at this institution or any other institution; that it is my own work in design and execution and all reference material contained therein has been duly acknowledged.

Signature: ....

Date: 25/02/2020

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University of Venda

ABSTRACT

Background: The health risk behaviors of adolescent and youth, and factors associated with their physical and mental wellbeing are still a concern contributing a large amount of harm to both themselves and to others.

Purpose: The aim of the study was to investigate the prevalence of health risk behaviors among learners in selected high schools in Thembisile Hani Municipality in Mpumalanga Province.

Methods: A quantitative approach was used to conduct the study. A cross-sectional, descriptive research design was adopted for this the study. A simple random sampling was employed in the selection of schools. The data was collected from 385 learners who were sampled by stratification. Data was collected using close-ended questionnaires. To determine the health risk behaviors among the learners in each age group, grades, height, body mass, and body mass index (BMI) were also determined. Microsoft Excel was used to capture the data and analysis was carried out using SPSS version 26.0 and the Chi-Square test was employed to determine the association between health risk behaviour and demography of participants.

Results: The highest prevalence of health risk behavior in boys and girls combined fluctuates and varies, tobacco use (64.7%), alcohol intake (64.4%) have tried drinking alcohol and physical activity status was low (19.5%) among study population. The socio-economic status of many learners, which implies (43.64%) employment and income of the family was found to be one of the factors exposing them to health risk factors. The study further revealed that the learners are at risk of developing cardiovascular disease as indicted by their BMI which revealed a high (27%) of obesity and (34%) of overweight, thus the health risk behavior is real.

Conclusion: The study concluded that there is a high prevalence of health risk factors which will affect the learners in their late life. This study revealed alarming red flags that should not be ignored by the public and authorities.

Keywords: Health-risks, Lifestyle Behaviour, Survey, Secondary Schools Learners.

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LIST OF ACRONYMS AND ABBREVIATIONS

COPD : Chronic Obstructive Pulmonary Disease

FCTC : Framework Convention on Tobacco Control

ISHP : Integrated School Health Policy

NCD's : Non-Communicable Diseases

PA : Physical Activity

SASR : South Africa Statistic Report

SES : Socio-Economic Status

SNAP : Smoking, Nutrition, Alcohol and Physical Activity

THLM : Thembisile Hani Local Municipality

UNIVEN : University of Venda

WHO : World Health Organization

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Health risk behaviors are actions, qualities, characteristics or exposure of an individual that increases the potential and likelihood of developing a disease or injury. According to Noble, Paul, Turon and Oldmeadow (2015), health risk behaviors include smoking, poor nutrition, excessive alcohol consumption and physical inactivity, commonly abbreviated as "SNAP" risk factors. These health risk factors are among some of the major causes of morbidity and mortality (World Health Organization – WHO, 2017). It is alleged that the health risk factors manifest in young generations from high income countries, but these are increasingly affecting those in in lower income communities. These health risk behaviors typically co-occur or cluster together and tend to be established in childhood and contribute to the leading causes of morbidity among young and adult people worldwide.

The global prevalence of chronic diseases due to these health risk factors has increased dramatically in recent years, causing 60% of the 56.5 million reported deaths globally each year (WHO, 2017). It estimated that 80% of all chronic disease-related deaths such as unhealthy diets, caloric excess, inactivity, and obesity occur in low to middle income countries and are associated with unhealthy behaviors (Hughes, et al., 2017). An international survey by WHO (2017) on health behaviors among school-aged children showed that overweight or obesity was associated with substance use such as frequent smoking, cannabis use and drinking, primarily amongst youths. In youths, and particularly amongst boys aged fifteen years or older, obesity was associated with the chances of carrying a weapon, smoking, drinking, marijuana use, unsafe sex risky behaviours such as use of hard drugs, which include cocaine and injection drugs, as represented in a different cluster that included fighting and carrying a weapon amongst white schools in America (Scruggs, Mama, Carmack, Douglas, Diamond, & Basen-Engquist, 2018).

According to Meng Wang, et al., (2017) the association between cigarette smoking and health-related behaviors among Chinese School aged adolescents; smoking is not only a modifiable health-related behavior that can have negative impacts on the physical development of adolescents. Adolescent smokers are at increased risk for atherosclerosis, asthma and have worse bone mineral density. Smoking is also reported to be linked to lifestyle behaviors, involving diet, as well as alcohol consumption, physical activity, and

sleep. However, most studies tend to investigate the interrelations between smoking and one or several lifestyle behaviors, and evidence on the associations of smoking with a cluster of health-related behaviors is scarce. Tobacco use is estimated to kill 7 million people per year. Nicotine is highly addictive, but surveys indicate that almost 70% of US and UK smokers would like to stop smoking. Although many smokers attempt to give up on their own, advice from a health professional increases the chances of quitting. Since 2016 there were 3.5 billion Internet users worldwide, making the Internet a potential platform to help people quit smoking.

There is a wide spread of unhealthy behaviours among young people i the world. According to Wu, et al., (2015) in the USA during 2014-15, two-thirds of the population exceeded a healthy weight, and 27.2% of American adolescents were obese, another 36.2% were overweight, and the number of obese children in the USA has doubled if not tripled as recently reported by Skinner, et al., (2018). In North and Latin America, the use of tobacco, alcohol consumption and illicit drug use amongst adolescents has spread, thus making it an important public health concern, as reiterated by Tsitsimpikou, et al., (2018). Despite the declining prevalence of smoking among young people in many Asian countries, particularly the South-East Asia, there is a substantial increase in African countries like South Africa and Botswana. According to Strydom, et al., (2015) researchers in Sub-Saharan Africa agree that destructive lifestyles during adolescence such as smoking, overeating, physical inactivity, drugs and alcohol intake may lead to various diseases later in life.

According to Glick, et al., (2018), the Palestinian Youth Health Risk Study shows that generally there is a low but not insignificant prevalence of most health risk behaviors among young people, including alcohol use, drug use, and sexual activity before marriage. For example, 22.4% of male youth aged 20-24, and 11.6% of females, reported having tried alcohol. 8.1% and 3.6% for male and female youth aged 15-19, and 9.3% of unmarried male youth and 6.7% of unmarried female youth aged 20-24 reported having had sexual intercourse, although almost one quarter of both reported any sexual experience. Smoking cigarettes or waterpipes, on the other hand, is strikingly high, even among younger youth 45.4% of males and 21.2% of females aged 15-19 smoke.

In a South African perspective, alcohol is particularly attractive to the youth as it is considered a sign of maturity or adulthood. Thus, inappropriate alcohol use among adolescents and youths has been associated with significant behavioural problems, such as aggressiveness or violent behaviour, and lethal events, self-injuries and suicide (Jonas, et al., 2016). Most health risk behaviours have led to non-communicable diseases (NCD's) and are a leading threat to human health and development in South Africa (Shisana, 2015).

According to WHO (2014), not only do NCDs constitute a public health concern but they are also an economic challenge in South Africa. In South Africa, NCD's are estimated to account for 51% of all deaths, of which 19% are from cardiovascular diseases, 10% from cancers, 4% from chronic respiratory diseases (WHO, 2018). The WHO (2017) estimates that the annual costs for addressing NCDs in South African context is estimated at more than 1 billion rand. The rising NCDs prevalence worldwide has obvious implications, on both the affected adult individuals and the school aged community, and particularly adolescents and youths (Hawley, 2012). According to the South African Statistics Report (SASR) (2016), alcohol consumption is more common among men; it is estimated that six in 10 men 61% age 15 and older have consumed alcohol, and 4 in 10 37% are reported having consumed five or more standard measures of alcohol on a single occasion in the past 30 days. On the other hand, one in four women aged 15 and older have taken alcohol, and one in 10 women have taken alcohol in the past 7 days. Five percent of women were reported to be at risk of alcohol consumption and 3% were at the highest risk of developing signs and symptoms of drinking problem in the Gauteng Province (SASR, 2016).

Other studies are of the opinion that reasons behind risk behaviours among youths in most countries are undergoing a developmental transition in a rapidly changing social, economic, political and emotional climate (Strydom, et al., 2015). Therefore, this volatile environment in which the society is to survive can be a breeding ground for the development of a very complex set of health-risk behaviours which may be intertwined with one another. Mojamad, (2015) further reiterates that adolescence is a transitional stage of physical and psychological human development occurring during the period from puberty to legal adulthood and while significant development occurs during the teen years, full maturity is by no means complete. Studies show that neurological development is not complete until the early twenties (Skinner, et al., 2015). Decision-making and future-oriented thinking are not fully developed and for these various reasons, the teen years can be a stressful and fragile time, making adolescents more susceptible to engaging in risky behaviors and be unable to weigh their risks and benefits.

According to Uys, et al., 2016), active play remains an area with insufficient evidence to assign a grade. However, it is an important area to gain a better understanding of the potential reach and impact of active play on children's PA, and to address issues of social and environmental justice in program delivery. Major healthcare challenges are deemed to arise from populations that are physically inactive, and it is reported that physical inactivity is the fourth leading risk factor contributing to global mortality (WHO, 2017). Physical inactivity may be responsible for 22% of ischaemic heart disease, 14% of type 2 diabetes mellitus,

16% of colon cancer, 11% of ischaemic stroke and 10% of breast cancer (Van Biljon, et al., 2018).

There are strategies and available school programs focusing on addressing health risk behaviours amongst learners in schools.   For example, the Department of Social Development has intensified its efforts and implemented a national Anti-drugs Programme which aims to prevent and treat substance abuse by in schools (Government Notice No 1040, South African Schools Act, 1996). This Anti-drugs Programme intended on declaring all schools drug free zones. In other words, it means that no substance abuse, possession of illegal drugs or alcohol consumption is allowed on school premises. The Integrated School Health Policy-ISHP, (2012) which forms the framework for the Integrated School Health Programme is linked with both the National Health Insurance and the Revitalisation of Primary Health Care. The Integrated School Health Programme aims to provide a more comprehensive package of services, which addresses not only barriers to learning, but also other conditions which contribute to morbidity and mortality amongst learners. The programme also includes prominent emphasis on the provision of health services in schools, which previously only conducted health screenings and referrals. School-based health services are also set to expand over time as are services for learners with special needs (Integrated School Health Policy, 2012).

Amongst others, the Integrated School Health Programme includes a School Nutrition Programme which aims to provide meals to learners in disadvantaged communities. Currently all learners in quintiles 1, 2 and 3 public primary and secondary schools benefit from this programme and it also assist in alleviating poverty in these communities. The Department of Education is also providing a Peer Education Programme which is used as a strategy to role model health promoting behaviour and to shift peer norms on HIV and AIDS and other health and social issues as a support for to curriculum implementation. The Department of Sport and Recreation provides an active recreation sub-programme which will continue to facilitate the provision of campaigns and programmes that increase participation leading to life-long wellness. Provincial departments are being assisted to hold youth camps that teach young people leadership, life skills and national pride. There is also Ministerial Sports Bursary, which is traditionally awarded to learners from Grade 8 until they complete their high school education. These bursary recipients are identified through the school sport programme and placed in the sport focus schools in order to give them opportunities to learn and improve sport-specific skills, whilst being supported academically. In South Africa, as stipulated in the Government Gazette dated 30 September (2016) policies on alcohol intake amongst youth under the age of 21 years are being regulated. Such behaviors as

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accessibility of alcohol in public events, any liquor outlet and the person dispensing liquor should ensure verification of age. Although South African government put strategies and policies in place and particularly among basic education with the aim to curb health risk behaviours among youths, NCD's is still mounting in the country. Therefore, this study determined the prevalence of health risk behaviours among learners in Thembisile Hani secondary schools in Mpumalanga.

1.2 PROBLEM STATEMENT

Health-risk behaviours which are clustered as smoking, poor nutrition, alcohol consumption and physical inactivity normally abbreviated as SNAP (S- Smoking, N- Poor Nutrition, A- Alcohol use and P- Physical inactivity) are considered a public health concern now identified among school going adolescents in most South African secondary schools. For example, it was reported that a group who were believed to be under the influence of substance use such as alcohol and drugs stoned a Limpopo musician to death (Sowetan Live News, 2019). The magnitude of the health risks behaviour is escalating despite the provision of various programmes such as the School Nutrition Programme, Non-Government Organizations conducting awareness campaigns such as Love Life, where they implement positive lifestyle and healthy sexuality programmes. There is also the Adolescent and Youth Friendly Services Clinic Initiative which is aimed at improving health service delivery to young people in our communities. The Researcher has observed unhealthy lifestyle and risky behaviors including smoking, illnesses, diseases, and unplanned pregnancies amongst some of the learners. The researcher has also observed overweight in learners which might be caused by lack of physical activities due to poor school facilities, and since some are using transport like taxis to go to school, watching a lot television, sleeping, and using their cellphones to play games and be on social media such as Facebook, Instagram and WhatsApp. While some learners buy junk food such as fried chips, fish, viennas, russian, polony and fat cakes from the tuck shops and street vendors. In addition, learners on the last day of school after writing exams, engage in parties which they call `pens down' where they also drink alcohol, smoke cigarette and other drugs and may also end up engaging in unsafe sex whilst under the influence of alcohol and illegal substances.

1.3 RATIONALE OF THE STUDY

Although the majority of South Africans consider chronic diseases and HIV/AIDS as two most important public health issues for their government to address, few studies have been conducted to examine the priority health behaviours that contribute to chronic diseases. This study is designed to examine the prevalence of SNAP health risk behaviors among learners in Thembisile Hani secondary schools. Previous surveys were conducted on health risk

behaviors among adolescents and much was done on international scale, focusing on schools, colleges and universities and among adults. The rate at which the prevalence of health risk behavior is escalating, an urgent need for effective public policies in school environment and out of school aimed at reducing such behaviours becomes imperative. Effective preventive youth strategies targeting simultaneous adoption of unhealthy habits and negative peer influences in late adolescence could potentially decrease the future population of adult smokers and alcohol and drug dependents. However, little is known about health risk behaviours of school learners particularly in Thembisile Hani Municipality in Mpumalanga.

1.4 SIGNIFICANCE OF THE STUDY

The findings of this study may provide insight to help and inform policy makers to reform or review and implement better the current policy of Integrated School Health Policy. The study may also assist the Department of Education, and Department of Health to strengthen and promote health education strategies on healthy lifestyle modification. It may enforce the adjustment and revision of Life Orientation Curriculum in promoting the health of learners as they progress with education. This may also benefit the learners through encouraging and promoting healthy lifestyle behaviors and decrease risks of getting illnesses and diseases throughout their lives. Furthermore, the results of this study may serve as a database for future studies in the field of health risk behaviors among secondary school learners.

1.5 PURPOSE

The aim of the study was to investigate health-risk behavior lifestyle among secondary school learners in Thembisile Hani Municipality, Mpumalanga.

1.6 OBJECTIVES OF THE STUDY

The study aimed to achieve the following objectives:

1.6.1 To assess the level of tobacco use among learners in secondary schools at Thembisile Hani Municipality, Mpumalanga.

1.6.2 To examine the nutritional status among learners in secondary schools at Thembisile Hani Municipality, Mpumalanga.

1.6.3 To determine the level of alcohol consumption among learners in secondary schools at Thembisile Hani Municipality, Mpumalanga.

1.6.4 To assess the physical activity status among learners in secondary schools at Thembisile Hani Municipality, Mpumalanga.

1.7 CONCEPTUAL FRAMEWORK

The study adopted the Health Belief Model (HBM) as the conceptual framework to understand behavior of human beings in relation to health choices. The HBM was originally developed in the 1950s by social psychologists working at the U.S. Public Health Service to explain why many people did not participate in public health programs such as TB or cervical cancer screening to explain differing reactions to symptoms and to explain variations in adherence to treatment (Skinner, et al., 2015). The HBM was founded on attempts to integrate stimulus-response theory with cognitive theory in explaining behavior. The HBM model further explains how these factors are processed for an individual to come up with likelihood behaviour. The following explains the constructs of the HBM in Figure 1.

Perceived susceptibility refers to an individual's assessment of his/ her chances of getting the sickness or disease. The disease poses a serious threat to the person, the possibility exists that the person will take action to try and avoid the disease. **Perceived seriousness** refers to an individual's judgement as to the severity of the disease. **Perceived benefits** refer to the individual's conclusion as to whether the new behavior is better than what he/she is already doing. **Perceived barriers** refer to an individual's opinion as to what will stop him or her from adopting the new behavior. **Modifying variables** such as demographic and socio psychological variables refer to an individual's personal factors that determines whether the new behavior will be adopted or not. **Self-efficacy** refers to personal belief in their own ability to do something. **Cues to action** refer to those factors that will start a person on the way to changing behavior such as attending awareness campaigns, reading health magazines and getting advices from others.

Health Belief Model
(Becker, 1974, 1988; Janz & Becker, 1984)
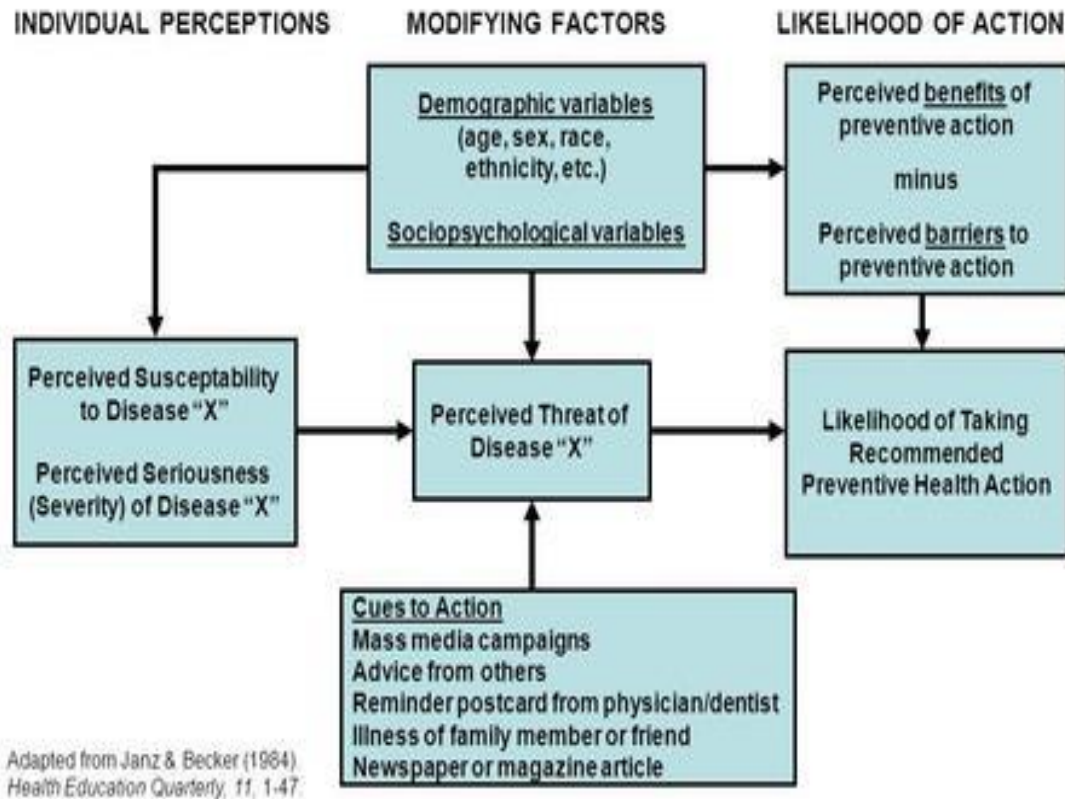
Figure 1: Health Belief Model adapted from (Janz & Becker, 1964)

The model offers the ability to understand the different behaviors or attitudes people may develop under the same conditions by following or not following certain guidelines or requirements. The HBM model attempts to explain the widespread failure of people to participate in programs to prevent or detect asymptomatic diseases, therefore HBM has been identified as a suitable framework in deconstructing, organizing and understanding health risk behaviors (Razmara, et al.,2018). Some of the questions on the questionnaire will be guided by some components of the HBM model, which includes the following:

- What is the perceived susceptibility of learners regarding a health risk- behaviors lifestyle?
- What are the perceived severities of displaying health risk behaviors by secondary school learners?
- What is the perceived self-efficacy of learners who are displaying health risk behavior?
- What are the barriers to adopting healthy behaviors by learners in order to prevent a health risk behavior lifestyle?

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1.8 DEFINITION OF CONCEPTS

1.8.1 Learners

A learner is defined by Law, (2017) as a person or an individual who is gaining a skill or knowledge usually from a teacher or instructor. In this study a leaner will be a female or male pupil attending secondary school in Mpumalanga, Thembisile Hani Local Municipality.

1.8.2 Health Risk Behaviors

Health risk behaviours are actions and activities that put an individual at risk for contracting any illness, diseases, or disability consequently (Kelly & Barker 2016). For the purpose of this study, health risk behaviours will refer to activities such as alcohol consumption and substance abuse, poor nutrition and physical inactivity.

1.8.3 Health-risk

Health risk is an adverse event or negative health consequences due to a specific event, disease, or condition.

1.8.4 Lifestyle

Lifestyle is defined as the way in which a person lives.

1.8.5 Secondary Schools

According to the Integrated School Health Policy (2012), a Secondary school is defined as Further Education and Training Phase for grades 10-12. In this study secondary school learners will be defined as all learners in grade 10-12 at Thembisile Hani Municipality.

1.8.6 Physical activity

Physical activity is defined as any bodily movement produced by skeletal muscles that requires energy expenditure.

1.9 OUTLINE OF THE DISSERTATION

This dissertation comprised of six chapters and are outlined as follows: -.

CHAPTER 1: Presented the background of the study which has covered the health risk behaviors of adolescents and youth which includes smoking, nutrition, alcohol and physical inactivity. It also covers the problem statement, rationale of the study, significance of the study, conceptual framework and definition of concepts.

CHAPTER 2: Presents the socio-economic status and demographic information of the population, prevalence of health-risk behavior of smoking and tobacco use, nutritional status, alcohol consumption and physical inactivity. The literature indicated that health-risk behavior is a global challenge and chronic diseases are increasing global.

CHAPTER 3: Presents the methodology of the study, study setting, population, sampling, data collection procedure, data analysis method, and ethical considerations.

CHAPTER 4: Presents the results of the study as they are categorised according to study objectives. The study indicates that there is a stressful frequency of health-risk behaviors among learners from smoking, nutrition behaviors, alcohol intake, and physical activity.

CHAPTER 5: Presents the discussed findings of the study based on literature review in which similarities, contradictions as well as practical implications of the findings are debated.

CHAPTER 6: Presents the conclusion which is formed from the findings of the study guided by objectives of the study, and recommendations are mentioned based on the findings of the study.

1.10 CONCLUSION

This chapter provides the background of the study. It covered the health-risk behaviors which include smoking, nutrition, alcohol and physical inactivity international, national, Provincial including Nkangala District where the Thembisile Hani Municipality falls under. It also covers the problem of the study, rationale of the study, significance of the study, conceptual framework, and definition of concepts.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter reviews literature on health risk behaviours amongst the general youth population. Issues such as socio-economic status and the demographic information, tobacco use, alcohol consumption, nutritional status and consequences of physical inactivity will be addressed.

2.2 HEALTH RISK BEHAVIOURS

WHO (2017) posited that the five leading global risks for mortality in the world are high blood pressure, tobacco use, high blood glucose, physical inactivity, and overweight and obesity. It was established that they are responsible for raising the risk of chronic diseases, such as heart disease and cancers and that they affect countries across all income groups: high, middle and low.

2.2.1 Socio- economic status and demographic information associated with smoking, nutrition, alcohol and physical activity (SNAP)

The SNAP risk factors are associated with many diseases and often interrelate throughout the lifecycle. It is therefore important to manage risk factors collectively and not in isolation. According to Williams, et al., (2016) Race/ethnicity and Socio- Economic Status (SES) are social categories that capture differential exposure to conditions of life that have health consequences. Race/ethnicity and SES are linked to each other, but race matters for health even after SES is considered. Risk behaviors commonly co-occur, and for only one factor has there been consistent evidence for eating an unhealthy diet and risk of overweight and obesity, which is low Socio-Economic Status (SES) in terms of education level, work status and income. A large body of epidemiologic data illustrated that low SES was associated with unhealthier diet, higher levels of obesity and more diet-related diseases (Darmon & Drewnowski, 2008).

Smoking, poor nutrition, excess alcohol consumption, and insufficient physical activity underlie most preventable causes of morbidity in the general population and may be associated with comorbidities and adverse health outcomes. However, the frequency of co-occurrence of these risk factors in most African countries remains unclear. Akintunde and

Opadijo, (2014) posited that with the evolving increased prevalence of lifestyle disease and as a major cause of mortality worldwide including Africa, the communities where active and productive research is being carried out requires energetic, productive and healthy workforce. Prevention of lifestyle disease remains a major way to achieve a healthy workforce in the schools as in the general population. Very little data exists on the pattern of lifestyle diseases emanating from (SNAP) risk factors in communities across Africa.

With the massive campaigns which were aimed at lifestyle diseases reduction, reduction in smoking, increasing physical activity, reduction in unhealthy food intake, the pattern of these disease seems to have at least reach a plateau in the developed nations, while it is said to be increasing at an alarming proportion in the developing nations – including South Africa and Nigeria (Meander, et al., 2016). It has also been suggested that about 70% of the total increase of worldwide prevalence of behavioural/ lifestyle diseases in the next decade will come from developing nations. Furthermore, a high frequency of SNAP risk factors, especially obesity and hypertension were related to increasing age, although only that of hypertension and poor nutrition was related to adolescence (Chua, et al., 2017). Females also had a higher prevalence of SNAP risk factor related diseases in Africa.

Meander, et al., (2016) attested that studies in adult populations mostly investigated alcohol use and smoking, and physical inactivity and smoking, and most studies on young adults examined sexual risk behavior, combined with alcohol use, illicit drug use, or smoking. For all other sub-groups, there was not enough data to conclude what behaviors were most investigated. There are significant health inequalities in South Africa and people's risk factors can vary according to where they live. For example, Bagade, (2015) posited that adolescents living in more disadvantaged areas have more risk factors (such as obesity, risky/high-risk alcohol consumption, daily smoking, physical inactivity, high blood pressure, insufficient consumption of fruit, vegetables and whole milk). For example, 27% of people living in areas of least disadvantage report having four or more risk factors compared with 46% who live in the most disadvantaged areas (WHO, 2017). People from low socioeconomic backgrounds, and people living in rural and remote areas, are believed to be at greater risk of behavioral diseases than the general population. South Africa is one of the top populous nations, and few studies have been conducted in the most populous provinces where SNAP is believed to be prevalent. Therefore, the purpose for analysing and reviewing existing literature in this study is to generate what is known and not known about the present topic as it is situated within the bodies of literature. This review of literature will specifically draw attention to various sources of literature, with specific focus on SNAP factors.

2.2 Lifestyle risk factors

Lifestyle risk factors are discussed under the following subheadings: Smoking and tobacco use, nutritional status and eating behaviors, alcohol consumption, and physical inactivity.

2.2.1 Smoking and tobacco use

According to Tsitsimpikou, et al., (2018) tobacco use by adolescents and young people is spreading worldwide and constitutes an important public concern. However, they further postulated that while the prevalence of smoking among young people is on the decline in many European countries, there is a substantial increase in the developing countries, particularly Sub-Saharan Africa. Globally, due to smoking and sedentary lifestyle, chronic obstructive pulmonary disease (COPD) continues to be an important cause of morbidity, mortality, and health-care costs across all age groups. It is a global health issue, with cigarette smoking being an important risk factor universally. As the global population ages, the burden of COPD will increase in years to come**.** It is estimated that there are approximately 1 billion tobacco smokers worldwide, with approximately 30% being men and 7% women (Gowing, et al., 2015). The Global statistics on addictive behaviors 2014 status reports that cigarette smoking prevalence in Great Britain was estimated to be 16.9% in 2015, the most recent year for which figures were available at the time of writing, and this is slightly lower in women than men (Office of National Statistics, 2016)

Prevention and control of disease requires information about the leading medical causes of illness and exposures or risk factors, however, the assessment of the public-health importance of these has been hampered by the lack of common methods to investigate the overall, worldwide burden. According to WHO (2017), a risk factor was defined as any attribute, characteristic or exposure of an individual that increases the likelihood of developing a disease or injury. Some examples of the more important risk factors are underweight, overweight, unsafe sex, high blood pressure, tobacco and alcohol consumption, and unsafe water, sanitation, and hygiene. However, data on the health of populations and the risks they face are often fragmentary and sometimes inconsistent. A comprehensive framework was therefore needed to pull together information and facilitate comparisons of the relative importance of health risks across different populations globally.

According to Niolon, et al., (2015) a particular disease or injury was often caused by more than one risk factor, which means that multiple interventions were available to target each of these risks, for example, the infectious agent *Mycobacterium tuberculosis* was the direct cause of tuberculosis, however, crowded housing and poor nutrition also increase the risk,

which presents multiple paths for preventing the disease. In turn, most risk factors are associated with more than one disease and targeting those factors can reduce multiple causes of disease for example, reducing smoking will result in fewer deaths and less disease from lung cancer, heart disease, stroke, chronic respiratory disease and other conditions. Tobacco use was the world's leading cause of preventable morbidity and mortality, resulting in 6 million deaths each year. Smoked tobacco products, such as cigarettes and cigars, were the most common form of tobacco consumed worldwide (WHO, 2017) and most tobacco smokers began smoking during adolescence. Tobacco smoking was a practice which consisted of drawing into the mouth, and usually the lungs, smoke from burning tobacco (West & Shiffman, 2016). The type of product smoked was most commonly cigarettes, but can also include cigarillos, cigars, pipes or water pipes, however, smokeless tobacco was also popular in some parts of the world which typically involves using tobacco preparations for chewing, sniffing into the nose or placing as a wad in the mouth between the cheeks and gums.

Smoking kills an estimated 19,000 Australians every year and is the risk factor responsible for the greatest burden of disease in the country (9.7%). Smoking is estimated to kill approximately half of all long-term users, causing 40% of deaths in men, and 20% of deaths in women before the age of 30 (Arrazola, et al., 2017). However, the previous studies have shown that the health benefits of quitting are greater for persons who stop smoking at earlier ages, although, quitting smoking at any age has health benefits. In Asia, the median current tobacco smoking prevalence among students aged 13–15 years is 10.7% and by sex, the median current tobacco smoking prevalence is 14.6% among males and 7.5% among females (Niolon, 2015).

In most countries assessed, the proportion of current tobacco smokers who desired to quit smoking does not exceed 50%. Nagoya (2010) attested that adolescence was considered one of the most crucial phases in an individual's life, during which biological and psychosocial changes together with many eventful transitions occur. The problems and issues arising from such changes can lead to a deleterious situation if they are not dealt with wisely. Therefore, adolescent health has become a growing worldwide concern. Adolescents and youths ranging in age from 10 to 24 years constitute approximately 30.0% of the total population of Myanmar. Nagoya further posited that in Myanmar culture, smoking has been socially accepted since ancient times such that were ingrained social and cultural acceptance of tobacco use has posed a major challenge to any tobacco control programs.

Consequently, widespread educational and information activities to promote community awareness of the dangers of tobacco were issues of national importance to many countries in world. A study by Rebecca, et al., (2018) concluded that among state high school students, about one-fourth had tried tobacco, and one-third were currently using some form of tobacco at the time of a survey and exposure to second-hand smoke also remains high both at home and in public places. Tobacco use and other dependence were not problems restricted only to adults, but also affected a significant number of adolescents and young adults in their most vulnerable years of 13-18. People who started drinking at such an early age risk developing alcohol dependency as well as negative developmental impacts on brain function) and behavioral problems.

WHO's (2015) Framework Convention on Tobacco Control (FCTC), the first international treaty negotiated under the auspices of WHO and developed in response to the global tobacco epidemic, includes evidence-based measures that have the potential to reduce youth tobacco use (WHO, 2015). These measures include increasing the price of tobacco (even tax in SA), bans on tobacco advertising, promotions, and sponsorship, promoting tobacco cessation, addressing illicit trade of tobacco products, and prohibiting the sale of tobacco products to and by minors. At the beginning of 2017, 59 of 61 countries in this report had ratified the FCTC. However, varying levels of tobacco control policy implementation and other country-specific factors might influence access to tobacco and tobacco smoking (WHO, 2015).

Most smoking-related deaths arise from cancers (mainly lung cancer), respiratory disease (mainly chronic obstructive pulmonary disease – COPD), and cardiovascular disease (mainly coronary heart disease) (Action on Smoking and Health Action on Smoking and Health (2016c). Arrazola, et al., (2017) revealed that smoking was an important risk factor for stroke, blindness, deafness, back pain, osteoporosis, and peripheral vascular disease (leading to amputation). Smoking in both young women and men reduces fertility (Action on Smoking and Health, 2013). Furthermore, smoking in pregnancy causes underdevelopment of the fetus and increased the risk of miscarriage, neonatal death, respiratory disease in the offspring, and was probably a cause of mental health problems in the offspring.

There is a positive association between average daily cigarette consumption and risk of smoking-related disease, but in the case of cardiovascular disease the association is non-

linear, so that low levels of cigarette consumption carry a higher risk than would be expected from a simple linear relationship.

2.2.2 Nutritional status and eating behaviours

Diet is a key contributor to optimum health throughout every stage of the lifespan. Exclusive breastfeeding for at least the first six months of life offers considerable health benefits to infants and, in the long term, to children and adults. Diets low in fruit and vegetables have been causally linked to cancer and cardiovascular diseases, accounting for 2.1% of the total burden of disease and injury in Australia in 2018 (Tsitsimpikou, et al., 2018). Chua, et al., (2017) posited that concurrent with these diet-related health problems persisting at high levels, trends in food intake over time show that, at the population level, Americans particularly are not consuming healthy eating patterns. For example, the prevalence of overweight and obesity has risen and remained high for the past 25 years, while Healthy Eating Index (HEI) scores, a measure of how food choices align with the *Dietary Guidelines*, has remained low (WHO, 2018). Most Australians (91%) do not eat enough vegetables, and only half eat enough fruit (Chua, et al., 2017). Meander, et al., (2016) further posited that behaviours such as lack of fruit and vegetable intake, physical inactivity, and smoking have been estimated to account for almost two-thirds of cardiovascular deaths in low-, middle- and high-income countries.

The overwhelming evidence for a strong SES gradient in diet quality has been explained by a variety of different underlying mechanisms. First, it was often argued that low SES people have less money to spend, and accordingly purchase more unhealthy foods because they are cheaper. It is indeed well established in the literature that foods of lower nutritional value and lower quality diets generally cost less per calorie (Darmon & Drewnowski, 2008). A second explanation states that lack of food knowledge and low ability for adhering to nutritional guidelines are important for understanding why low SES is so strongly associated with unhealthy diet. The ability to obtain, read, understand, and use health-related information and to make appropriate health decisions has been referred to as health A third explanation states that diet and weight status inequalities can be explained by environmental factors, such as neighborhood differences in the availability of healthy foods (Bhurosy & Jeewon, 2014).

2.2.3 Alcohol consumption

Alcohol consumption accounted for a larger total burden of disease and injury in Australia in 2013 (Degenhardt, 2013). However, this figure may be an underestimate. Even though moderate alcohol intake may have beneficial effects at middle and older ages, alcohol was

harmful when consumed in excess at all ages, particularly adolescence. Alcohol is responsible for most drug related deaths and hospital episodes among people aged 15–34, causing more deaths and hospitalizations in this age group (Noble, et al., 2015). Since alcohol consumption is a traditionally male habit, female drinkers are socially and culturally frowned upon in many societies, however, studies found that alcohol drinking among female adolescents is now quite common (Hornik-Beer,2016). The rate of alcohol consumption among male medical students exceeded that of community youths, which may be due to their social environment, the ready availability of alcohol, their modern lifestyles, peer pressure, and more pocket money. Strong correlations were found among smoking, drinking, and sexual risk behaviors in many studies (Skalski et. al., 2017) and (Shayo & Kalomo, 2019). Four social environmental factors (family, peers, school, and neighbourhood) were found to play a critical role in whether teenagers misused alcohol or not (Cambron, et al., 2018). The adolescents were more likely to misuse alcohol the more they were exposed to its use by others in their social environments (Skalski et. al., 2017).

2.2.4 Physical Inactivity

The Absolute Risk approach by Tam, et al., (2016) attempts to place assessment and intervention of an individual risk factor within the context of the 'absolute risk' that the patient will have a cardiovascular event in the next five years. Physical inactivity was responsible for nearly 7% of the total burden of disease and injury and accounted for approximately 13,500 deaths in Australia in 2013. Based on data from the 2007–18 National Health Survey, 60% of global population aged 15 and older do not undertake enough physical activity to discuss a health benefit (Balto, et al., 2016). Physical activity is an important part of a healthy lifestyle. It may reduce the risk of developing conditions such as heart diseases, diabetes and certain types of cancer. Recent reviews literature shows that overweight and obesity represent a major health threat in adolescence (Bertapelli, et. al., 2016). However, the current evidence around the prevalence and risk factors associated with overweight and obesity in children and adolescents remains unclear.

With over half (56%) of adults not meeting current Australian physical activity guidelines (Lee & Ho, 2015) established that physical inactivity is a major risk factor for ill health in the world. Physical activity was also an important factor in preventing or reducing overweight and obesity, a leading contributor to disease to the globe). Health conditions associated with physical inactivity such as cancer, cardiovascular disease, dementia and diabetes were among the leading causes of morbidity and mortality. Regular exercise was important not

only in preventing disease, but also in treating and managing disease (Pedersen & Saltin 2015). These regular exercises can also increase overall quality of life through improved mental and social wellbeing, particularly by reducing stress, anxiety and depressive symptoms. Physical inactivity rates increase with age, as well as with level of socioeconomic disadvantage. The proportion of people in 2014–15 who were not meeting physical activity guidelines increased from 48% in men and women aged 18–24, to 75% in men and women aged 65 and over (Noble, et al., 2015). Furthermore, 60% of men and 66% of women living in the most disadvantaged areas did not meet physical activity guidelines, compared with 38% of men and 43% of women living in the least disadvantaged areas (WHO, 2017). When physical inactivity was combined with overweight and obesity, the burden increased to equal with tobacco smoking, the leading risk factor for disease burden in Australia. Physical activity levels have remained low over time and the continued high rates of overweight and obesity and low levels of progress toward meeting Dietary Guidelines recommendations highlight the need to improve dietary and physical activity education and behaviors across the U.S. population. Progress in reversing these trends has required comprehensive and coordinated strategies, built on the Dietary Guidelines as the scientific foundation that can be maintained over time.

2.3 CONCLUSION

Chapter 2 discussed the prevalence of health risk behaviours of SNAP among adolescence and youth. The literature indicates that high blood pressure, tobacco use, high blood glucose, physical inactivity, overweight and obesity are mostly increasing the risk of chronic diseases globally.

CHAPTER THREE

METHODOLOGY

3.1 INTRODUCTION

This chapter describes the detailed methodology which was used in the study. Features such as the research design, study setting, population, sampling techniques and procedure, data collection methods and tools (their validity and reliability) are outlined in this section. In addition, anthropometric measurements for the evaluation of nutritional status of the sampled population in the study are carried out in this section. Data analysis methods are also described in this section.

3.2 RESEARCH DESIGN

A quantitative research approach was used in this study to investigate the health risk behaviours of learners attending secondary schools in Thembisile Hani Municipality in Mpumalanga Province. A quantitative research approach measures the magnitude, size, or the extent of the phenomenon and it allows the investigation of many factors which relates to the research questions including the investigation of the relationship that may exist between various factors (McCusker & Gunaydin, 2015). Therefore, a quantitative approach in this study made it possible for the researcher to identify the relationships between variables and to present the results in tables and charts.

According to Creswell and Creswell, (2017), research designs are plans and procedures for research that cover the decisions from broad assumptions to detailed methods of data collection and analysis. This study adopted a descriptive, cross-sectional survey design; it is chosen because the researcher will collect data at one point in time. In this study the cross-sectional survey design was used to assess and describe the prevalence of health risk behaviours among secondary school learners of Thembisile Hani Municipality.

3.3 STUDY SETTING

The study was conducted in selected secondary schools of Kwaggafontein East Circuit in Thembisile Hani Municipality. Thembisile Hani Municipality is situated within the Nkangala district in the Mpumalanga Province and comprise of Dr. J.S. Moroka Municipality, Emalahleni municipality, Emakhazeni municipality, Steve Tshwete municipality and Victor Khanye municipality. Thembisile Hani municipality is bordered by the Dr J.S. Moroka in the North, Ellias Motswaledi in the North-East, Steve Biko in the East, and City of Tshwane Metro in the West. Most people who live in Thembisile Hani local municipality are working in

the neighbouring provinces such as Limpopo and Gauteng. The area has lots of scattered villages, unofficial or informal settlement without proper infrastructure which includes water and electricity as is not approved by Municipal Office as proper services. High numbers of people are based in semi urban area and with low numbers of people based in rural areas of this Municipality. The languages that are spoken in this area include IsiNdebele, SiSwati and Zulu.

The municipality has 77 Primary schools, 22 combined schools and 46 secondary schools. The Department of Basic Education in THLM consist of 6 circuits: Tweefontein South, Tweefontein North, KwaMhlanga North East, KwaMhlanga South West, Kwaggafontein West and Kwaggafontein East. There are two recreational facilities at KwaMhlanga and Kwaggafontein area which need to be refurbished and maintained regularly. There are a few business areas, with one bigger shopping centre which includes a supermarket and a few other chain stores. Unemployment is also high at 33.3%, and the poverty rate at 40.2% is mostly dominating in this area. Many of the people are working in the agricultural sectors (Thembisile Hani Municipality Integrated Development Plan - IDP, 2018).

Thembisile Hani Local Municipality has an estimated population of 333 331, based on the community survey that was conducted in 2016 by Statistics South Africa, and around 109 282 households, as of 2015, and in terms of age structure, 33778 are estimated to be between 15-19 years, which is 13% of the total population, and 31337 are estimated to be between 20-24 years, which is 10% of the total population (Thembisile Hani Municipality Integrated Development Plan - IDP, 2018). According to the Mpumalanga Provincial Gazette, 2018 there is also a female headed household count of 36, 2%, and a child headed household count of 0.6%. Due to a lack of formal settlements, the squatter camps have made teenagers to be seen roaming in groups which is a risk factor for gangster development around the streets. The large number of illegal taverns or shebeens has put many kids at risk of drinking. There are eight secondary schools in the Kwaggafontein East area, as shown in Figure 2.
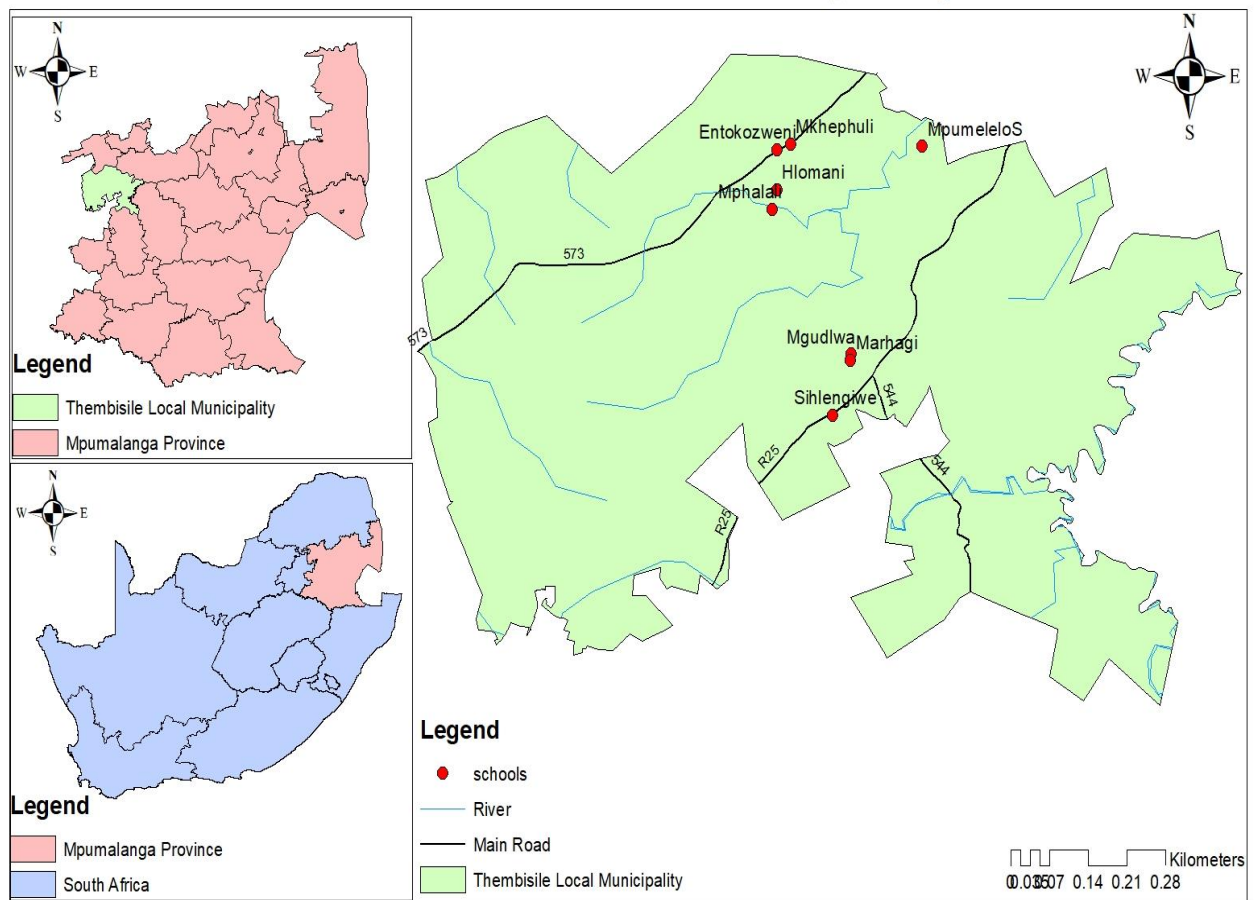
Figure 2. Thembisile Hani Local Municipality Map (School Maps, 2017)

3.4 SCOPE AND DELIMITATIONS OF THE STUDY

The study comprised of 397 male and female learners aged between 15 and 20 years old, based in secondary schools in Thembisile Hani Municipality, Mpumalanga. Those learners that were present on the day of data collection were sampled to participate in the study.

3.5 POPULATION

A study population is the entire group of persons or objects that are of interest to the researcher and this people meet the criteria that the researcher is interested in studying (Dyer & Forister, 2016). A study population consits of target and accessible population wherein target population is the entire group of people required for a study. The population for this study was all learners attending secondary schools in the Nkangala District of

Mpumalanga Province. The target population was all secondary school learners from Thembisile Hani Municipality. The accessible population was all learners of Kwaggafontein East circuit secondary schools.

Table 1: Population frame.

Name of Circuit	Number of Schools	Number of Learners
KwaMhlanga North East	08	2801
KwaMhlanga South West	06	3520
Kwaggafontein East	08	3664
Kwaggafontein West	07	888
Tweefontein North	08	1965
Tweefontein South	09	2400
TOTAL	46	15238

3.5.1 Sampling and sample size

The study adopted a probability sampling to sample circuit, schools and participants.

3.5.1.1 Sampling of Circuit and Schools

The Thembisile Hani Municipality has 6 Circuits. A simple random sampling technique was used to select one circuit. The researcher wrote the names of six circuits in papers and put them in a hat, mixing them together without looking and picked one circuit. Out of six circuits in Thembisile Hani Municipality, the study focused on Kwaggafontein East Circuit which comprised of eight schools. A total number of learners are estimated at 3664 pupils in Kwaggafontein East Circuit. All the schools in Kwaggafontein East Circuit included to participate in the study.

3.5.1.2 Sampling of Participants

A stratified sampling was used according to grades and gender of participants, thereafter random sampling in each stratum was used. The simple random sampling technique was used where the researcher used green coloured papers written yes or no and mixed them in a container and requested the participants to pick one without looking. All those who had the

papers written "yes" were chosen to participate on the study in each school at Thembisile Hani Municipality.

3.5.1.3 Sample size

The study used the following Slovin's formula as updated by Stephanie Ellen to determine the sample size (Ellen, 2018).

n = sample size of the adjusted population.

N = population size

e = accepted level of error set at 0.05.

$$n = \frac{N}{1 + N(e^2)}$$

$$n = \frac{3\ 664}{1 + 3\ 664\ (0.05^2)}$$

$$= 3\ 664 / (10.16)$$

$$3\ 664 / 10.16$$

$$= 360.6$$

n = 361 + 10% non-responsive participants

Sample size = 361 + 36 = **397**.

Therefore, 397 participants were chosen in secondary schools of Thembisile Hani Municipality, Mpumalanga.

Table 2: Sampling frame

Name of the school	Number of learners	Number of participants	Percentage sample (%)
Entokozweni	623	17/100x397= 67	623/3664 x100=17%
Hlomani	482	13/100x397=52	482/3664x100=13%
Marhagi	744	20/100x397=79	744/3664x100=20%
Mgudlwa	569	16/100x397=63	569/3664x100=16%
Mpephuli	141	4/100x397=16	141/3664x100=4%
Mphalali	467	13/100x397=52	467/3664x100=13%
Mphumelomuhle	181	5/100x397=20	181/3664x100=5%
Sihlengiwe	457	12/100x397=48	457/3664x100=12%
Total	3 664	397	100%

3.6 INCLUSION CRITERIA

The study included 15 to 20 year-old learners from different secondary schools at Thembisile Hani municipality grades 10 to 12.

3.7 DATA COLLECTION TOOL

Data was collected using a self-administered questionnaire in this study. The Researcher adopted and modified the Youth Risk Behaviour Survey (YRBS) questionnaire that assesses the health-risk behaviours that result in the greatest amount of morbidity, mortality, and social problems among youth. The questionnaire consisted of close-ended questions including the Likert scale. The questionnaire comprised of two sections; section A – the demography, Socio-economic status and anthropometric measurements, and Section B – health risk behavior lifestyle of learners in THLM, which includes Smoking, Nutrition, Alcohol consumption and Physical activity. A questionnaire was written in English language as it is used as a second official language in South African Public Government Schools and took 25 to 45 minutes to be completed.

3.8 VALIDITY AND RELIABILITY

3.8.1 Validity

The supervisor was consulted for verification of uncertainty in the questionnaire and for comments and suggestions. Both content and face validation were employed to ensure validity of the instrument. Amendments and changes were made as desired.

3.8.2 Reliability

A test-retest approach was used to assess the reliability of instrument both the questionnaire and equipment. The Cronbach's α result of 0.8 was achieved. Both stadiometer and weighing scale were calibrated to ensure reliability of the tools.

3.9 PRE-TEST

The researcher randomly selected any secondary school in Mpumalanga which was not part of the study. A pre-test was done using the 10% of sample size which were 36 participants, whereby the data was collected from the same but neutral population twice in a space of a 1 week. The Pre-test findings showed that some questions were vague and not understood by the participants, the researcher rectified those questions. A pre-test was done to ensure that everyone understand the questionnaire and mistakes identified were corrected.

3.10 ANTHROPOMETRIC MEASUREMENTS

Anthropometric measurements such as weight and height for the calculation of body mass index was performed for the assessment of the nutritional status of the participants. The participants were eventually classified as underweight, normal weight, overweight or obese.

3.11 DATA COLLECTION PROCEDURE

Appointments were made with the participants one week prior to data collection. The researcher met with the participants in a classroom that was provided in each school. The researcher distributed the questionnaire which took 25 to 30 minutes to complete, and the process of data collection ran for 8 days (1 school per day during the week). Afterwards the

researcher took weight, height and BMI measurements from participants on each/ same day of data collection.

(a) Questionnaire

The participants were given a questionnaire to complete and anthropometric measurements were taken on the same day. The researcher collected the questionnaires on the same day.

(b) Body Mass

The researcher employed the standard procedure to take weight measurements using the Seca weighing scale. The participants were guided to remove shoes and other heavy clothes such as jersey and jackets. The scale was placed on the flat floor. The participant stood on the scale without support. The weight was recorded while the subject still standing on the scale.

(c) Stature

The researcher was using the standard procedure to take measurements using stadiometer. The researcher requested the subject to remove shoes and stand on the centre of the base with their back to the stadiometer. The researcher then asked the participant to put their feet together and move back until the heels touch the bottom of the stadiometer upright, with the buttocks and upper part of the back touching the stadiometer upright and the head not touching the stadiometer. The participant's head was to be in the Frankfort plane position. The highest height was the vertex of the skull. Then the height was recorded.

(d) Body Mass Index (BMI)

The BMI was calculated using the formula weight (kg) divide by height $(m)^2$, then each participant was classified for their nutritional status.

3.12 DATA ANALYSIS METHOD

For this study the researcher coded and captured data using Microsoft Excel 2016 and the data was exported to SPSS for analysis. The data was analysed using Statistical Package

for Social Science Software (SPSS) latest version 26.0. The statistical tables, bar graphs and charts were used to present the analysed data. Descriptive statistics (Percentages), cross tabulation and the Pearson Chi-square test were used to obtain the association and strength of relationship between independent and dependent variables. The statistical significance was set at $P \leq 0.05$. the data was in the form of frequency tables to summarise findings. BMI was subdivided into four categories which was as follows: underweight (BMI ≤ 18.5), normal (18.5-24.9), overweight (25-30) and obese (30-39).

3.13 ETHICAL CONSIDERATIONS

Research ethics refer to a moral distinction between right, and wrong, and what is unethical may not necessarily be illegal. Ethics in research differ in societies. The researcher ensured that all the necessary ethical issues are followed throughout the study.

3.13.1 Permission to conduct the study

The proposal was presented to the Department of Public Health and the Higher Degree Committee (SHDC) of the School of Health Sciences for quality assessment and approval. It was then presented to the University Higher Degree Committee (UHDC) at the University of Venda. The Ethical Clearance Reference Number SHS/19/PH/18/2708 was issued. The researcher requested permission from the Provincial Department of Education to access their schools.

3.13.2 Informed consent and voluntary participation

Informed written consent forms (Appendix A) for participants who are 18 years and younger were obtained from their parents to give permission after they had been fully informed about was expected of the participants and the nature of the study. The accent forms (Appendix E) were signed by participants who agreed on taking part in the study.

3.13.3 Confidentiality and anonymity

Confidentiality refers to a condition in which the researcher knows the identity of a research subject but takes steps to protect that identity from being discovered by others (Creswell, 2017). The researcher kept all the information under locked conditions. The researcher ensured that participants remained anonymous, names, or any other identification were not logged anywhere.

3.14 PLAN FOR DISSEMINATION AND IMPLEMENTATION OF RESULTS

The findings of the study will be made available at the University of Venda Library and at the Mpumalanga Department of Education Research Day. They will also be published in accredited journals. The researcher will also give feedback to all the multi-sector stakeholders such as Municipal representatives (Political head and administrator). Feedback to the Thembisile Hani Municipality Department of Basic Education Circuit and participated schools will be given through health lifestyle awareness campaign. The findings will also be presented at the workshops, national and international conferences.

3.15 CONCLUSION

Chapter 3 discussed the methodology of this study, which includes study setting, population, sampling, data collection procedure, data analysis methods, and ethical considerations.

CHAPTER FOUR

RESULTS

4.1 INTRODUCTION

The aim of the present study was to investigate health-risk behavior lifestyle among selected secondary school learners in Thembisile Hani Municipality, Mpumalanga. This part of the study presents the study findings and interpreting them based on the data collected. The presentation of study is done following the structure of the questionnaire/instrument used to collect data.

4.2 PRESENTATION OF THE STUDY RESULTS

The results are statistically presented in the form of frequencies and percentages with the chi-square test and cross tabulation used in presenting the association between socio-demographic information and respondents' health risk behaviour. Initially the study aimed at collecting data from 397 learners, however the study revealed that only 385 participated, giving a 97% response rate.

4.2.1 Demographical characteristics of participants

Table 3 shows the demographic information of participants. The results indicate that the study was dominated (55.3%; n=213) by female learners, with a minority (44.7%; n=172) of male learners. The study was conducted among grade 10-12 learners, however the grade 11 (33.8%; n=130) and 12 (46.2%; n=178) had the highest number respectively, with minority (20%; n=77) being grade 10.

Table 3: Demographic information of Participants (gender, age and grades: N=385)

Gender	Variables	Frequency (n)	Percentage (%)
	Female	213	55.3
	Male	172	44.7
	Total	**385**	**100**
Age	16 Years	82	21.3
	17 Years	169	43.9
	18 Years	68	17.7
	19 Years	42	10.9
	20 Years	24	6.2
	Total	**385**	**100**
Grades	Grade 10	77	20.0
	Grade 11	130	33.8
	Grade 12	178	46.2
	Total	**385**	**100**

4.2.1.1 Socio-economic status of parents of the participants

Table 4 Shows the socio-economic status of parents of the participants selected in the study. The employment status of parents is (43.64 %) and with the high percentage of the unemployed parents at (56.36%). Learners who have both parents (48.8%) and those without parents were high at (51.2%). It was also shown that 39% of learners were living with their parents while the higher 61% were living without both parents. Learners receiving social grant were low at (45.7%) compared to those who did not receive grant (54.3%).

Table 4 Socio-economic status of parents of the participants

Employment status of parents	Scale	Frequency (n)	Percentage (%)
	Yes	168	43.64
	No	217	56.36
	Total	**385**	**100**
Learners who have both parents	Scale	Frequency (n)	Percentage (%)
	Yes	188	48.8
	No	197	51.2
	Total	**385**	**100**
Learner's living with both parents	Scale	Frequency (n)	Percentage (%)
	Yes	150	39.0
	No	235	61.0
	Total	**385**	**100**
Learner's / Family receiving grant	Scale	Frequency (n)	Percentage (%)
	Yes.	176	45.7
	No	209	54.3
	Total	**385**	**100**

4.2.1.2 Anthropometric characteristics of participants

Table 5 shows that the mean age for participants was 18.30 boys and 16.62 for girls. In terms of body mass, boys were heavier (84.67 kgs) than girls (50.13 kgs). This study shows that boys were taller (1.67cms) than girls (1.52cms), counterpart with regards to BMI boys showed to be stronger and heavier than girls respectively.

Table 5: Anthropometric characteristics of participants (n=385)

Variable	Boys (n=172)		Girls (n=213)		P=value
	Mean	Standard Deviation	Mean	Standard Deviation	
Age	18.30	0.97	16.62	0.49	0.000
Body mass	84.67	11.74	50.13	12.20	0.000
Stature	1.67	0.5	1.52	0.07	0.000
BMI	30.09	2.68	21.29	3.39	0.000

.2.1.3 Body Mass Index of Participants

The pie chart in figure 3 indicates the Body Mass Index of the study population, in which the majority are overweight (34%, n=129) and obese (27%, n=102) respectively. Although 14% (n=51) is underweight the 26% (n=103) of health weight cannot be ignored.
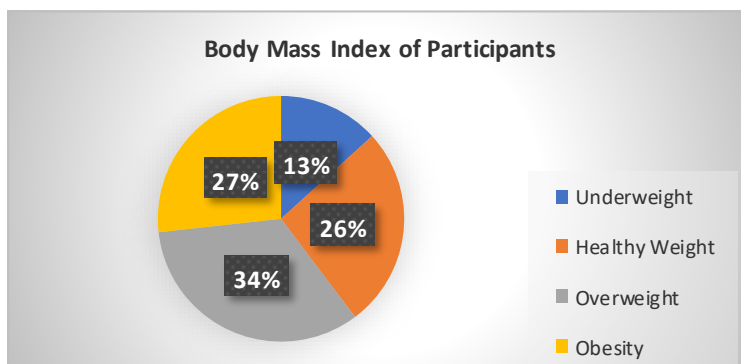
Figure 3

4.2.2 Health Risk Behaviour Lifestyles

The health risk behaviors presented in this study includes smoking, poor nutrition, excessive alcohol consumption and physical inactivity, collectively known as "SNAP" risk factors.

4.2.2(a) Tobacco use

Figure 4 reveals some of the findings of smoking and tobacco use among learners. The majority (47%; 35% respectively) of learners are from families where there is a family member who uses tobacco or smokes.

Tobacco users

■ Strongly Agree ■ Agree ■ Unsure ■ Strongly Disagree ■
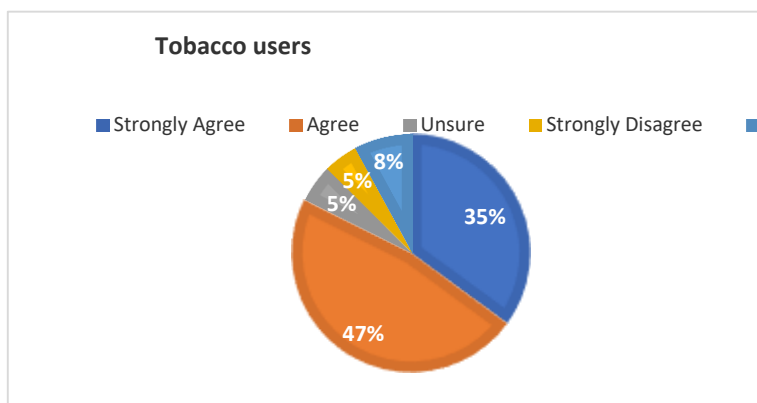
Figure 4: Tobacco users

4.2.2(b) Smoking one or more puffs

Figure 5 shows that more than 81.3% of learners have tried to smoke a cigarette or tried more puffs. Although a considerable minority disagree on the same statement in which 10% disagreed, 0.3% strongly disagreed and 5% were not sure.

Smoking one or more puffs

■ Strongly Agree ■ Agree ■ Unsure ■ Strongly Disagree ■ Disagree
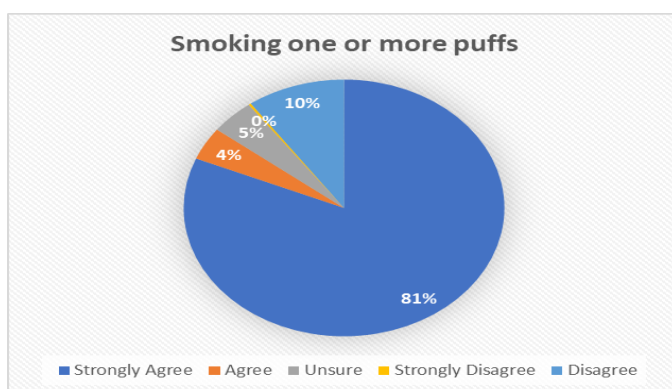
Figure 5: Smoking one or more puffs

4.2.2(c)Smoking and access to substance

Table 6 indicates that most learners do not have access to substance; however, a 38.4% of them argued that substances are easy to get in the community. It is interesting to note that 86.2% of learners agree that cigarettes are dangerous to health, with 53.8% agreeing that

smoking can cause lung disease such as asthma and cancer. Among all types of smoked substances, only a few learners attested that they ever smoked them, and 32.7% indicated they did not know and 50.1% said that they did not.

Table 6: Smoking and access to substance

Statement	Yes		No		Don't Know	
	n	%	n	%	n	%
Are substance easy to get in your community?	148	38.4	147	38.2	90	23.4
Do you know that cigarette is dangerous to health?	332	86.2	18	4.7	35	9.1
Have you ever tried smoking any drugs e.g. marijuana, dagga, cocaine, glue	66	17.1	193	50.1	126	32.7
Have you ever smoked on school premises?	249	64.7	80	20.8	56	14.5
Smoking can cause lung disease, Asthma, Cancer	207	53.8	134	34.8	44	11.4

4.2.2(d) Smoking and tobacco use

Table 7 illustrates that the majority (26.5%; 23.4% &8.1% respectively) of learners are not taught about the dangers of tobacco use and it has resulted 44.7% of them applauding that smoking release stress.

Table 7: Smoking and tobacco use (n=385)

Key: **SA-** Strongly Agree, **A**- Agree, **U**- Unsure, **SD**- Strongly Disagree, **D**- Disagree

Statement	SA		A		U		SD		D	
	n	%	n	%	n	%	n	%	n	%
During this school year, I was taught in my classes about the dangers of tobacco use	102	27.5	56	14.5	31	8.1	102	26.5	90	23.4
Smoking releases stress	172	44.7	74	19.2	24	6.2	60	15.6	55	14.3

4.2.3 Nutrition information

Table 8 illustrates the dietary behavior of the learners who participated in this study. A considerable percentage of 54.5% denied that the school has a nutrition programme.

Table 8: Nutrition habits and lifestyle (N=385)

Statement	Response rate			
	Yes		No	
	N	%	N	%
Bring own food to School	125	32.5	260	67.5
The school provides food from the school nutrition programme.	175	45.5	210	54.5
Eat fast foods or take away more frequently	243	63.1	142	36.9
Eat breakfast daily	318	82.6	67	17.4
Buy fried fish/ vienna's less than once twice a week	303	78.7	82	21.3
Eat any 2 types of fruits daily	217	56.4	168	43.6
Eat any 2 vegetables daily with my food	29	7.5	356	92.5
Ever tried losing weight	128	33.2	257	66.8
Ever tried gaining weight?	102	26.5	283	73.5
A vegetarian	26	6.8	359	93.2

4.2.4 Nutritional behaviors of learners

Table 9 indicates that 76.1% of learners do not know if they drink two liters of water daily, however, 23.9% accepted that they do. Little knowledge of consuming acidic or soda drinks was revealed by the majority (57.1%) of learners, and 18.4 % of them consume soda drinks more than twice a week. 95.6% of the learner's lack knowledge of Food Dietary Guidelines, and most (75.6%) of them indicated that they do not know if unhealthy eating can cause diseases.

Table 9: Nutritional behaviors of learners (N=385)

Statement	Yes		No		Don't Know	
	n	%	N	%	n	%
Drink two liters of water daily	92	23.9	--	--	293	76.1
Drink acidic/ soda drinks less than twice a week	78	20.3	87	22.6	220	57.1
Drink acidic / soda drinks more than twice a week?	71	18.4	206	53.5	108	28.1
Unhealthy eating can cause diseases?	291	75.6	--	--	94	24.4
Ever heard of Food Dietary Guidelines	17	4.4	368	95.6	--	--

4.2.5 Alcohol consumption

Table 10 shows the alcohol consumption by learners selected in this study. The majority (62.9%) of participants indicate that their family has few people who consume alcohol; however, 64.4% have tried drinking alcohol in their life. The frequency of drinking is a low, as shown by 10.9% who had only drunk during the past month, however, it is questionable with the 53.5% who do not know if they had at least one drink for the past month. Although a considerable amount (38.4%) of participants know that alcohol is a cause of diseases. Few (15.6%) learners drink occasionally, but 71.9% of these learners have been in a tavern or bottle store.

Table 10: Alcohol consumption among learners

Statement	Yes		No		Don't Know	
	n	%	n	%	n	%
Anybody in your family who consumes alcohol	14	3.6	242	62.9	129	33.5
Ever drank alcohol in your life	248	64.4	59	15.3	78	20.3
Have friends or school mate who drinks alcohol	115	29.9	270	70.1	--	--
Ever drank alcohol before 14 years of age	104	27	75	19.5	206	53.5
At least had one drink of alcohol during the past 30 days	42	10.9	112	29.1	231	60
Know that alcohol abuse can cause sicknesses	148	38.4	195	50.6	42	10.6
Drink on special occasions only	60	15.6	309	80.3	16	4.2
Ever been inside the bottle store or tavern	277	71.9	108	28.1	--	--
Ever had been in trouble at school or home because of alcohol abuse	220	57.1	165	42.9	--	--
Taught in any classes about the dangers of excessive alcohol consumption	72	18.7	195	50.6	118	30.6

4.2.6 Physical activity

Table 11 establishes that although the schools have grounds in good condition, few learners take part in physical activities like soccer and running. The frequency of physical activity is very poor as only 19.5% of the learners participate in sport three times or more a week. Most of the learners do not see any benefit of exercising; only 8.1% attested that they are benefits.

Table 11: Physical activity of learners

Statement	Yes		No		Don't Know	
	n	%	n	%	n	%
Take part in any school physical training or activities such as playing soccer, netball, running	164	42.6	92	23.9	129	33.5
School have school grounds that are in good condition	211	54.8	174	45.2	--	--
Practice sport less than once a week at least for 30 minutes or more	29	7.5	212	55.1	144	37.4
Practice sport three times or more a week	75	19.5	123	31.9	187	48.6
Watch TV or play video games more than 5 hours daily	301	78.2	56	14.5	28	7.3
Exercising is a waste of time and energy	289	75.1	14	3.6	82	21.3
Walk from home to school, at least 30 minutes or more daily	152	39.5	96	24.9	137	35.6
Sleep immediately after eating when at home	113	29.4	272	70.6	--	--
There are healthy benefits in exercising	31	8.1	354	91.9	--	--

4.2.7 Cross tabulation of demographic and study variables

Table 12 illustrates the study findings on the age of participants, smoking and tobacco use as a health risk factor among learners. The cross tabulation and the Chi-square test was statistically significant, as it shows that age influences the discussion in engaging smoking behaviour as indicted in the table above shows that smoking is most prevalent in younger age were self-control is still low (P-0.000, x^2-86.253, df-16).

Table 12: Cross tabulation (age of Participants and tobacco use)

		Tried cigarette smoking one or more puffs					Total
Pearson Chi-square 86.253, df-=16, p=0.000							
		Strongly Agree	Agree	Unsure	Strongly Disagree	Disagree	
Age of Participants	16 Years	61	0	0	0	21	82
	17 Years	118	16	17	1	17	169
	18 Years	68	0	0	0	0	68
	19 Years	42	0	0	0	0	42
	20 Years	24	0	0	0	0	24
Total		313	16	17	1	38	385

4.2.8 Crosstabulation of BMI and nutritional status

Table 13 illustrates the study findings on Body Mass Index (BMI) of Participants and nutritional or dietary behaviours as one of the health risks factors among learners. The cross tabulation and the chi-square test were statistically significant, as it shows that the eating of fast foods and takes always is directly proportional to the possibility of developing either obesity or overweight. As indicated in the table above the high number of people who said yes, they eat such foods where the ones at risk of obesity and overweight. (P-0.000, x^2-34.184, df-3).

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Table 13: Crosstabulation of BMI and nutritional status

Pearson Chi-Square- 34.184, df-3, p-0.000		Eat fast foods or take away more frequently		Total
		Yes	No	
Body Mass Index of the Participants	Underweight	24	27	51
	Healthy Weight	78	24	102
	Overweight	62	67	129
	Obesity	79	24	103
Total		243	142	385

4.2.9 Crosstabulation of grades and alcohol consumption

Table 14 illustrates the study findings on the gender of Participants and alcohol consumption as a health risk factor among learners. The cross tabulation and the Chi-square test were statistically significant, as it shows that alcohol consumption increases with the grades of learners, wherein grade 12 are the ones who are the majority who consumes alcohol (P-0.000, x^2-187.703

Table 14: Crosstabulation of grades and alcohol consumption

Pearson chisquare-187.703, df-4, p-0.000		Ever drank alcohol in your life?			Total
		Yes	No	Don't know	
Grade of Participants	Grade 10	62	0	15	77
	Grade 11	27	57	46	130
	Grade 12	159	2	17	178
Total		248	59	78	385

4.2.10 Crosstabulation of gender and physical activity

Table 15 illustrates the study findings on the gender of participants and physical activity as a health risk factor among learners. The cross tabulation and the Chi-square test were statistically significant, as it shows that gender influences the discussion in participating in physical activities. It reflects that participation in such activities is gender based. In these study males' learners are more actively participating in physical activities than females (P-0.000, x^2-302.043, df-2). df-4).

Table 15: Crosstabulation of gender and physical activity

Pearson chi-sqaure-302.043, df-2, p-0.000					
		Practice sport three times or more a week			Total
		Yes	No	Don't Know	
Gender of Participants	Female	0	26	187	213
	Male	75	97	0	172
Total		75	123	187	385

4.3 Conclusion

The results in this chapter were categorised according to the study objectives. The study indicates that there is a distressing prevalence of health-risk behaviors among learners from smoking, nutrition behaviors, alcohol intake, and physical activity. There is a relationship between physical activity and nutritional status of participants. During the research study, physical active is very poor as 19% of participants were part taking in sport 3 times or more a week. The Body Mass Index of the study participants were as follows: Overweight 34% (n=129), obese 27% (n=102), underweight 14% (n=51), and normal 26% (n= 103).

CHAPTER FIVE

DISCUSSION OF THE STUDY FINDINGS

5.1 INTRODUCTION

This chapter discusses the findings of the study based on literature review in which similarities, contradictions as well as practical implications of the findings are debated. The aim of the present study was to investigate health-risk behavior lifestyle among selected secondary school learners in Thembisile Hani Municipality, Mpumalanga. The present research indicates that destructive lifestyles during adolescence and it may predict serious health risks in later years of life. There is high prevalence of health risk behaviours as indicated by (SNAP) among the selected Thembisile Hani Municipality school learners and it signals significant red flags to authorities as well as communities. These results are in line with other studies on the African continent which echoed the concerns regarding the destructive lifestyle of secondary school learners (Shisana et al., 2015). Furthermore (Strydom, et al., 2015) considered them as red flags which may signal detrimental effects in later life. The present study brings an Afrocentric view which invalidates the assertion that that smoking, physical inactivity, poor nutrition, and immoderate alcohol use are the major behavioural contributors to premature morbidity and mortality in the developed world only.

Strydom et al., (2015) attested that the underlying reasons for the adolescence to engage in this destructive health risk behaviours are very complex and may be rooted in a mixture of social and economic factors, lack of parental control and value system. In constancy to this assertion, the present study indicates that the socio-economic status of the learners may influence their vulnerability to some of these risk factors "SNAP". The study established that that the majority (56.36% respectively) of learners are from families with both of parents who are not working or with a little income. The unavailability of proper income might present them a poor/little opportunity to acquire major health needs and wants. Moreover, it was revealed further that these learners some of them live with one parent and some doesn't have both parent at all. This then presents that the intertwinement of these various health risk factors enhances the complexity of this situation emerging from the social economic status. Holmes, et al., (2017) reiterated that health-risk behaviour takes place within the sociocultural context of families in their neighbourhoods, families, schools, and peers have been shown to strongly influence the initiation and progression of health-risk activity among young adolescents. This statement from Holmes, et al., (2017) was emphasised further in the study wherein many of the learners indicated that many of their peers partakes in or two risk behaviours and it therefore exposes them to such acts.

An intertwining of factors emanating from the socio-economic status has been explained by Jessor and Jessor's (2016), Problem Behavior Theory, which describes health-risk behaviors, such as drinking, marijuana use, delinquency, bullying and sexual intercourse, as a syndrome among learners which is rooted in their social set up either cultural or economic. In this case a more detailed which was not given by the present that indicates that bullied learners showed a higher prevalence of tobacco, alcohol and drug usage than non-bullied learners and the same was also true for sexual activity. Many studies consistently indicated this synergy of "SNAP" as they find that adolescents who associate with smoking peers have less success with quitting.

This present study found a higher prevalence of "SNAP", which is significantly associated with low socioeconomic status and young age; this implies that the young and the poor in Thembisile Hani Local Municipality are more prone to associated with associated health risks. The researcher assumes that the level of education at which these learners are at may have an influence in their health choices hence the prevalence of risk behaviors. A similar study supported that socio-economic status, which is determined by the participants' level of education, has in many epidemiological studies been regarded as the major predictor for non-communicable diseases in which participants who attained a rather lower level of education, such as primary education, were more inactive than those who attained universityor post-graduate education for example the rate of physical inactivity declined with an improved level of education, signifying a positive correlation between physical activity and level of education or socioeconomic status (Tawa, 2010). Moreover, a similar longitudinal study to reveal the trends of risk factors among various socioeconomic groups in Switzerland, the authors investigated a nationally representative sample of 8194 adult participants from 1993 to 2000. Their findings illustrated that physical inactivity was high, especially among the low socioeconomic status group (Baggio et al., 2015).

Previous studies have established that the youth in most countries are undergoing a developmental transition in a rapidly changing social, economic, political and emotional climate and this volatile environment in which the youth have to survive can be the breeding ground for the development of very complex health risk behaviour which may be intertwined with one another (James, et al., 2017). In this respect leisure time sedentary behaviour is highly associated with alcohol, tobacco and drug use among adolescents (Strydom, et al., 2015). The present research revealed that 81.3% of learners have tried smoking cigarettes and 64.7% smokes in school premise. In other context of researchers, smoking and alcohol also indicated as often the entry drug which may increase the likelihood of other risky behaviour such as drug usage, violence and unsafe sexual behaviour.

In these other studies (Kerr, et al., 2017), and (Brown, 2018), a detailed explanation was given in which it was said increased psycho-social distress which results in smoking or tobacco abuse in sub-Saharan youth, may also lead to suicidal ideation and other destructive emotional experiences such as sadness and hopelessness of learners in a specific area in South Africa reported feelings of sadness and hopelessness while 21% had considered suicide and another 21% had already attempted to take their lives (Peltzer & Pengpid, 2012).

The present study did not demonstrate a link between adolescent smoking and psychiatric problems, which includes major depressive disorder, disruptive behaviour disorders, and alcohol or other drugs (AOD) use problems (da Mota, et al., 2019). Apart from the consequences of smoking, the present study revealed that environmental factors like the peer influence are a major cause of smoking among high school learners. Da Mota, et al., (2019) came in again and emphasized that the relationship between early use of alcohol during adolescence and the increased risk of excessive alcohol drinking and alcohol disorder in adulthood has been well documented.

The learners in this study are much into fat foods and it is predisposing to cardiovascular disease. The 66.2% that eat fat cakes and fried chips more than twice a week and their diet seem to be not balances ad indicated in the shocking and alarming percentages of food intakes. As it is not enough, the BMI profile of the present study clearly suggested that the learners are at risk as 33.5% overweight and 26.8% obesity respectively. In support of these findings WHO (2016) the prevalence of obesity in children and adolescents in the world has continuously increased however with genetic and environmental factors play important roles in the pathogenesis of obesity in children and adolescents. Another study established genetics in which childhood obesity was seen strongly associated with obesity status from their parent. Although the genetic factor is clearly involved in obesity in many studies, environmental factor was identified in this study as a contributor in the pathogenesis of obesity and these factors are ddietary, socio-economic status, lifestyle changes, physical activity. The study noted dietary habits like more consumption of fried foods and sweet beverages, and less consumption of fruits, vegetables and plain water were commonly found in learner's daily life.

Meanwhile, other factors such as short sleep duration, smoking, psychological stress and sedentary lifestyle frequently occur in adolescent life as well as cconsumption of plain water and sweet beverages has opposite effects in obesity (Jackson & Vaughn, 2019), however, it will discussed in the subsequent topic of physical activity. As rresearch studies in childhood and adulthood females suggest that increased consumption of plain water results in high

energy expenditure and decreased body weight and body fat it is in contrary to the present study as many of the learners don't know exactly if they take in normal two liters of water daily. Putriana, et al., (2017), reported that 164 Indonesian children who consumed less plain water have two times a higher risk of obesity as opposed to water consumption, children and adolescents who consumed sweet beverages more than once a day would increase energy intake and decrease energy expenditure.

It is believed that food intake also increases in adolescents who have shorter night sleep because they have more time awake and opportunities to eat than adolescents who have longer night sleep (Koren, et al., 2016). Several studies have indicated that some children and adolescents with shorter night sleep have around twice a higher risk of overweight and obesity as children and adolescents with longer night sleep, however it is contrary to the present findings as 70.6% of learners do not sleep immediately after supper.

The majority (53.5%) of the learners in this study started drinking on and before the age of 14 years of age and most of them had the high frequency of drinks just before the study was done. A slightly different longitudinal study by Kerr, et al., (2017) indicated gender differences that highly active teenage girls were less likely to start smoking during the study, than the low active ones. In boys, however, no difference occurred between the highly and low active groups, while the highly active boys were twice as likely to start drinking. In terms of location which was not covered by this study, the highest level of alcohol consumption occurs in the developed world, this fact is not surprising since the history of alcoholic beverages is linked to the history of mankind in which for centuries, and alcohol consumption has been part of our culture and society (Cerkez, et al., 2015).

Given that drinking alcohol is a social activity, embedded today in traditional and sociocultural contexts there is a social mindset that the main reason for alcohol consumption is its ability to produce positive moods and stress-relieving effects. Their research therefore thinks that this societal perception might be a contributory factor to high alcohol consumption among learners and some studies has attested that alcohol consumption among learners contributed to high prevalence of suicidal ideation which occurred in the highly active boys and girls and USA it was found that the majority of adolescents under the age of 18 have consumed alcohol, although the minimum legal drinking age is 21.

The present study has indicated that alcohol consumption increases with grades, as grade 12 were seen to be drinking a lot than grade 10 however, differently Maslowsky et al. (2015) no substantial differences existed among various sociodemographic subgroups with respect to drinking rates, although alcohol consumption generally is lowest among Africans and highest among whites. Moreover, alcohol consumption increases sharply throughout

adolescence due to various attitudinal and behavioural factors, such as religious involvement, truancy, and average grade level, also influence adolescents' drinking behaviours.

The present did not document and present a detailed o account of peer influence as a central cause of alcohol consumption as Cerkez et al. (2015) who consistently find that adolescents who associate with drinking peers have less success with quitting. The high drinking rates among AOD-abusing youth indicate that addressing peer influences may be particularly important with this population Adolescents strongly identify with their friends and peers, a phenomenon central to an adolescent's development of a self-image distinct from one's family and as such, the role of peers in adolescent smoking can be understood as part of an adolescent's social identity and peer selection rather than solely as peer pressure.

A similar study to the above assertion shows that during adolescents' neurological development is not complete until the early twenties, wherein decision-making and future-oriented thinking are not fully developed (Squaeglia, 2016). Thus, while teens are entering into adult roles and while they may physically appear to be mature, teens might not be fully equipped to deal with these new tasks and challenges and for these various reasons, the teen years can be an especially stressful and fragile time, making adolescents more susceptible to engaging in risky behaviours and be unable to weigh their risks and benefits.

The present study established that majority of learners came from drinking families and most of these learners has been visiting the taverns around the community which is an important risk factor associated with using alcohol for the first time at an earlier age is a family history of alcoholism. Consistently, Maslowsky, et al. (2015) attested having a family history of alcohol drinking problems is associated with greater underage drinking] and greater frequency of alcohol-use problems. Several studies have reported that only the father's drinking had a direct effect on adolescent drinking while the mother's didn't and further research is needed to clarify the real impact of parental drinking on adolescent drinking as it is known that alcohol use disorder tends to be repeated within families (Spear, 2015). All in all, family and environment is positively related to drug use among youth as the parenting style significantly protects against adolescent drinking behavior with both indulgent and authoritative parenting styles have been hypothesized to be a major source of influence on protection against adolescent substance use.

As in many other countries around the world, health professionals are concerned about the physical activity as a health risk behaviour of adolescents in sub-Sahara Africa. World Health Organization (WHO, 2016) declared obesity a global epidemic with major health implications of having insulin resistance, type-2 diabetes mellitus, hypertension, obstructive sleep apnoea

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and poor self-esteem and the genesis of all these is physical inactivity and poor dietary behaviors. Despite the majority (75.1%) of learners who participated in this study indicated that they know that they are benefits of participating in physical activity. However, 23.9% do not participate with 33.5% do not know if they participate, and all this is rife despite the availability of sports grounds. In the previous discussions, in this study it was revealed that the dietary or nutritional behavior of learners in son health and together with poor physical activity, they are at risk of all the associated adverse effects of such behaviors. Jackson and Vaughan (2019) supported that, coupled with this risk factor, physical inactivity, smoking, and drug use and poor nutritional behaviors. Furthermore, it also became a source of great concern as destructive health risk behaviour among adolescents and provided irrefutable evidence of the effectiveness of regular physical activity in the primary and secondary prevention of several chronic diseases.

Given that the majority (78.2%) of learners watch TV and play videos games more than five time a week, it them makes them vulnerable to diseases associated with physical inactivity. Some studies illustrated that participation in physical activity during the adolescent years may have salutogenic outcomes, as many of the risk factors for chronic diseases may be rooted in the paediatric years (Strydom et al., 2015). The risk factors that may have exposed the Participants in this study include not only physical inactivity but the frequent consumption of alcoholic beverages and consumption of salty foods. Some adolescents who lack night sleep tend to consume less plain water and more sweet beverages. Therefore, it will increase energy intake and decrease energy expenditure. Moreover, childhood obesity increases depression and behavioural/emotional disorders and decreases self-esteem, quality of life and academic performance (Putriana, Indarto, Nuhriawangsa, 2017).

5.2 Limitations of the study

This study posed some limitations which should be borne in mind when interpreting the results. The sample in this study was relatively small, and although randomly selected, it only represents one Municipality in Mpumalanga. The smaller urbanized centres may reflect different profiles. It should also be remembered that the population involved were those attending secondary school which again may differ from their age groups not attending school. As the questionnaires were based on self-assessment, it is possible that participants either over- or underscored themselves. Second, the conclusions are based on a sample of 385 young people from schools, but it is inevitably a limit to the generalization of the study findings beyond this sample. Despite these limitations, the current study is probably the one of the researches projects that assessed the relationship existing between different health

risk behaviours among Mpumalanga youth. It confirms the complexity of Mpumalanga adolescents' health risk behaviours and shows the necessity of future research in this area in order to develop appropriate health promotion interventions and it can be used for comparison to other places.

5.3 Conclusion

The conclusion of the study was based on the study objectives. Risk factors discussed included tobacco use, alcohol intake, physical inactivity, poor dietary intake, and measures of overweight and obesity among secondary school learners. The present research indicates that critical lifestyles may occur during adolescence and it may envisage severe health risks in later years. The research also indicated that most participants are from families with little income and with both unemployed parents.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

This conclusion was formed from the findings of the study within the framework of the objectives of the study and recommendations were mentioned based on the findings of the study.

6.2 SUMMARY

Health-risk behaviours in adolescent and youth in Thembisile Hani Municipality, Mpumalanga province was observed to be affecting those who are most in disadvantaged rural communities and have collective social determinants such as poverty, unemployment, and poor environment. Common behavioral health risk factors, such as smoking, risky alcohol consumption, sedentarism, overweight and obesity has been established and is assumed to develop chronic non-communicable diseases among population in their later life. Health and social behavioural change communication interventions needs to be strengthened including community based programmes, provide resources in secondary schools to improve the curriculum and playgrounds, and improve policies that support behaviour change.

6.3 CONCLUSIONS

Most of the populations worldwide have experienced major transformations in disease profiles and health status characterized by a shift from infectious diseases and nutritional deficiencies to a predominance of chronic diseases of lifestyle. The following conclusions were made from the present study;

- This epidemiological transition as concluded in this present study was regarded as an outcome of the environmental and socioeconomic changes following urbanization.

- The socioeconomic status which entails income and employment is a pre-disposing factor to health risk behaviors among learners.

- The overweight and obesity, as well as underweight is concluded to be related to the eating behavior and poor physical activity which is couple with watching television and the frequency of participating in sports.

- The present research further concludes that destructive lifestyles during adolescence may lead to serious health risks in later years of life.

- There is high prevalence of health risk behaviour among school learners selected which signals significant red flags to authorities as well as communities

- The study concludes that although some learners are aware of certain dangers of e.g. smoking or physical inactivity, they are doing nothing which may resemble ignorance.

6.4 RECOMMENDATIONS

Generally, there is an increasing recognition that adolescents have special health-related vulnerabilities. Among the major causes of morbidity and mortality in young people are road accidents and tobacco use. Furthermore, behavioural patterns acquired during this period tend to last throughout the adult life. Hence, adolescence is a time when the primary causes of mortality and morbidity are closely related to the behavioural choices of the individual. Consequently, establishing positive health behaviours during adolescence holds a great potential for reducing and given that there is high prevalence of health risk behaviour among school learners selected which signals significant red flags to authorities as well as communities. Based on the study findings the following recommendations were made;

- Given the age-related changes seen in health risk behaviours, health promotion intervention for young people must be sensitive to developmental changes and appropriately timed. Additional research is needed to better understand the appropriate type and timing of interventions as well as the content of messages to address several health risk behaviours.

- The association between several health risk behaviours among adolescents from our sample raises the question of whether to address the promotion of healthy lifestyles among youth in one overall programme or by dealing with them as separate topics and whether the same approach has to be taken for younger and older adolescents. Therefore, it is recommended that the categorization of behaviours into factors could assist in designing and implementing appropriate health promotion interventions among young people, helping to better address the range of health-related behaviours among them.

- Hence, focusing on behaviours, such as illicit drug use, without also addressing other related behaviours, such as violence or delinquency, may be less effective than health education programmes that are comprehensive. At the same time, a

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combination of smoking prevention programmes with activities, which prevent alcohol abuse or promote a healthy sexual behaviour, could be also more effective than programmes, which are focused only on one type of behaviour.

- The need for improving or re-engineering physical education programs in the schools must be seriously considered to support multi-professional strategies directed at learners – not only as a prophylactic but also a preventative endeavour.

- Higher parental education (which serves as a proxy for higher socioeconomic status) was associated with increased rates of alcohol use and being drunk. Conversely, the association between family structure (operationalized as whether the student reported living with two parents versus one or no parents) and drinking status was weak and inconsistent.

- Determine adolescent alcohol-use behaviours by increasing in the minimum legal drinking age to 21 substantially reduced alcohol consumption as well as alcohol related traffic fatalities among young. The modification adolescent drinking behaviours include zero tolerance laws, restrictions on the hours of permitted sales and the density of alcohol outlets (e.g., liquor stores and restaurants), and making retail licenses contingent on not selling to minors.

- Raising alcohol taxes can significantly reduce adolescent drinking more research results accumulate on the policies and programs aimed at deterring underage drinking, societies responses to the problem of underage drinking should become increasingly effective.

- In agreement findings of this study, alcohol and tobacco use prevention programs may benefit from addressing adolescent perceptions about the positive consequences of alcohol use. In essence, knowing drinking motivations and alcohol expectations may lead to designing more effective preventive strategies.

- Governments and other stakeholders can support and empower communities to use their local knowledge and cultural expertise to adopt effective approaches to prevent and reduce harmful use of alcohol.

- Generally, government should support for community action takes the form of training programs and policies for subgroups at particular risk, such as adolescents. There is a great variety of governmental initiatives to prevent alcohol use and abuse during adolescence from school-to parents-based programs. Because early

adolescence is a time when alcohol use experimentation often begins to occur, middle high school age student are most often targeted in this prevention programs.

- As well as school-based program, there are programs to teach parents effective ways to monitor and communicate with their children about the use of alcohol. Mainly, the majority of these programs focus on giving information about the negative health, social and behavioural outcomes of drinking alcohol during adolescence. These approaches considered that people make decisions about alcohol use and abuse based on their knowledge of the adverse consequences involved the ability to say "no" in social.

- Further risk factor surveillance studies incorporating different data colleting methods should be done to give a more comprehensive findings.

- Therefore, the study recommended educational awareness with parents included so that the learners are aware and can adapt to health life patterns. The policy formulation by government and other sister organization was also recommended on preventing the accessibility of alcohol and drugs by learners.

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APPENDIX A: Letter of Information and Informed Consent

LETTER OF INFORMATION

Title of the Research Study : Survey of health- risk behaviours among learners in selected High Schools of Thembisile Hani Local Municipality, Mpumalanga.

Principal Investigator/s/ researcher : *Nonhlanhla P.L. Zwane, Post Graduate Diploma in HIV/AIDS Management*

Co-Investigator/s/supervisor/s : *Dr. N.S. Mashau*

: Dr V.K. Moselakgomo,

Introduction and Purpose of the Study: The global prevalence of chronic diseases attributed to health risk factors has increased dramatically over recent years, causing high morbidity and mortality among the young population. The purpose of the study is to determine the prevalence of healthy risk behavior among learners in selected high school s in Thembisile Hani Local Municipality in Mpumalanga Province.

Outline of the Procedures : The study will take place in school's premises after school; it will take approximately 45 minutes to complete the questionnaire

Risks or Discomforts to the Participant: There will be no *risks or discomforts for participants during the study.*

Benefits : *The participant may benefit when the research has been published, they will know their state of health and the researcher will benefit from the participant in order to finish the master's degree*

Reason/s why the Participant May Be Withdrawn from the Study: *There will be no adverse consequences for the participant should they choose to withdraw*

Remuneration : *The participant will not receive any monetary or other types of remuneration*

Costs of the Study : *The participant will not cover any costs towards the study*

Confidentiality : *Confidentiality will be maintained by keeping the research files in lockable and secure drawer and* personal details regarding sex and age will be anonymously

Research-related Injury : *In case of emergency, the supervisor or researcher maybe contacted*

Persons to Contact in the Event of Any Problems or Queries:

Please contact the researcher via email nplkalolo@gmail.com, my supervisor Dr. N.S. Mashau, 015 962 8892 or the University Research Ethics Committee Secretariat on 015 962 9058. Complaints can be reported to the Director: Research and Innovation, Prof GE Ekosse on 015 962 8313 or Georges Ivo.Ekosse@univen.ac.za

General:

During the study, the participation will be voluntary and with other 360 learners who are expected to participate.

© University of Venda

CONSENT

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, *Nonhlanhla Petunia Lucia Zwane*, about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: ,
- I have also received, read and understood the above written information *Participant Letter of Information* regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerized system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had enough opportunity to ask questions and of my own free will declare myself prepared to participate in the study.
- I understand that significant new findings developed during this research which may relate to my participation will be made available to me.

Full Name of Participant   Date   Time   Signature

I, ……………………   ……………   …………   ……………..

Nonhlanhla P.L. Zwane herewith confirm that the above participant has been fully

Informed about the nature, conduct and risks of the above study.

Full Name of Researcher

Nonhlanhla Petunia Lucia Zwane

Signature**…………………**   Date ……………

Full Name of Witness (If applicable)

……………………   Date **……………..**   Signature**…………………..**

Full Name of Legal Guardian (If applicable)

…………………   Date**………………**   Signature**…………………..**

APPENDIX B: Assent Form

University of Venda

Assent form for minors

Introduction

I am Nonhlanhla Petunia Lucia Zwane, a master's student at the University of Venda who is doing research on the topic "Survey of health risk behaviors among learners in selected high schools in Thembisile Hani Municipality, Mpumalanga".

What is RESEARCH?

Research is something we do to find new knowledge about the way things (and people) work. We use research projects or studies to help us find out more about a topic we research on. Research also helps us to find better ways of helping or treating children who are sick.

What is this research all about?

The purpose of the study is to determine the prevalence of healthy risk behavior among learners in selected high school s in Thembisile Hani Municipality in Mpumalanga Province

Why you have been invited to take part in this research project?

You were invited to participate in this study because you are a secondary school learner and have the right information that is needed in the study.

What will happen to you in this study?

You will fill a questionnaire which will be given to you only after when you have consented to participate in the study. The questionnaire will have statements regarding knowledge, attitude and practices on condom use, and then you will be required to put your view as by stating whether you agree or disagree with what the statements.

Can anything bad happen to you?

Nothing can bad can happen to you. There will be no risks or discomforts for participants during the study.

Can anything good happen to you?

The participant may benefit when the research has been published, they will know their state of health.

Will anyone know that you were participating in the study?

No one will know that you were in the study because you will not be required to put your name in questionnaire. Information in the research report will not be linked to your name and completed questionnaire will be kept in the safe where no other persons will have access than the researcher.

Who can you talk to about the study?

Should you have further questions about the study, you can contact me 0826131440 in order to answer your questions

What if you do not want to participate?

Participation is voluntary you can take part in the study even if your parents/legal guardian have agreed to that you take part in the study. You also allowed stopping being part of the study at any time without asked any question.

Do you understand this research study and are you willing to take part in it?

Yes		No	

Has the researcher answered all your questions?

Yes		No	

Do you understand that you can pull out of the study at any time?

Yes		No	

Signature of Minor…………………………………………………

Signature of Witness …………………………………………………

University of Venda

APPENDIX C: Permission Letter- Mpumalanga Provincial Office, Department of Basic Education

education
MPUMALANGA PROVINCE
REPUBLIC OF SOUTH AFRICA

Ikhamanga Building, Government Boulevard, Riverside Park, Mpumalanga Province
Private Bag X11341, Mbombela, 1200.
Tel: 013 766 5552/5115, Toll Free Line: 0800 203 116

Litiko le Temfundvo, Umnyango we Fundo   Departement van Onderwys   Ndzawulo ya Dyondzo

Ms. NPL Zwane
PO BOX 426
KANYAMAZANE
1214

RE: APPLICATION TO CONDUCT RESEARCH: NPL ZWANE

Your application to conduct research study was received and is therefore acknowledged. The title of your study reads thus: "**Survey of health-risk behaviours among learners in selected Secondary Schools of Thembisile Hani Local Municipality, Mpumalanga.**" The aims and the objectives of the study may benefit the department in particular the learners in our schools. Your request is approved subject to you observing the provisions of the departmental research policy which is available in the departmental website and available on request. You are also requested to adhere to your University's research ethics as spelt out in your research ethics document.

In terms of the research policy, data or any research activity can only be conducted after school hours as per appointment with affected participants. You are also requested to share your findings with the relevant sections of the department so that we may consider implementing your findings if that will be in the best interest of the department. To this effect, your final approved research report (both soft and hard copy) should be submitted to the department as soon as you complete your research project. You may be required to prepare a presentation and present at the department's annual research dialogue.

For more information kindly liaise with the department's research unit @ 013 766 5476 or a.baloyi@education.mpu.gov.za.

The department wishes you well in this important project and pledges to give you the necessary support you may need.

MR. J.R. NKOSI
ACTING HEAD: EDUCATION

27/09/2019
DATE

MPUMALANGA
THE PLACE OF THE RISING SUN

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APPENDIX D: UNIVERSITY OF VENDA ETHICAL CLEARANCE

NAME OF RESEARCHER/INVESTIGATOR:

Ms NPL Zwane

Student No:
18018940

PROJECT TITLE: **Survey of health-risk behaviours among learners in selected secondary schools of Thembisile Hani Municipality, Mpumalanga.**

PROJECT NO: **SHS/19/PH/18/2708**

SUPERVISORS/ CO-RESEARCHERS/ CO-INVESTIGATORS

NAME	INSTITUTION & DEPARTMENT	ROLE
Dr NS Mashau	University of Venda	Supervisor
Dr VK Moselakgomo	University of Venda	Co- Supervisor
Ms NPL Zwane	University of Venda	Investigator – Student

ISSUED BY:
UNIVERSITY OF VENDA, RESEARCH ETHICS COMMITTEE

Date Considered: August 2019
Decision by Ethical Clearance Committee Granted
Signature of Chairperson of the Committee: ....
Name of the Chairperson of the Committee: Senior Prof. G.E. Ekosse

UNIVERSITY OF VENDA
DIRECTOR
RESEARCH AND INNOVATION
2019 -08- 3 0

APPENDIX E: SMOKING, NUTRITION, ALCOHOL AND PHYSICAL ACTIVITY

(SNAP) QUESTIONNAIRE

Thank you for taking part in this survey. Please fill-in the questionnaire appropriate and carefully read each question and decide on the answer and tick the response that is mostly right.

Please answer all questions and be truthful.

SECTION A: DEMOGRAPHY

1.1.   Gender, Age, Grade and Anthropometric Measurements

1.1.1. What is your gender?

Female	2	Male	1

1.1.2. How old are you?

Age		Year		Month		Day	

1.1.3. Which grade are you?

Grade 10	
Grade 11	
Grade 12	

1.1.4. What is your Height, weight and BMI?

Weight		Height		BMI	

1.2.   Socioeconomic Status

1.2.1	Any member of the family who is working?	Yes	No	Don't Know
1.2.2	Do you have both parents?	Yes	No	Don't Know
1.2.3	Do you stay with both parents?	Yes	No	Don't Know

1.2.4	Any family member who is getting grant including yourself?	Yes	No	Don't Know
1.2.5	Any family member who is getting food parcel?	Yes	No	Don't Know

SECTION B: HEALTH-RISK BEHAVIOR LIFESTYLES

2.1. SMOKING/ TOBACCO USE

2.1.1. I have tobacco users or smokers in my family.

Strongly Agree	Agree	Unsure	Strongly Disagree	Disagree

2.1.2. I have tried cigarette smoking one or more puffs.

Strongly Agree	Agree	Unsure	Strongly Disagree	Disagree

2.1.3. My school mate or friends smoke cigarette or drugs

Strongly Agree	Agree	Unsure	Strongly Disagree	Disagree

2.1.4. Are substances easy to get in your community/village?

Yes	No	Don't Know

2.1.5. Do you know that smoking cigarette / drugs is dangerous to health?

Yes	No	Don't Know

2.1.6. Have you ever tried smoking any drugs e.g. marijuana, dagga, cocaine, glue.

Yes	No	Don't Know

2.1.7. Have you ever smoked on school premises?

Yes	No	Don't Know

2.1.8. There is someone who is selling cigarette or drugs in school premises

Strongly Agree	Agree	Unsure	Strongly Disagree	Disagree

2.1.9. Smoking can cause lung diseases, Asthma, Cancer.

Strongly Agree	Agree	Unsure	Strongly Disagree	Disagree

2.1.10. During this school year, I was taught in my classes about the dangers of tobacco use.

Strongly Agree	Agree	Unsure	Strongly Disagree	Disagree

2.1.11. Smoking releases stress

Strongly Agree	Agree	Unsure	Strongly Disagree	Disagree

2.2. NUTRITION

	Yes	No	Don't Know
2.2.1. Do you bring your own food to school?	Yes	No	Don't Know
2.2.2. Does your school provide any food from the school nutrition programme?	Yes	No	Don't Know
2.2.3. Do you buy food from school tuck-shop or street vendors?	Yes	No	Don't Know
2.2.4. Do you eat breakfast daily?	Yes	No	Don't Know
2.2.5. Do you buy fried chips or fat cakes less than twice a week?	Yes	No	Don't Know
2.2.6. I buy fried chips or fat cakes more than twice a week	Yes	No	Don't Know
2.2.7. I buy fried fish/ vienna's less than once twice a week	Yes	No	Don't Know
2.2.8. I buy fried fish /vienna's more than twice a week	Yes	No	Don't Know
2.2.9. I eat any 2 types of fruits daily	Yes	No	Don't Know
2.2.10. I eat any 2 vegetables daily with my food	Yes	No	Don't Know
2.2.11. I eat meat daily	Yes	No	Don't Know
2.2.12. I drink two liters of water daily	Yes	No	Don't Know
2.2.13. I drink acidic/ soda drinks less than twice a week	Yes	No	Don't Know
2.2.14. Do you drink acidic / soda drinks more than twice a week?	Yes	No	Don't Know
2.2.15. Do you know that unhealthy eating can cause diseases?	Yes	No	Don't Know
2.2.16. Do you love your body weight?	Yes	No	Don't Know

2.2.17. Have you ever tried losing weight?	Yes	No	Don't Know
2.2.18. Have you ever tried gaining weight?	Yes	No	Don't Know
2.2.19. I eat fast foods or take away more frequently	Yes	No	Don't Know
2.2.20. I am a vegetarian	Yes	No	Don't Know
2.2.21. Have you ever heard of Food Based Dietary Guidelines	Yes	No	Don't Know

2.3. ALCOHOL CONSUMPTION

2.3.1. Is there anybody in your family who consumes alcohol?	Yes	No	Don't Know
2.3.2. Have you ever drank alcohol in your life?	Yes	No	Don't Know
2.3.3. Do you have friends or school mate who drinks alcohol?	Yes	No	Don't Know
2.3.4. Have you ever drank alcohol before 14 years of age?	Yes	No	Don't Know
2.3.5. Had at least one drink of alcohol during the past 30 days?	Yes	No	Don't Know
2.3.6. Do you know that alcohol abuse can cause sicknesses?	Yes	No	Don't Know
2.3.7. Do you drink on special occasions only	Yes	No	Don't Know
2.3.8. Have you ever been inside the bottle store or tavern?	Yes	No	Don't Know
2.3.9. Have you ever been in trouble at school or home because of alcohol abuse?	Yes	No	Don't Know
2.3.10. During this school year, were you taught in any of your classes about the dangers of excessive alcohol consumption?	Yes	No	Don't Know

2.4. PHYSICAL ACTIVITY

2.4.1. Do you take part in any school physical training or activities such as playing soccer, netball, running?	Yes	No	Don't Know
2.4.2. Does your school have school grounds that are in good condition?	Yes	No	Don't Know
2.4.3. Do you practice sport less than once a week at least for 30 minutes or more?	Yes	No	Don't Know
2.4.4. Do you practice sport three times or more a week?	Yes	No	Don't Know
2.4.5. Do you watch TV or play video games more than 5 hours daily?	Yes	No	Don't Know
2.4.6. Exercising is a waste of time and energy	Yes	No	Don't Know
2.4.7. Do you walk from home to school, at least 30 minutes or more daily?	Yes	No	Don't Know
2.4.8. Do you sleep immediately after eating when at home?	Yes	No	Don't Know
2.4.9. There are healthy benefits in exercising	Yes	No	Don't know