

**RISKY SEXUAL BEHAVIOUR AMONG MASINDE MULIRO UNIVERSITY
OF SCIENCE AND TECHNOLOGY UNDERGRADUATE STUDENTS
IN KAKAMEGA COUNTY, KENYA**

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REG. NO: Q139/CE/22560/ 2012**


**A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF
MASTER OF PUBLIC HEALTH IN REPRODUCTIVE
HEALTH IN THE SCHOOL OF PUBLIC
HEALTH AND APPLIED SCIENCES,
KENYATTA UNIVERSITY**

JUNE, 2022

DECLARATION

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DEDICATION

To my children Linda, Elizabeth and Daniel; my late parents and spouse for your care, support, love, and encouragement.

ACKNOWLEDGEMENT

I would like to thank God Almighty for His ever abundant grace and for according me good health throughout the duration of my studies. Special gratitude to my supervisors Dr. Joan Kabaria Muriithi and Dr. Priscilla Kabue from Kenyatta University for their guidance and constructive criticism.

I would like to acknowledge the Masinde Muliro University of Science and Technology (MMUST) fraternity who granted me permission to carry out the study. Special thanks go to students of MMUST who found it worthy to share with me their time, knowledge, experience and friendship. Thank you Prof. John Okoth for introduction to the MMUST layout. Sam and Nancy assisted in data collection. Finally, Dositus and Bill for handling the data professionally. Mr. Bojana Antony deserves heartfelt gratitude for editing the final lexical setup of the thesis. The list is endless but I sincerely thank all I worked with.

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ABBREVIATIONS AND ACRONYMS

ADL	- Anti-Defamation League
AIDS	- Acquired Immune Deficiency Syndrome
ARV	- Anti Retroviral Therapy
AYSRH	- Adolescent/Youth Sexual and Reproductive Health
CDC	- Centre for Disease Control
FGC/M	- Female genital cut/mutilation
HIV	- Human Immune Deficiency Virus
HPV	- Human Papillomavirus
ICPD	- International Conference for Population and Development
KDHS	- Kenya Demographic and Health Survey
KNBS	- Kenya National Bureau of Statistics
LGB	- Lesbian Gay Bisexual
MDGs	- Millennium Development Goals
MMUST	- Masinde Muliro University of Science and Technology
MoMS	- Ministry of Medical Services
MoPHS	- Ministry of Public Health and Sanitation
RSB	- Risky Sexual Behaviours
SDG	- Sustainable Development Goals
SPSS	- Statistical Package for Social Sciences
SRH	- Sexual Reproductive Health
STD	- Sexually Transmitted Diseases
STI	- Sexually Transmitted Infections
WHO	- World Health Organization

OPERATIONAL DEFINITIONS

Oral-Anal Sex- Penetration of an individual's penis into the mouth or anal canal of the other which includes insertion of finger, varied objects, or leaking genitals for sexual satisfaction.

Attitude- Perception an individual has towards another person's sexual behaviour.

Consequences- Regrettable outcomes or challenges of risky sexual behaviour as pregnancy, STD, HIV and AIDS and depression.

Determinants – Factors that influence an individual to make decisions on their sexual practices to include socio-demographic, external environmental factors.

External Environmental Factors- These are issues that may make an individual decide into making regrettable actions due to euphoria to include university environment, pornography, peer pressure, media.

Heterosexual- A person with significant romance, physical, sexual in addition to emotional attraction mainly to individuals of different sexual orientation.

Homosexual- A man or woman with significant physical, romance, sexual as well as emotional attraction to individuals of same sex termed as being a lesbian or gay person.

Prevalence - The proportion of MMUST students who engage in risky sexual behavior in last 3 months.

Risky Sexual Behaviours- Sexual practices that the students are involved in as penile-vaginal, oral or anal sexual intercourse in the absence of consistent condom use, sex under the influence of alcohol and substance abuse, multiple sexual partners leading to STD/HIV and unplanned pregnancy.

Sexual Orientation- An individual's sexual identification in terms of gender within which they are romantically and/ or physically attracted so being homosexual, heterosexual, or bisexual.

Sexual Practices -This describes the manner at which students express their sexual desires including penile -vaginal, masturbation, oral and anal sex among others.

Students- Undergraduate students of Masinde Muliro University of Science and Technology (MMUST) who agree to participate in the study.

ABSTRACT

Healthy sexual reproductive behaviour is a key driver for healthy sexual lifestyle not only for youths but for all human populations. Absence of healthy sexual reproductive behaviour contributes to high cases of mortality and morbidity due to unintended pregnancy leading to unsafe abortion, which result in chronic ill health and psychological stress. Risky Sexual Behaviour (RSB) related to different forms of sexual orientations as heterosexuality, homosexuality, and bisexuality among undergraduate students exposes them to serious consequences. They may have severe HIV and AIDS and Sexually Transmitted Infections (STIs). The research objectives were; to establish the prevalence of risky sexual behaviour, to assess the health seeking behaviour arising from exposure to risky sexual behaviour, to identify the external environmental factors that influence sexual behaviours and to explore the relationship between sociodemographic characteristics and risky sexual behaviour among undergraduate students attending MMUST in Kakamega County. A quantitative cross sectional survey was done between October and December 2018 using self-administered structured questionnaires. The population of study was undergraduate learners from Masinde Muliro university of Science and Technology. Sample of 386 participants was chosen from the population through stratified random sampling technique. Validity of the data collection tools was ascertained using expert opinion while test-retest technique applying Cronbach's Alpha Coefficient of reliability was computed. Data was analyzed through descriptive and inferential statistics with the help of the Statistical Package for the Social Sciences (SPSS) version 28 for windows. Descriptive statistics involved the use of mean, mode, standard deviation, frequency, and percentage. Pearson's correlation and ANOVA were utilized to show the relationship between the independent variable (sociodemographic characteristics) and the dependent variable (Risky Sexual Behaviour (RSB)). According to results of the study, 40.9% of students had penile-vaginal or unprotected penile-vaginal sex during the three months prior to the research. The results also showed a significant association between sociodemographic features and risky sexual behavior among MMUST learners. Considering the research results, it was concluded that risky sexual behavior is widespread among MMUST undergraduate risky. This study also had a conclusion that sociodemographic characteristics played a significant role on the risky sexual behavior of MMUST undergraduates. After the study, the government was recommended to work with universities to develop policies to strengthen current information education and communication. This raises young people's awareness of the consequences of dangerous sexual behavior and encourages behavioral changes in university students.

CHAPTER ONE

INTRODUCTION

1.1 Background Information

Sexual behaviour is a psychophysiological phenomenon controlled by the central and peripheral nervous systems. Sexual behaviour decisions can be influenced by sexuality, psychological development, and psychological attitudes towards partners (Ochieng, 2018). Individuals with good child parental relationships, sporting activities and high regard for academics performances usually make healthy sexual choices (Ochieng, 2018). Sexual orientation is how an individual identifies sexually depending on gender by which they are attracted to each other in romance, physical and/or emotion hence being homosexual, bisexual or heterosexual (Anti-Defamation League (ADL), 2015). Sexual orientation is concept not easy to define. As stated by Anjani *et al* (2019), the characteristics of sexual orientation include close physical activities like fondling, kissing as well as intercourse. Risky Sexual Behaviours (RSBs) includes early sexual debut, failure to use contraception, multiple sexual partners, engaging in coitus after alcoholic intoxication and abuse of drugs to include cocaine, marijuana, forced coitus, sexual abuse even unprotected permeable genital contact (Ochieng, 2018).

Most learners undertaking undergraduate studies fall in the age group of 18 to 25 years. They are in transition of being independent adults of age range 15-24 years from the dependent childhood referred to as young individuals or youths. The undergraduate students being away from parents to guide and supervise, the university environment expose them to freedom that is unfamiliar. As a result they often adventure on matters related to irresistible sexual activities and alcoholic drinks and/or substance use (Hassan, 2017). In as much a number of undergraduate students may be disadvantaged because of insufficient knowledge on changes that occur as they transit to adulthood. Due to peer pressure and social media coupled with ignorance, some of the students may indulge in sexual experimentations and different forms of sexual orientation as heterosexuals and homosexuals (Onyiego, 2018). In Kenya, studies reveals that high incidences of HIV and AIDS transmission including unintended adolescent pregnancies in the absence of protected sex among young

people is due to limited knowledge and negotiation skills for safe sex (Kenya National Bureau of Statistics (KNBS), 2019; Juma *et al.*, 2016, 2015; Mulugeta & Berhane, 2017).

Heterosexual orientation among young people exposes the danger of unwanted pregnancy leading to increased maternal morbidity and mortality because of pregnancy and/or childbirth related outcomes (Ministry of Health (MoH), 2014). Those who indulge into unprotected sex early are at risk of being a mother and a father when they are not capable to handle parental responsibility. For them to avoid unplanned births, the young people are likely to advance into oral and anal sexual practices (Anjani *et al.*, 2019). Another study by Hassan (2017) at the University of Nairobi, stated regretted outcomes of unsafe sex outcomes but did not elaborate much on this point. Therefore, young undergraduate students are highly at risk of being affected due STIs/HIV and AIDS and other Sexually Transmitted Diseases (STDS) and bacterial to include protozoa (Government of Kenya (GoK), 2013; GoK, 2014). Individuals that indulge in unprotected oral and anal sex; are also at risk of being infected leading into liver cancer and alimentary canal (Giebel, 2018; McBride *et al.*, 2010). In Kenya Men that perform sex with fellow Men stand higher chances of getting HIV and AIDs at 18 times as compared to those who indulge in vaginal sex (Giebel, 2018). Because of this young people who perform unsafe oral and anal sex with several sexual partners, are likely to transmit HIV and AIDS 18 times more than those who practice unprotected sex through the vagina (GoK, 2014; GoK, 2013).

1.2 Problem Statement

Risky sexual behaviour to include unsafe oral, vaginal and anal sex are connected to consequences such as transmission of STI/HIV, unplanned pregnancy, unsafe abortions, and depression amongst the young people. This is an issue of public health concern given that such negative outcomes of risky sexual behaviour result in suffering, mortality and morbidity among young people (MoH, 2014). Studies conducted in Kenya has emphasized on sexual behavior amongst the adolescents in high school but very little has so far been documented on risky sexual behaviour among learners in tertiary institutions. Categorizing sexual orientations like homosexuality being socially and culturally unacceptable and according to Kenya

penal code being a criminal act under section 162, 163 and 165 may be contribute to the limitation of data.

Despite studies in Kenya showing that undergraduate students are among the high-risk groups of sexual behavior; the interventions to improve health status of the learners in university campuses is still low. According to Othero (2009), respondents who were actively involved in sex were 68.5%; out of the number 54.8% had sexual debut during first year while in campus of which there was gradual increase to 71.2% when in second year. Ondieki (2017) had identified some gap in policy on issues concerning sexual behaviour in Kenyan campuses. Masinde Muliro University of Science and Technology (MMUST) located in Kakamega County, Western region of Kenya is counted as one of the major public universities comprised of undergraduates from different sociocultural backgrounds. Previous studies have suggested that there is rampancy in risky sexual behaviour among students at Masinde Muliro University of Science and Technology, as is the case in other Public Universities in Kenya (Okanga *et al.*, 2018). Minimal studies have been documented on RSB from MMUST except study on Family Planning update (Okanga & Kipmerewo, 2018). There has been increasing number of Demographic Health Surveys which depict a major cause of mortality to be HIV and AIDS amongst Kenyan youths (KNBS *et al.*, 2019; Juma *et al.*, 2015, 2014). It is against this backdrop that this study sought to assess the determinants of risky sexual behaviour among the students attending MMUST in Kakamega County, Kenya.

1.3 Justification

Undergraduates' being youths adventures a lot in various spheres of human endeavors to include sexual behaviour and various forms of romance (Ochieng', 2018; Wangare, 2013) and sexual behaviours like homosexuality (Hassan, 2017; Doyle *et al.*, 2011). In view of this, new HIV infection would escalate during this period some may be involved with several unstable sexual partners and probably practice casual and unprotected sex (MoH, 2014). Undergraduate students get access to safe and efficient Sexual Reproductive Health (SRH) services include information, education and communication on health challenges due to Risky Sexual Behaviour (RSB) with no bias due to alleged unacceptable sexual behaviour and/or orientation. National study

carried out by Mwangi *et al.* (2019) investigated factors associated with dangerous sex among adolescents, it was found that 2,090 unmarried adolescents aged 15-19 years who participated in the study, 33.3% have ever experienced sex. Among them; 66.0% reported having sex (sexually active) in the past year, of which 38.7% had unsafe sex. No gender differences were observed in unprotected sex participants. Out of this, 52% were university/college students from Western Kenya where MMUST is located. The study therefore, aimed at gaining an in-depth understanding on extent of RSB among the MMUST students, which is one of the public universities in Western Region of Kenya which lack in depth study, analysis and documentation in Kenya for reference.

1.4 Research Questions

- i. What is the prevalence of risky sexual behaviour among undergraduate students attending MMUST in Kakamega County?
- ii. What is the health seeking behaviour due consequences related to risky sexual behaviour among the undergraduate students attending MMUST in Kakamega County?
- iii. What are the external environmental factors that influence sexual behaviours among undergraduate students attending MMUST in Kakamega County?
- iv. What is the relationship between sociodemographic characteristics and risky sexual behaviour among undergraduate students attending MMUST in Kakamega County?

1.5 Objectives

1.5.1 Broad Objective

To assess risky sexual behaviour among undergraduate students in MMUST of Kakamega County.

1.5.2 Specific Objectives

- i. To establish the prevalence of risky sexual behaviour among undergraduate students attending MMUST in Kakamega County.
- ii. To assess the health seeking behavior due to consequences arising from exposure to risky sexual behaviour among the undergraduate students attending MMUST in Kakamega County.

- iii. To identify the external environmental factors that influence sexual behaviours among undergraduate students attending MMUST in Kakamega County.
- iv. To investigate the relationship between sociodemographic characteristics and risky sexual behaviour among undergraduate students attending MMUST in Kakamega County.

1.6 Significance and Anticipated Output

Quite a number of studies in Kenya have focused homosexuality and heterosexuality practices amongst teenagers based on increasing HIV and AIDS infections and pregnancies among young people in Nyanza as well as cultural and social factors that influence the sexual behaviours (Juma *et al.*, 2014, 2015; Doyle *et al.*, 2012). At any rate, studies on occurrence of RSB associated with sexual behaviour amongst first degree students has been scarce (Dongen, 2014; Giebel, 2018). The goal of the survey was to give some added knowledge on RSB performed by the undergraduate students and enable improvement on SRH challenges. It is therefore envisaged that the survey shall fill the gaps in RSB amongst undergraduates in MMUST of Kakamega County, Kenya. The survey seeks to provide evidence-based knowledge to promote Sexual and Reproductive Health policy development, plans done strategically and implementation carried out by education and health ministry's hoping the improvement sexual and reproductive health status for youthful people. Finally, more studies will be stimulated on issues associated with sexual and reproductive health information, education and counseling for areas on responsible sexual behavior, preconception care, human sexuality which are geared towards the achievement of sustainable development goals including the four big agendas.

1.7 Limitations and Delimitation

Researcher relied more on participant-report on their sexual behaviour, which may have invited biasness resulting in underestimated the pervasiveness of RSB in connection to sexual behaviour amongst undergraduate scholars who are commonly youthful people. Because of being shy or shameful, the survey runs the risk of not eliciting honest response from the participants. To overcome that, participants were guaranteed of privacy and anonymity of the data they provided.

1.8 Conceptual Framework

The dependent variable was risky sexual behaviour which includes sexual activities such as those who engaged in or did not engage in unprotected vaginal, oral or anal sexual intercourse with multiple sexual partners. The individuals expose themselves to serious health consequences as unintended pregnancy, unsafe abortion, post abortion sepsis, secondary infertility and transmission of STDs and HIV and AIDS. The decline to screening services is dangerous because those infected will continue transmitting the infection assuming they are healthy as well as damage to the reproductive organs due to infection being untreated in time.

The intervening variable were Societal Norms which promote values on sexual relationships, Government Policy on provision of Youth Friendly Services and University regulations that deter RSB among the University students. In the absence of the intervening variables, these individuals can engage in any form of unsafe sexual act as unsafe or inconsistent condom use as penile to vaginal/oral/anal or even objects to genitals as well as masturbation.

The independent variables of the study were categorized into socio-demographic status which revealed characteristics of students' age, sex, year of study, family type, marital status, year of study and residence while in the university. The external environmental factors that influence risky sexual behaviour. Finally, the health seeking behaviour resulting from consequences of RSB were operationalized by unintended pregnancy, unsafe abortion, screening and treatment for STDs and HIV/AIDS.

Independent Variables

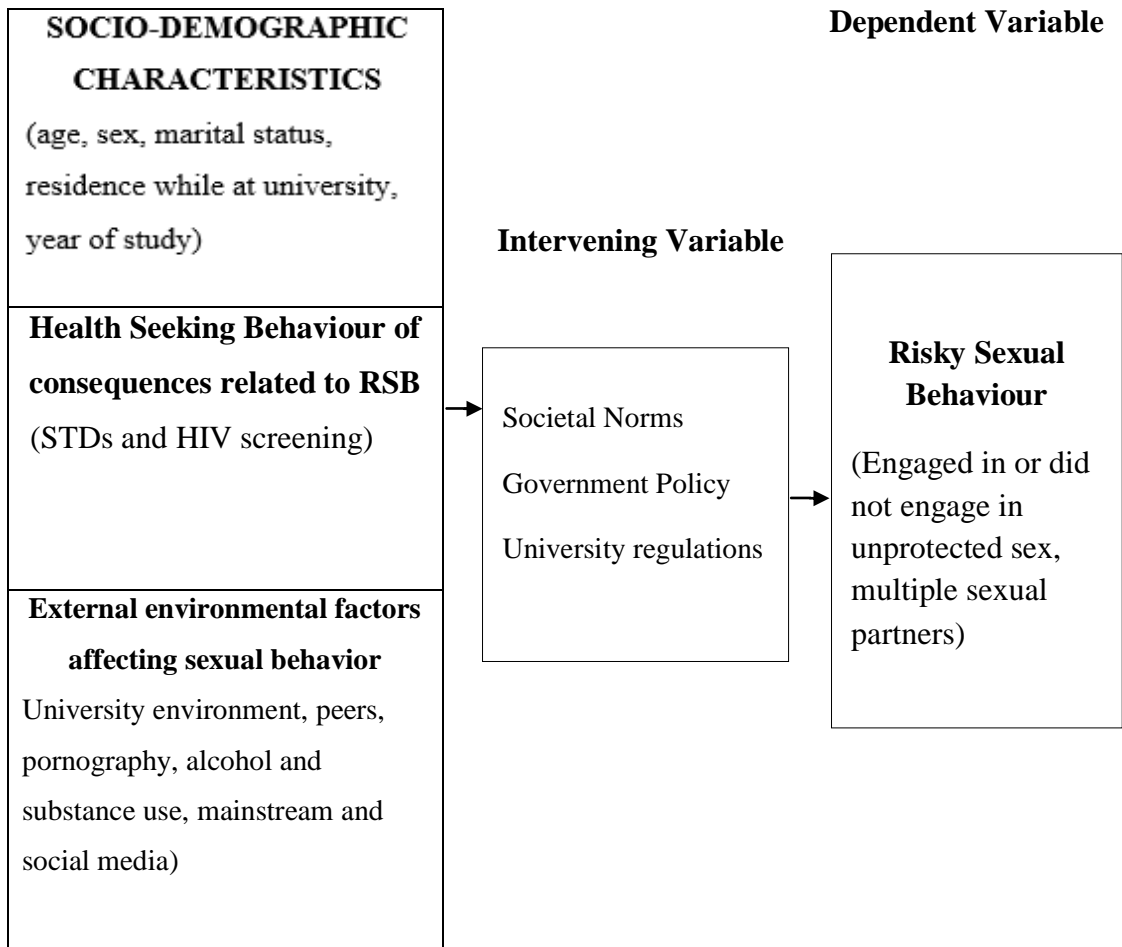


Figure 1.1: A conceptual framework

Source: Self Conceptualized, 2018

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The issue of sexuality and reproductive health has been a great concern globally for Sustainable Development Goals (SDGs) since it has impact on the reduction of the rates of maternal mortality and morbidity, HIV/AIDS elimination as well as other sexual and reproductive health issues affecting young people (Sach, 2020). Risky sexual behaviour (RSB) that are linked to sexual orientation exposes individuals to Sexually transmitted diseases (STDs) which usually have extreme reproductive system complications if medical attention is not sought at the right time. These complications of reproductive system include blockage of the fallopian tubes and chronic pelvic inflammatory disease (PID) for females, this leads to infertility. Furthermore, young girls engaging in sexual intercourse without protection face the risk of extended fertility rate, this is as a result of high chances of unintended pregnancies that lead to high rates of maternal mortality and morbidity (MoH, 2013). Wangare (2013), provides recommendations on the reinforcement of health education programmes in schools with a goal of addressing the issues of sexuality, imparting assertive skills on young people and enlightening them on how to resist peer pressure that leads to irresponsible sexual behaviour.

Young adults comprising of undergraduate students makeup a greater proportion of the country's total population, this is estimated to be 32% of the entire population of the country (MoH, 2013). In Kakamega's first statistical document, the 2013-2014 projection showed that the number of young people between the ages of 18 and 24 were 237, 231 in 2015 (KNBS/GoK, 2015). Inadequate knowledge on RSB as well as unavailability of Youth Friendly SRH services, low socio-economic status, traditional and cultural beliefs, and inefficient service delivery system has compounded the risks faced by young people in Kenya when it comes to sexual and reproductive health (KNBS, 2013). These young people in age range of 18 to 24 years are still faced with various concerns as they are still in transitory phase from being a child to an adult worsened by unfamiliar freedom of since they are not in home environment. The

psychological, physical and social changes expose them to risk of STI and unwanted pregnancy (Hirbo *et al.*, 2017).

As young people develop, the androgenic hormones influence growth of reproductive system. The hormonal influence on boys results to the onset of spermache and girls menarche. However, their psychological as well as emotional state at times tend to be influenced by the environment that they are in more so by their peers who are sexually active. The young people whose behaviour are monitored and censored by parents or guardians in well-established family set ups tend to develop responsible sexual behaviour (Aluzimbi *et al.*, 2012). For social development the young people have attraction to the opposite sex of whereby they can be manipulated easily as their brains are still not fully mature to make candid decisions relating to sexuality.

Full maturity of individuals' brains usually occurs at the age of 25 years, at this age an individual has the capability of dealing with challenges he or she encounters and can make very informed choices as well as decisions (Wangare, 2013). Because of this, decisions that are made when an individual is below the age of 25 years on matters relating to sexual orientation and behaviors could result in regrets. Additionally, information relating to sexuality is not from parents and school but usually sourced from peers and the media hence there are high chances of experimentation by young people due to high levels of peer pressure (Mulugeta *et al.*, 2017). The young people are therefore susceptible to engage in queer sexual orientation and RSB due to uncontrolled emotions especially when they are under the influence of drugs and alcohol as well as other substances that impair accurate judgment (Hassan, 2017; KNBS, 2014).

2.2 Risky Sexual Behaviour (RSB)

Specific Risky Sexual Behaviours (RSBs) includes unsafe oral, anal or vaginal cavity penetration utilizing penis, fingers or foreign object (Webb *et al.*, 2015). These also includes any such sexual activities which may result to physical or mental torcher to self or any other person who could contract any form of STIs as syphilis, Chlamydia, gonorrhoea and HIV/AIDS and unintended pregnancy. Psychologically trauma occurs almost immediately and other long-term outcomes are also experienced by different

individuals. Health indicators of RSB include sexual contact with strangers, multiple sexual partners, and the use of inappropriate contraceptives (Aluzimbi *et al.*, 2012).

According to a survey of Ethiopian college students, 12.4% and 26.7% of female and male college students engaged in oral sexual activity, while 9.6% and 13.3% engaged in anal sexual intercourse, respectively. According to Anwar (2013), a survey of students at Addis Ababa Health College, students who practiced RSB found that: risky sex with multiple partners is under the influence of drugs such as alcohol, or other substances that impair judgment. Another study done among Malawi teenagers also revealed that students who practiced RSB such as multiple sexual partners and unprotected sex were under influence of drugs such as alcohol, or substances that impair their judgment (Machira *et al.*, 2020). Similarly, a study by Maylandu-Mudzusi, (2016) identified that respondents had multiple sexual partners whereby 37.50% females and 34.4% males did not use condoms.

Heterosexual orientation among young people exposes them to risk of unwanted pregnancy resulting in increase in rates of maternal morbidity and mortality due to pregnancy and childbirth related outcomes (Ikamari *et al.*, 2013, MoH, 2014). Straight sex or heterosexuality is sexual intercourse when the erect male penis penetrates the female internal genital organs through the vagina (Waugh *et al.*, 2014). Former Nyanza, found in Western Region of Kenya, 20.9% for men and 26.5% for women practice heterosexual orientation before the age

2.3 Health Consequences Related to Risky Sexual Behaviors

The consequences related to RSB are varied to include psychological and physical following unintended sexual intercourse which may result in STDs, unsafe abortion due to unwanted pregnancy, as well as depression, and feelings of committing suicide following traumatic stressful events amongst others (Kalina, 2012; Ochieng, 2012). Survey carried out amongst university learners showed that respondents who had multiple sexual partners were 30%, those who did not use condom consistently were 27.4 % and those diagnosed with STI were 9.7% out of which those diagnosed with HIV infection were 3.04 % (Othieno *et al.*, 2016).

Heterosexual and homosexual people who practiced unsafe oral and anal sex were at a high risk of being infected with STDs like protozoa, Hepatitis B&C and bacterial infection leading into cancer of liver and alimentary tract (Dongen, 2014). According to Anjani *et al.*, (2019), teenagers between 15-19 years who indulged in oral sex with a partner of the opposite sex were infected with Chlamydia and Gonorrhoea at 9% for men and 7% for women respectively

The probability of being infected with HIV is 18 times higher in those who indulge in unprotected anal than unsafe sex through the vagina (Geibel, 2010). Semen coming through urethral meatus get mixed with blood oozing from ruptured blood vessels lining anal mucosa which makes the individual vulnerable to HIV infection. In Nyanza, 6% of new HIV infection are by those men who practice unsafe sex with fellow men (GoK, 2009). Heterosexuals and homosexuals who engage in oral and anal sex; are often associated with drug abuse and alcoholic drinks.

These people are exposed to various parasitological and bacterial STDs and AIDS which co-exist with Human Papilloma Virus and HIV leading to anal cancer (McBride *et al.*, 2010). However, Hepatitis B and C infection causes inflammation of the liver poor prognosis due to long-term liver cirrhosis, failure, cancer, and untimely death (McBride *et al.*, 2010). Inflammation of the gastric tract can lead to cancer of anus. Other cancers are of the lips, Hodgkin's and testicular (McBride *et al.*, 2010). Those youths who are under influence of drugs experience limited decision making skills on utilization of reproductive health services such as contraceptive use especially condom and curative services is low (GoK, 2013; Magu, 2012). In Kakamega, a report revealed that there were 1,311 new cases in HIV and AIDS as the fourth top ten killer diseases at 6.9% (KNBS/GoK, 2015).

In view of the above, creating awareness through timely health promotion against risky behaviour like early exposure to sex, substance abuse and smoking can be minimized with improved knowledge. The former Province of Nyanza in Kenya ranked second to Nairobi for good knowledge on how to prevent AIDs at 64% for men and 57% for women (MoH, 2014). Furthermore, incidence for unplanned pregnancy could have led to 2,877 abortions in 2014 from the 13 sub-counties of

Kakamega (KNBS/GoK, 2015). The MMUST female students are not exceptional since they can get inopportune pregnancy because they do not use contraceptive methods due to inadequate information (Okanga *et al.*, 2018).

2.4 External Environmental Factors Influencing Risky Sexual Behaviours

Factors relating to sexual behaviour as well as orientation cannot be segregated since they are interlinked. In general majority of the individuals recognize heterosexual attraction whereas there are those who identify with bisexuals, homosexual, transgender and asexual (Tannenbaum, 2006). Therefore, this implies that anybody can any type of activity sexually this can be dangerous to the individual or another person.

2.4.1 Cultural Factors

Various practices in the belief of culture and traditions that is related to sexual intercourse have more consequences instead of benefits. Internationally, some activities pegged as culture to include being circumcised expose young people to premature sex due to the feeling of being initiated into adulthood. For instance, in the Maasai community of Kenya, teenage boys who are circumcised as well as girls whose genitals are cut/mutilated (FGC/M) are assumed to be mature culturally of which they can be married. Worse still is to the girl child, following circumcision are given out in marriage to mature men who consummates marriage on the sore damaged vulva before healing (Akaranga *et al.*, 2013). On the other hand, following the female genital mutilation, since the vulva is wounded and probably scarred, they can easily be forced into anal sexual intercourse because vaginal orifice is very near the anus. This may occur when opening to the introitus is small compounded with scars and dyspareunia (Waugh *et al.*, 2014).

The Luo and Luhya community found in Western Kenya on the other hand are not excepted because they practice burial rights mostly at night predisposing the girls premature marriages (Juma *et al.*, 2014). These young people with inadequate knowledge and life skills indulge in unsafe sexual intercourse with multiple sexual partners. Young people may further be introduced into homosexuality, and bisexuality.

2.4.2 Socio-Economic Status

People who are socially and economically stable usually have positive self-esteem, they set goals in life and have good knowledge on health matters to include prevention of HIV as well as its transmission; excellent performance in academics; Contraceptive use; and self-efficacy and confidence (GoK, 2013, Aluzimbi *et al.*, 2012). The incidence of poverty in Kakamega County the location for MMUST is 49.2%, this contributes to National poverty of 4.8% with poverty severity of index of 4.0% (KNBS/GoK, 2015). As a result of high rates of unemployment and poverty, the youths engage in deviant behaviour such as substance abuse and drug use (NCPD/GoK, 2013). On the other hand, the youth who are less advantaged socially and economically engaged in various types of sexual behaviour to cater for their social together with basic need (Adeoye *et al.*, 2012; Aluzimbi *et al.*, 2012). Therefore, in the lack of support from guardians/parents as a result of being poor, the undergraduates may be led into dubious activities for their livelihood to include risky sexual behaviors.

2.4.3 Media

The media plays a major role as a foundation of data to young people, mostly; the youth are exposed to social media and mainstream media (television, newspapers and radio). The media sometimes have some visual images which are erotic, pornographic shows and music which affect attitude, patterns in behaviour, and culture (Mulugeta *et al.*, 2014; GoK, 2013). MMUST is located within the business area hence a cosmopolitan town so electronic devices are accessed with ease (Williamson *et al.*, 2015). Because of poverty, media, pressure from peers and drug use and substance abuse, many undergraduates from upcountry in search for education may easily be lured to engage in risky sexual behavior.

2.4.4 Peer Pressure

Peers have an impact on the characters of persons as they copy behaviour from one another. Experimentation with each other may form long lasting behaviour (Adeoye *et al.*, 2012). As stated by Aluzimbi *et al.*, (2012), extroverts who have outgoing personality traits tend to have multiple sexual partners, engage in sex more often, behave promiscuously and engage unprotected sexual intercourse.

2.4.5 Sexual Behavior Related to Drug and Substance Abuse

There has been a rise in forced sex amongst youth by raping or coercing partner resulting to unintended pregnancy and spread of STIs. This rise can be attributed to alcoholic drinks and drug/substance use that impair judgment as the offenders use force for sexual intercourse to the other person who is not willing to participate (MoMPS & MoMS 2012/13; WHO, 2011, Tibbits *et al.*, 2011). A survey conducted amongst learners at the University of Nairobi established that university environment being unfamiliar exposed scholars to freedom predisposing them to consume alcoholic drinks irresponsibly as well as sexual behaviour (Hassan, 2013).

When under the effect of alcohol, students tend to involve in various forms of sexual acts since they tend to have inaccurate reasoning abilities, and as a result engage in sexual activities without taking precautions hence exposing themselves to STDs and HIV/AIDS. A study conducted in one of the colleges in Kenya established that alcohol and substance/drugs are catalysts to violence and unplanned sexual intercourse among the youth (Magu *et al.*, 2012). The driving forces of sexual behavior include pressure from peers, housing type, age of student, religion, academic performance, drug abuse, pornographic videos being watched, type of family house, and education of the parents (Mulugeta *et al.*, 2014; Wangare, 2013).

In Kakamega (2013/2014), people charged with offences against morality were 158 of which 152 were defilements by males. There were 62 males and 49 females in possession of dangerous drugs. Those who were in possession of alcoholic drinks and narcotics were 12 (KNBS /GoK 2015).

2.5 Summary of Literature Review and Study Gaps

In line with the reviewed literature, Sexual and reproductive health is a major area of healthy individuals in a community as well as globally. Being a sensitive area of study, individuals need to learn more about safe sex especially the youths who still have a long life to live. Writers need to perform more varied categories of studies on risky sexual behaviour among undergraduate students which still has very scanty information.

CHAPTER THREE

MATERIALS AND METHODS

3.1 Introduction

This section outlines research design, study population, study area, sampling size and sample technique. The chapter also presents instruments used to collect data, pretest of the instruments, reliability, and validity of research instruments, procedure utilized to collect data and the data analysis.

3.2 Research Design

The survey utilized descriptive survey cross-sectional design. According to the objectives, this design was used to gather data from Masinde Muliro University of Science and Technology (MMUST) students to assess the socio-demographic characteristics, prevalence of Risky Sexual Behaviour (RSB), influence of sexual orientation on sexual behaviour, and health seeking behaviour of those exposed to consequences of Risky Sexual Behaviour.

This research design was used since the survey was done at one point in time. The design sought to gather information that described existing issues on Risky Sexual Behaviour by requesting students about their insights, values or behavior. According to Creswell *et al.*, (2018), the survey design is suitable in obtaining extensive information from a large population within a short time. As stated by Polit (2010), the study yielded reliable and quantifiable information since they were obtained at one point in time and conclusions were representative for entire population.

3.3 Variables

The dependent variable was Risky sexual behaviour whereas the independent variables were Socio-demographic characteristics of the students, health seeking behaviour for those who experienced health consequences of RSB and the external environmental issues that impact sexual behaviours among the undergraduate learners of MMUST.

3.4 Study Location

The location of study was Masinde Muliro University of Science and Technology (MMUST) in Kakamega County in Western Kenya, which is one of the 47 counties in Kenya. MMUST is the only Public University located in Kakamega County of Western Kenya. MMUST was established in 1972, initial name was Western College of Arts and Applied Sciences (WECO), initiated by the then MP, Honorable Masinde Muliro. MMUST was conveniently identified because it is one of the public universities in Kenya having variety of programmes for enrolment ranging from certificate to postgraduate, therefore, diversity and representation was anticipated for the study. Furthermore, the Institution does not hold any specific programme on Sexual and Reproductive Health Issues apart from HIV and AIDS which has been incorporated as a unit within other programmes (MMUST, 2018).

3.5 Study Population

The survey targets all regular undergraduate students enrolled for first degrees in their first, second, third, and fourth year of study, age range between 18 to 24 years who were attending MMUST in Kakamega County at the time of study. The institution offers arts and science programmes in 10 schools. There are 6 arts schools namely disaster management and humanitarian assistance (SDMHA), agriculture, veterinary science and technology (SAVET), natural science (SONAS). The other art schools are of business and economics (SOBE), arts and social science (SASS) and education (SEDU). Science schools are 4 namely: engineering and built environment (SEBE), computing and informatics (SCI), public health and biomedical sciences and technology (SPHBT) and nursing, midwifery and paramedics (SONMAPS) as shown in figure 3.2. It majorly enrolls regular courses with a capacity of 4,000- 4,999 students every year. Therefore, registration above 15,000 learners registered at the Main Campus, Kakamega County (MMUST, 2018). At the time of study, the fourth year students especially from school of education were resuming back from their teaching practices, whereas the first years were just getting oriented in Campus environment.

3.6 Target Population

The students doing bachelor programs in their 1st, 2nd, 3rd and 4th year of study were chosen to participate in the study.

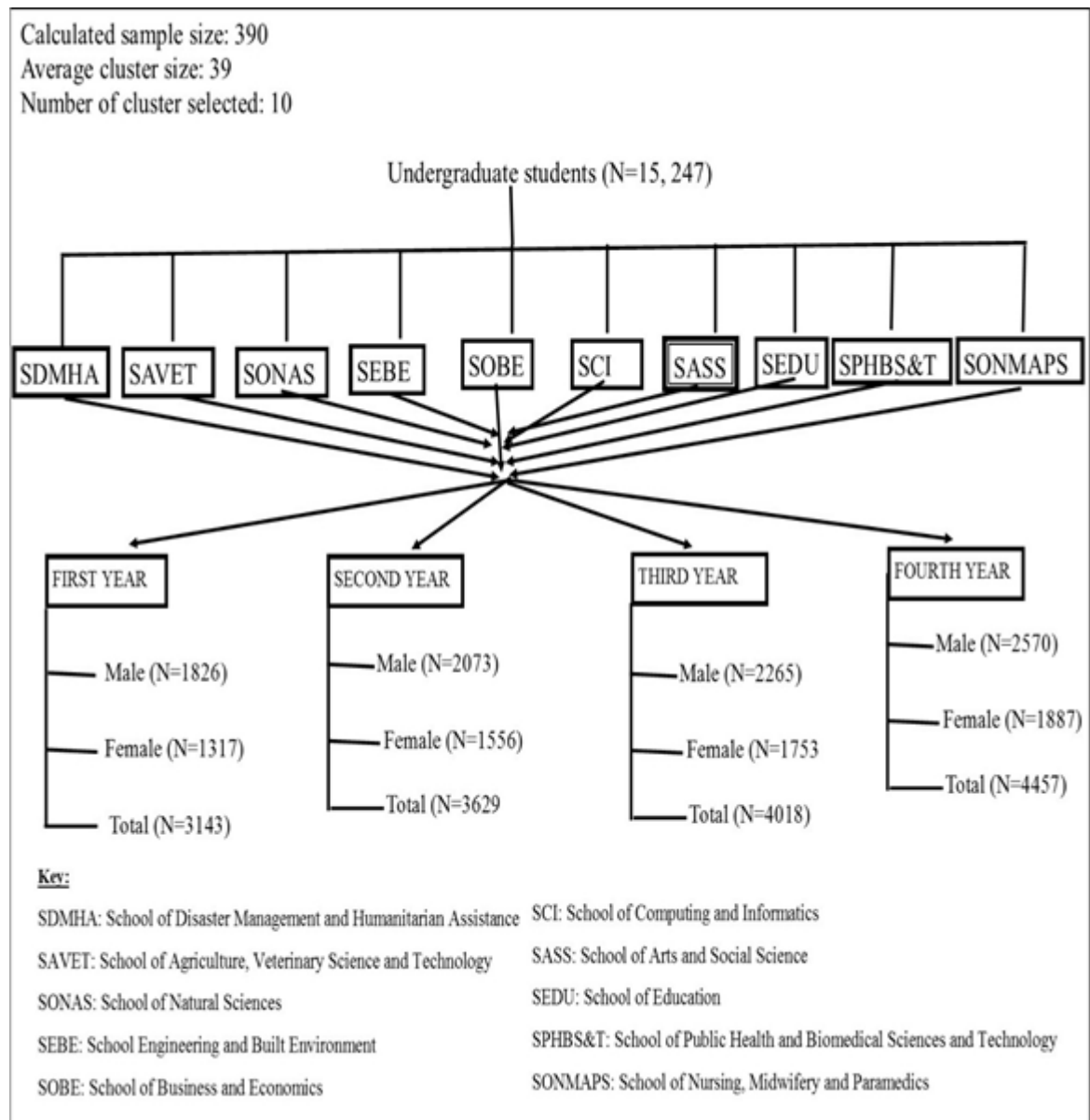


Figure 3.1: The Cluster of MMUST Students Population

3.7 Sampling Techniques

A multistage cluster sampling technique with probability proportion to size (PPS) was utilized to choose a representative sample of the students (figure 3.2). Cluster was alludes as the whole batch or tutorial group as per the structure of the chosen students. Thereafter allocation was done for each academic year and their gender having fewer

females than males. After clustering the respondents, subjects were drawn from each cluster using simple random sampling where pieces of paper with numbers and blank were folded and subjects were asked to randomly pick. Those who picked papers with numbers equivalent to the desired sample size were considered.

3.8 Inclusion and Exclusion Criteria

The criteria for inclusion consisted of all bachelor degree students age range between 18-24 years in MMUST; who consented to participate irrespective of being hostel or non-hostel residents. Apart from first year students, majority of students rent houses outside the University from second year of study.

Those excluded were the University students who are postgraduates, those enrolled in other cadres of training and those undergraduates aged 18-24 years who did not consent to participate were or were too sick were therefore exempted.

3.9 Sample Size

Israel's (1992) sampling formula was utilized to quantify the sample size of 390 students.


N is the population size which is over 10,000, approximated to 15,000.

$$\begin{aligned}
 n &= \frac{N}{1 + N(e)^2} \\
 &= \frac{15000}{15000(0.05)^2} \\
 &= \frac{15000}{38.5} = 389.610 \\
 &= 390 \text{ students}
 \end{aligned}$$


The schools as units of the study were sampled using stratified random sampling and for fair representation, 39 students (390/10) were selected from each school (fig.3.2).

SAMPLE SIZE DISTRIBUTION PER SCHOOL										
	SDMHA	SOBE	SASS	SEDU	SAVET	SONAS	SEBE	SCI	SPHBS&T	SONMAPS
YFS/GENDER	39	39	39	39	39	39	39	39	39	39
FIRST	9	9	9	9	10	9	11	11	9	9
Male	5	5	5	5	5	5	6	6	5	5
Female	4	4	4	4	5	4	5	5	4	4
SECOND	8	9	9	9	9	9	8	8	9	9
Male	4	5	5	5	5	5	4	4	5	5
Female	4	4	4	4	4	4	4	4	4	4
THIRD	14	12	12	12	12	10	13	13	12	12
Male	7	7	6	6	7	5	7	7	6	6
Female	7	5	6	6	5	5	6	6	6	6
FOURTH	8	9	9	9	8	9	7	7	9	9
Male	5	5	5	5	4	5	4	4	5	5
Female	3	4	4	4	4	4	3	3	4	4

Cluster Size



Arts Related



Science Related

Figure 3.2: Sample Size by Cluster (Source: MMUST University data, 2018)

3.10 Construction of Research Instruments

To construct the questionnaires, reference was made to the objectives in order to gather quantitative data from the 390 students. To gather an extensive information on Risky Sexual Behaviours, the respondents self-administered the questionnaires. Polit (2010) states that questionnaire is one of the most important ways to stimulate the perspectives, perspectives, beliefs and values of individuals who perform self-examinations. The survey included a closed query to provide explicit answers and open-ended results for top-to-bottom data. Polit (2010) also makes sense that open-form questions allow for a clearer response depth and provide clear information about respondents' moods, basics, thought flows, and expectations.

3.11 Pilot Study

To determine whether the research tools were accurate, clear and suitable as well as if they were valid and reliable, a pilot study was performed (Polit, 2010). A representative sample of 10% (39) students from a nearby Public University, the Jaramogi Oginga Odinga University of Science, and Technology (JOUST), in Siaya County was used for the pre-test. Two schools from art and science with 20 male and 19 female students respectively who had similar characteristics were identified. The stratum further had 5 males and 5 females from their first, second, third and fourth year of study participating in pre-test of the questionnaires in June 2018. The tool was then scrutinized, ambiguous statements were modified, and reconstruction was carried out appropriately to measure key areas of study.

3.12 Validity

The validity focused on the meaningfulness and accuracy and of the instruments to be administered during the study. Validity alludes to the extent to which an instrument evaluates what it was planned to quantify in light of targets (Polit, 2010). The researcher assessed the content validity of the research instruments by seeking assistance from two supervisors and one expert on the topic of the study. The pilot study was done to determine the validity of data collection instruments. Carrying a pilot study helped the researcher identify any ambiguous questions, creating room for rephrasing. Validity was further enhanced by developing items in the questionnaire based on the study objectives.

3.13 Reliability

The reliability of an estimate is such that a particular estimation system provides comparable results across different processing histories. Therefore, pretesting is an effective way to check the reliability of information classification tools (Polit, 2010). Reliability alludes to the extent to which the scale provides reliable results when random non-recycled estimates are made (Polit, 2010). The study's instruments were determined using the test-retest technique where data from the first test and the second test were subjected to Cronbach's Alpha Coefficient of Reliability. The survey revealed a Cronbach's Alpha Coefficient of 0.741, which was statistically significant

within a 95% confidence interval. This was higher than the 0.7 Alpha index, the acceptable threshold in behavioral research (Creswell, 2014).

3.14 Data Collection Procedure

The data collection procedure is the protocol that was followed to ensure that data collection instruments are correctly and efficiently applied (Polit, 2010). The principal researcher instructed the research assistants how the questionnaires were to be distributed and filled by the students at the lecture halls. The filled questionnaire contained valuable information to enable the researcher to analyse. In each case, the purpose of the questionnaires was to cover all the objectives explicitly.

3.15 Data Analysis

The review revealed quantitative information investigated through the Statistical Package for Social Sciences (SPSS). The raw data obtained from the survey was analyzed on a clear theme identified for the purpose. Inference measures like chi-square and multiple regression were utilized to test the relationships between the factors. The importance of the chi-square test at $P < 0.05$ was utilized to represent the association between the dependent factor and the selected free factor. The chi-square test was popular because both the dependent and free factors utilized in the survey could be quantified on a ratio scale.

The inferential statistics and descriptive analysis was applied to determine the relationships and statistical significance between selected socio-demographic characteristics, prevalence of RSB, sexual orientation and RSB, health seeking behaviour related to consequences and sexual behaviour that are risky among students attending MMUST during analysis. Descriptive statistics of central tendency, frequencies, percentages and dispersion were used to describe and summarize data by the use of pie charts and histograms as applicable for clarity of the findings. The regression model used in the study was as follows:

$$Y = \beta_0 + (\beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon)$$

Where: Y is Prevalence of Risky Sexual Behaviour

β_0 = Represents risky sexual behaviour when $(X_1, X_2, X_3, X_4) = 0$

X_1 = Socio-demographic variables

X_2 = Sexual orientation

X_3 = Health Seeking Behaviour

X_4 = Intervening Factors

$\beta_1, \beta_2, \beta_3$ and β_4 represented coefficient of X_1, X_2, X_3 and X_4

ε = error term

3.16 Logistical and Ethical Consideration

Approval was obtained from relevant authorities before conducting the investigation. This study was approved by the Kenyatta University Ethics Review Committee (KUERC, (Appendix E)). Approval for this study was granted by the National Council for Science, Technology and Innovation (NACOSTI), Kenya's national research coordinating body (see Appendix H). Permission to conduct a survey of students at MMUST in Kakamega Town has been granted by both the Kakamega County Government and MMUST. University approvals have made it easier for researchers to conduct surveys (see Appendix G).

On inception of the study the students who voluntarily accepted to participate, signed consent before commencement of study (see appendix A). The students were assured of confidentiality and anonymity. However, there was freedom for withdrawal from the study for those who wished to do that without any consequences.

CHAPTER FOUR

RESULTS

4.1 Introduction

The main aim of this survey was to assess the Risky Sexual Behavior (RSB) of learners at the Masinde Muliro University of Science and Technology (MMUST) in Kakamega County. It provides details of the survey's data analysis, results, and interpretation, as mentioned earlier in Chapter one, in line with the purpose of the survey. The report is presented in a logical way to identify the socio-demographic characteristics of students and identify their perceptions of dangerous sexual behavior. This study also sought to identify health-oriented behaviors associated with RSB health outcomes and external environmental factors that may lead to RSB. Finally, this study established a relationship between sociodemographic characteristics and identified RSBs among MMUST students in Kakamega County. The hypothesis formulated for this study was statistically tested using the chi-square test, and regression analysis was utilized to examine the association between the independent and dependent variables.

Intended sample size for the survey was 390 students of which the research staff distributed 410 questionnaires and the same were collected from MMUST undergraduate students. It was noted that 386 (99.0%) of the students gave consent to take part in the study and responded by handing in the questionnaires back which were analyzed and results subsequently presented. Creswell (2014) notes that, a response rate of 70% or more is superb for motivations behind speculation of findings from the example onto the whole populace from which the sample was drawn.

4.2 Socio Demographic Characteristics of Respondents

This survey endeavored to identify the student's socio demographic characteristics. Details on the students were necessary for this study because it gave a comprehensive gain to the background information about the participants. The characteristics considered were sex, age, year of study, programme of study, religion, type of family, family socio-economic status, marital status of students, and the area of residence while in campus. Some socio demographic factors were finally evaluated in relation

to the different environmental factors the influence RSB. The information addressing these variables was identified and the outcomes are summarized in table 4.1.

From the survey results, male respondents comprised 201 (51.5%) while female respondents were 185(48.5%) of the students. With respect to age of the students, it was found that 171 (43.6%) were in the age category of 23 – 24 years, 122 (32.8%) in the category of 21- 22 years and 93 (23.6%) in the 18-20years category.

For religion, majority 327 (84.7%) were Christians with Muslims being 59(15.3%). The high number of Christian respondents reflects the level of Christianity in Kenyan population estimated at 90% (KDHS, 2008/2009). Religion was a significant variable as most of the respondents have biblical/Koran principles of the dos and don'ts to govern their moral values. The student's grade was an important variable for research because it indicates how long the student spent in college. This can be an important indicator of the prevalence of RSB on campus. If people stay in a particular area for a long time, they are familiar with the environment. The early days of University are relatively new, so you may be reluctant to indulge in RSB. Those in third year of study were 122 (31.6%), first years 97 (25.1%), second years 86 (22.3%), and fourth years 81 (21.0%). This shows that third years constituted the majority of the study respondents. Majority 236 (61.1%) of students were studying art related programmes while 150 (38.9%) of the respondents were pursuing science related programmes.

For family type, majority of students 227 (58.8%) were monogamous families while 89 (17.9%) of students were from polygamous families, it was also established that 55(14.2%) of the respondents were from single parent family while orphaned respondents comprised 35 (9.1%) of the respondents. The socio-economic status of parents was that majority 274 (71.0%) were of the middle class. The survey also established that 181(46.9%) of the learners were married whereas 146 (37.8%) were single and 59 (16.3%) were cohabiting. Both married and single students were non-residents. This is because University accommodation spaces are limited and reserved for first year students.

Table 4.1: Demographic features of participants

Characteristic	Frequ ency	Percent (%)	Characteristic	Frequency	Percent (%)
Sex			Source of support		
Male	201	51.5	Parents	297	76.9
Female	185	48.5	Partners	34	08.8
Total	386	100.0	Others	55	14.2
			Total	386	100.0
Age in years			Family socio-economic status		
18-20	93	23.6	High	39	10.1
21-22	122	32.8	Middle	274	71.0
23-24	171	43.6	Low	73	18.9
Total	386	100.0	Total	386	100.0
Religion			Student's marital status		
Protestant	146	37.8	Married	181	46.9
Catholic	98	25.4	Single	146	37.8
Seventh Day	83	21.5	Cohabiting	59	16.3
Muslim	59	15.3	Total	386	100.0
Total	386	100.0			
Permanent residence			Residence while in University		
Rural	206	53.4	Rental	242	62.7
Urban	179	46.6	University hostel	110	28.5
Total	386	100.0	Family home	34	8.8
			Total	386	100.0
Year of study			University programme		
First	97	25.1	Bachelor of Arts(4)	236	61.1
Second	86	22.3	Bachelor of Science	150	38.9
Third	122	31.6	Total	386	100
Fourth	81	21.0			
Total	386	100.0			
Family type					
Monogamy	227	58.8			
Polygamy	69	17.9			
Single parent	55	14.2			
Orphaned	35	9.1			
Total	386	100.0			

4.3 Prevalence of Risky Sexual Behaviours

The results presented in table 4.2 show the extent to which the students responded to the various items of study on whether they never engaged or engaged in the RSB within the last three months preceding the survey.

The findings of this study established that 158 (40.9%) of students engaged in penile - vaginal and unprotected penile vaginal sex respectively within the last three months of

the survey. On the other hand, the highest proportion of students 353 (91.5%), never engaged in sex with commercial sex worker and 323 (82.8%) had not engaged in unprotected anal/oral sex and objects to genitals respectively. Those who had engaged in sex within the last three months were 153 (39.6%) whereas 233(60.4%) had not.

Table 4.2: Prevalence of risky sexual behaviour

Risky sexual behaviour	Engaged in		Never engaged in	
	Frequency	%	Frequency	%
Penile-vaginal	158	40.9	228	59.1
Unprotected vaginal sex	158	40.9	228	59.1
Masturbation	72	18.7	314	81.3
Unprotected anal/oral sex	63	16.3	323	83.7
Object-genitals	63	16.3	323	83.7
Multiple sexual partners last 3 months	75	19.4	311	80.6
Sex with commercial sex worker last 3 months	33	8.5	353	91.5
Sex with only one partner last 3 months	191	49.5	195	50.5
Had sex in last 3 months	153	39.6	233	60.4
Had taken alcohol with last sexual exposure	66	17.1	320	82.9
Consistently use condoms during intercourse	182	47.2	204	52.8
Ever used contraceptive after unsafe sex	109	28.2	277	71.8

4.4 Health Seeking Behaviour of Consequences Related to Risky Sexual Behaviour

The health consequences the university students face following RSB are associated with sexual and reproductive health issues. These include STDs and HIV infection, unwanted pregnancy with subsequent option of terminating pregnancy through unsafe

abortion. Following the option taken, psychological effects such as depressive and suicidal feelings could emerge due to a guilty conscience. In the survey, learners were required to answer to items on a Likert scale on whether they had been treated and screened for STD/HIV and the findings were as summarized in table 4.3.

The majority 295 (76.4 %) of the students had never been treated for sexually transmitted diseases but 91 (23.6%) had been treated at least once. On the other hand, 176 (46.6%) had never been screened whereas 210(54.4%) had been screened for HIV and AIDS at least once.

For unwanted pregnancy, it was noted that majority 149(80.5%) of the female students had never been associated with unwanted pregnancy though 36(19.5%) had experience at least once. As well as those who have never delivered or terminated pregnancies were 162(87.6%) respectively. On the same strength, the students who had delivered babies and terminated pregnancy at least once were 23 (12.4%) respectively. Finally, depending on the choices made, those who felt depressed at least once were 176(45.6%) and those who had suicidal feelings were 105(27.2%). The findings should not be taken lightly as there is need for behaviour change.

Table 4.3: Health seeking behaviour related to consequences of RSB

Health consequence	Never		At least once	
	Freq	%	Freq	%
Treated for STI/D	295	76.4	91	23.6
Screened for HIV	176	45.6	210	54.4
Unwanted pregnancy	149	80.5	36	19.5
Babies delivered	162	87.6	23	12.4
Pregnancy terminated	162	87.6	23	12.4
Felt depressed	210	54.4	176	45.6
Suicidal feelings	281	72.8	105	27.2

Revelation of the study that 176(45.6%) of students do not take screening for HIV and AIDS seriously and 91(23.6%) having been treated for STI/D at least once is awakening call. The finding is a serious health indicator among the young people that there is high risk in sexual behaviour among the students. As revealed by Mwangi *et al.*, (2019), majority 210(54.4%) of University students had inconsistent usage of voluntary counseling and testing services for HIV. In the same study, for Mt Kenya University, only 18.4% and Maseno University had 32% of respondents who had been tested and screened for HIV. The low health seeking behaviour is due to stigma associated with the infection.

4.4.1 Frequency of HIV Screening

The histogram in figure 4.1 presents the frequency of HIV screening. The results show that most of the students have never been screened for HIV and AIDS. This implies that almost half 176(45.6%) of the students do not like to associate themselves with this screening. The reluctance is probably due to ridicule and stigma from fellow students who will associate them with immorality (Mwangi *et al.*, 2019).

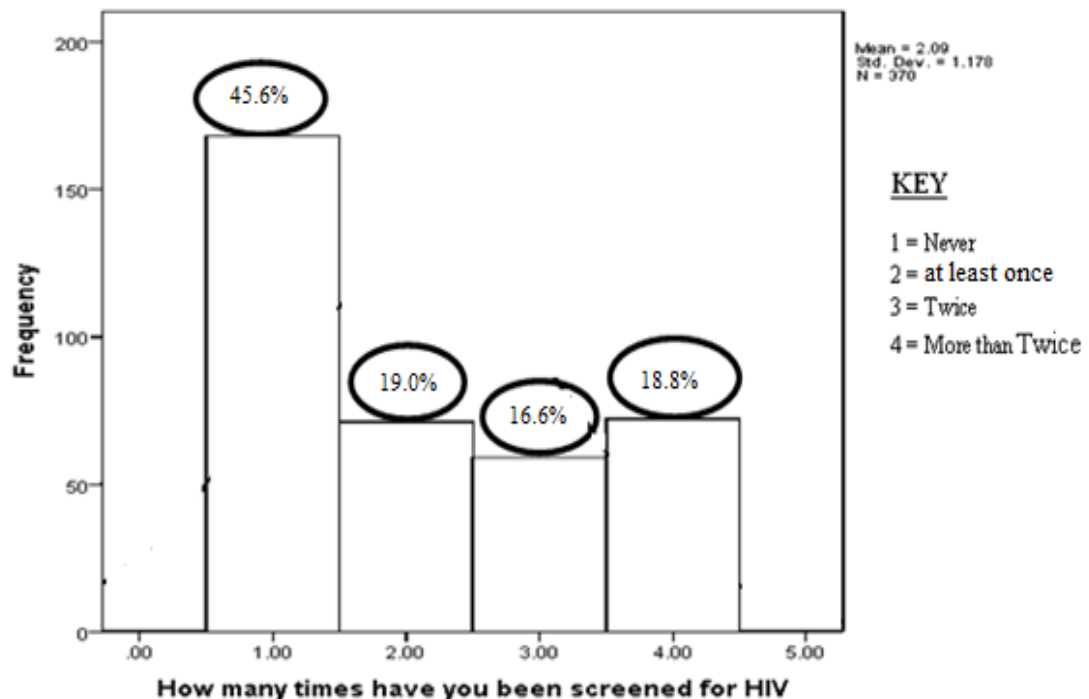


Figure 4.1: Frequency of HIV screening

4.5 External Environmental Factors that Influencing RSB

The survey aimed at identifying external environmental factors that influence risky sexual behaviour among MMUST learners. The learners were required to respond to items on a Likert scale of highly, moderately or minimally.

According to table 4.4, 281(72.8%) of the students stated that University environment highly contribute to risky sexual behaviour followed by peers 264(68.4%), pornography 252(65.3%), drug/alcohol use 235(60.1%), home environment, and church activities was 227(57.5%). Factors that moderately contributed to risky sexual behaviour are Radio 160 (41.5%), newspapers 159(41.2%), socio-economic status of the family was 137(34.7%), music 131(33.9%) and television had 129(33.4%). Most of the factors had minimal contribution to risky sexual behaviour with radio scoring 118(30.6%).

Table 4.4: External environmental factors that influencing RSB

Factors	Highly	Moderately	Minimal
University environment	281(72.8%)	70(18.1%)	35(9.1%)
Peers	264(68.4%)	78(20.2%)	44(11.4%)
Pornography	252(65.3%)	67(17.4%)	66(16.9%)
Drug/Alcohol	235(60.1%)	75(19.4%)	76(19.7%)
Home environment	227(58.8%)	110(28.5%)	49(12.7%)
Church activities	227(58.8%)	77(19.9%)	80(20.7%)
Cultural practices	196(50.8%)	116(30.1%)	74(19.2%)
Parents	191(49.5%)	103(26.7%)	92(23.8%)
Television	189(49.0%)	129(33.4%)	68(17.6%)
Sexual abuse	191(49.5%)	120(31.1%)	75(19.4%)
Socio-economic status of the family	175(45.3%)	137(35.5%)	74(19.2%)
Music	150(37.7%)	131(33.9%)	105(27.2%)
Newspapers	127 (32.9%)	159 (41.2%)	100 (25.9%)
Radio	108(28.1%)	160(41.5%)	118(30.6%)

4.6 Relationship Between Socio-demographic Characteristics and Students Risky Sexual Behaviour

This section reports on relationship between selected variables of risky sexual behaviour of students in MMUST. The socio-demographic characteristics and risky sexual behaviour were compared were multiple sexual partners and penile/vaginal and unprotected vaginal sex. The selected RSBs were further analyzed based on influencing factors. Thereafter descriptive statistics analysis of selected variables was employed using chi-square and coefficient regression analysis.

4.6.1 Socio-demographic Characteristics of Students with Multiple Sex Partners

The findings in table 4.5 established that numerous learners in age bracket of 23- 24 years, attested to have engaged in sex with multiple partners (figure 4.2). On the other hand, most of the students' who are living in rental houses said they have had multiple sex partners as well as the married students (figures 4.2, 4.3 and 4.4, respectively).

Table 4.5: Socio-demographic characteristics of students with multiple partners

	Cases Valid		Chi Square Tests		
	N	Percent	χ^2	Df	P
Age of Respondent * multiple partners	371	95.1%	31.681	12	0.002
School area of residence * multiple partners	371	95.1%	23.815	12	0.022
Respondent marital status* multiple partners	340	87.2%	73.025	12	0.001

Chi square results (age: $\chi^2 = 31.681$, $df=12$, $p=0.002$, area of residence: $\chi^2=23.815$, $df=12$, $p=0.022$, marital status: $\chi^2=73.025$, $df=12$, $p=0.001$) showed a significant relationship between selected socio-demographic characteristics of students with multiple sex partners and risky sexual behaviour at a probability error of 0.05. Therefore, the hypothesis which stated no significant correlation between selected socio-demographic characteristics of students with multiple sex partners and the risky sexual behaviour was rejected.

Students between the ages of 23-24 years were found by the study to be the most active individuals in practicing sex with multiple partners (figure 4.2). This could be because of the psychological and physical maturity of older young adults. The risk-taking behaviour among the age groups, results in increased risk of involving in sexual practice as the age increases.

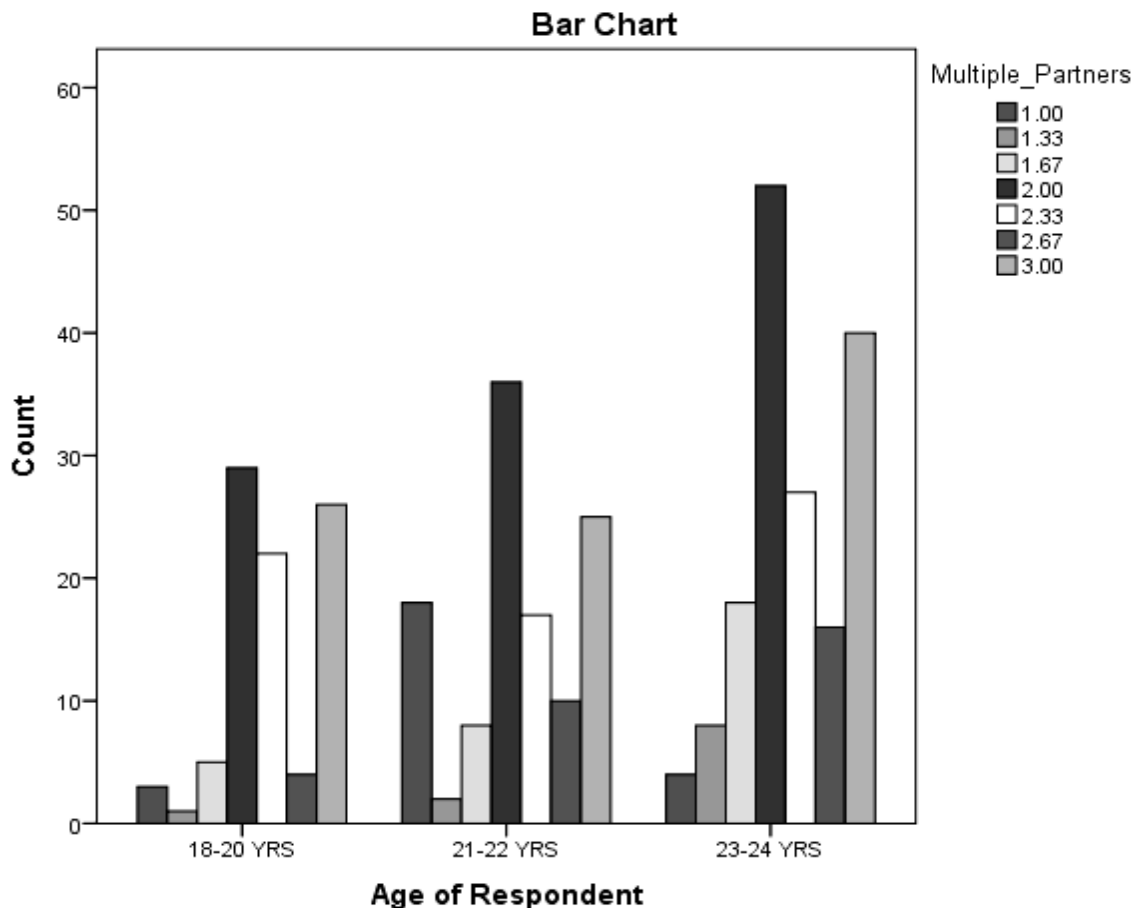


Figure 4.2: Age of students involved in sex with multiple partners

According to the field study, students who stay in rented houses revealed to have engaged in sex with multiple partners (figure 4.3). This group of individuals lives alone, without the guidance of any body. Most of them have poor knowledge towards factors influencing risky sexual behaviours, are therefore, more likely to get involved in sex with various partners.

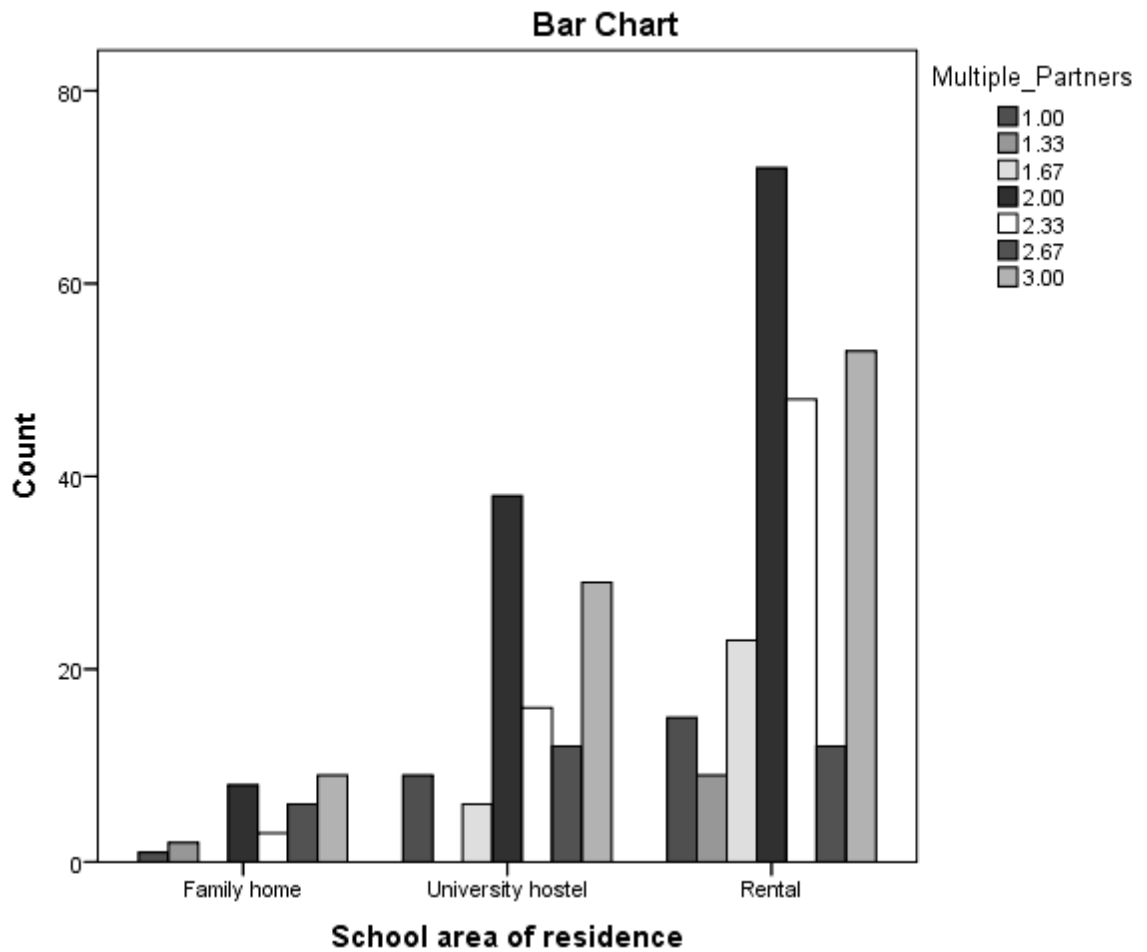


Figure 4.3: Area of residence against multiple partners

Married students were at the highest apex when it comes to sex with multiple partners (figure 4.4). Married individuals were more than a half times likely to indulge in sexual behaviour which are risky. This could be because, married partners who abuse drugs/alcohol probably ignore the use of protective measures like condoms due to poor judgment. This may result in risky sexual behaviour, as engaging in unprotected sexual intercourse.

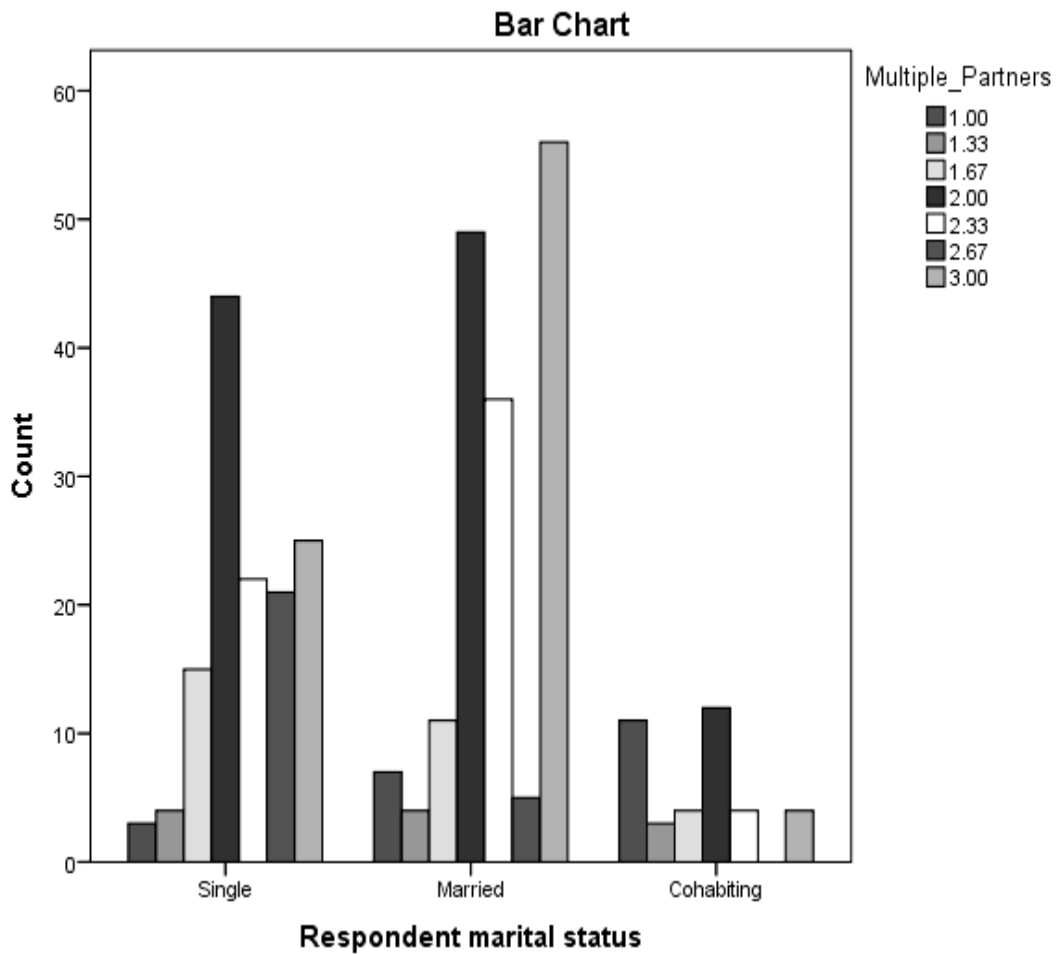


Figure 4.4: Marital status against multiple partners

Results (table 4.6) present the regression coefficients that show the extent to which the independent variables in the study predicted risky sexual behaviour. Based on the data, this regression model of the study was identified as follows:

4.6.2 Correlation Results for Sociodemographic Characteristics and RSB

Correlation analysis was done to explore the impact of socio-demographic characteristics on risky sexual behaviour among students at MMUST. Pearson correlation was found ideal since scatter plots revealed linearity in the data, absence of outliers and presence of related pairs.

Table 4.6: Pearson correlation results for sociodemographic characteristics and RSB (n=386)

		Sociodemographic Characteristics	Risky Sexual Behaviour
Sociodemographic Characteristics	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	386	
Risky Sexual Behaviour	Pearson Correlation	.601*	1
	Sig. (2-tailed)	.001	
	N	386	386

* Correlation is significant at the 0.05 level (2-tailed).

Source: Research Data (2021)

Pearson Product Moment Correlation Coefficient was computed to determine the degree of linear relationship between sociodemographic characteristics and risky sexual behaviour among students at MMUST. The outcomes established a positive relationship between sociodemographic characteristics and risky sexual behaviour among students at MMUST ($r= 0.601$; $P<0.05$).

Table 4.7: Model summary for sociodemographic characteristics and risky sexual behaviour

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.023 ^a	.794	.783	.91077	1.736

a. Predictors: (Constant), Risky Sexual Behaviour

b. Dependent Variable: Socio-demographic characteristics

Source: Research Data (2021)

In this study, the researcher investigated the existence of autocorrelation by calculating Durbin-Watson statistics. Statistics should be between 1.5 and 2.5 (Garson, 2012) so that there is no autocorrelation that allows regression analysis to be

used. The Durbin-Watson coefficient of 1.736 was achieved and was between 1.5 and 2.5, so there was no autocorrelation in the data residuals. Therefore, the linear regression model was suitable for this study. Regression analysis was performed to determine the degree of risky sexual behavior variability among students at the Masinde Muliro University of Science and Technology as a result of the identified predictors (social demographic characteristics). The R^2 value = 0.394 which implied that Socio-demographic characteristics accounted for 39.4% of the variance in risky sexual behaviour among the studied students.

4.6.4 ANOVA Risky Sexual Behaviour Predictors

ANOVA was calculated to determine how well the model in this study could predict the dangerous sexual behaviour of learners at Masinde Muliro University of Science and Technology.

Table 4.8: ANOVA risky sexual behaviour predictors

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.174	1	.174	.169	.001 ^a
	Residual	246.362	297	.830		
	Total	246.536	298			

a. Predictors: (Constant), Risky Sexual Behaviour

b. Dependent Variable: Socio-demographic characteristics

Source: Research Data (2021)

One-way ANOVA was used. It provided information about the level of variability within the regression model and provided the basis for the significance test. ANOVA, a linear model of risky sexual behaviour shown in Table 4.9, yielded an F value of 0.169. This is significant, with a P-value of 0.001 indicating that the entire model is effective in predicting dangerous sexual behaviour in learners at Masinde Muliro University of Science and technology were important.

4.6.5 Coefficients for Risky Sexual Behaviour Predictors

The Coefficients for risky sexual behaviour were computed to determine the degree and direction influence in table 4.9.

Table 4.9: Coefficients for risky sexual behaviour

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1 (Constant)	1.614	.241		6.614	.000		
RSB	.035	.073	.021	.458	.647	1.000	1.000

a. Dependent Variable: Socio-demographic characteristics

Source: Research Data (2021)

Multicollinearity was calculated by variance inflation factor (VIF) likewise called tolerance. Multicollinearity alludes to a circumstance where at least two free factors are profoundly corresponded esteem > 10 subsequently prompting multicollinearity issue. Maniagi *et al.*, (2013) utilized VIF= 10 as critical value rule of thumb to identify if an excess of connection between autonomous factors in the study would sabotage the dependability of the resultant coefficient of determination. The VIF esteem in table 4.9 is under 10 so there is no multi-collinearity issue. In the event that multicollinearity expands, the relapse coefficient can change from one example to another consequently confusing understanding of the coefficient as a mark of relative significance of foreseeing factors (Maniagi *et al.*, 2013). The overall regression coefficients are exhibited in table 4.10.

Table 4.10: Overall regression coefficients

	B	Std. Error	T	Sig.
(Constant)	0.437	0.265	1.647	0.000
Socio-demographic characteristics	0.201	0.045	4.983	0.000
Health consequences	-0.091	0.029	3.192	0.002
Environmental factors	0.351	0.037	1.896	0.000
Rules and Regulations	0.573	0.045	2.870	0.000

Dependent Variable: Risky Sexual Behaviour

Results (table 4.10) present coefficients for the overall regression equation that show the extent to which the five independent variables in the study predicted risky sexual behaviour among students of Masinde Muliro University of Science and Technology.

From the findings in table 4.10, holding all other factors constant, a unit change in socio-demographic characteristics resulted in 0.201 unit change in risky sexual behaviour, a unit change in health consequences resulted in -0.091 unit change in risky sexual behaviour, a unit change in environmental factors resulted in 0.351 unit change in risky sexual behaviour while a unit change in rules and regulations accounted for 0.573 unit change in risky sexual behaviour.

The overall regression equation for the study thus becomes

Where: Y is Risky Sexual Behaviours, X_1 is Socio-demographic characteristics (0.201), X_2 health consequences (0.091), X_3 is environmental factors (0.351) and X_4 rules and regulations (0.573) and ϵ is the error term.

Therefore,

$$Y = 0.437 + 0.201X_1 - 0.091 X_2 + 0.351 X_3 + 0.573X_4 + \epsilon$$

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATION

5.1 Overview

This research was directed on the reason that there were risky sexual behaviours among university learners at Masinde Muliro University of Science and Technology. The survey checked on both theoretical and empirical literature on risky sexual way of behaving. From review of related literature, a reasonable structure was developed to conceptualize types of risky sexual behaviours and their impacting factors among university learners. The hypothesized relationship was then tested exactly and was directed by the specific objectives of the research. Utilizing the conceptual framework along with research objectives, the study utilized primary tools. Questionnaires for every one of the independent factors and the dependent factors were utilized in gathering information for this research. The questionnaire was tested for reliability utilizing Cronbach's alpha (α) and validity (involving factor examination for develop legitimacy) through a pilot study. Multiple regressions for a univariate investigation were done. Multiple linear regression analysis was utilized to test the joined impact of the multitude of independent factors to the dependent variable. The dependent factors were tested for multi-collinearity utilizing variance inflation factors or tolerance, Durbin - Watson test was utilized to test for autocorrelation.

5.2 Discussion of Findings

Research findings are discussed in this section;

5.2.1 Prevalence of Risky Sexual Behaviours

The research endeavored to explore the prevalence of Risky Sexual Behaviour (RSB) among the learners. This describes unsafe sexual intercourse that may increase the possibility that a person who performs the sexual intercourse with another infected person will also be infected. The results presented in table 4.2 show the extent to which the students responded to the various items of study on whether they never engaged or engaged in the RSB within the last three months preceding the survey.

The outcomes of this survey established that 40.9% of students involved in penile - vaginal and unprotected penile vaginal sex respectively within the past three months prior to the research. On the other hand, the highest proportion of students never engaged in RSB within last three months as sex with commercial sex worker (90.5%), penile anal (84.6 %), unprotected penile-anal/oral and objects to genital (82.8%) respectively. Those who had engaged in sex within the last three months were 38.5% whereas 59.7% had not.

According to KNBS/GoK (2015), in 2014, Kakamega County where MMUST is located in the central business area, new HIV cases was 1,311 and the total number of abortions procured was estimated to be 2,877. The nearby Kisumu County was amongst the highly-ranked HIV infection in Nyanza province at 30% of National burden of HIV and AIDS (GoK, 2013; KNBS *et al*, 2015). Research studies conducted on how HIV/AIDS is transmitted indicates that this virus is majorly transmitted through heterosexual intercourse.

5.2.2 Health Seeking Behaviour due to Consequences of Risky Sexual Behaviour

With regard to health consequences of risky sexual behaviour, the study established that health seeking behaviour among students is generally poor. This research established large part of students had never sought treatment for Sexually Transmitted Diseases (STDs) whereas, only a few of them had been treated at least once. This implies that STDs among students has reduced to some extent. It was also noted that almost half of the students have never been screened for HIV/AIDS but a few have been screened at least once. This indicates that most students do not take treatment and screening for HIV/AIDS seriously. The outcomes agreed with the findings by Ikamari et al (2013) which revealed unawareness on HIV status among majority of young people attending institutions of learning.

According to Ngure (2018), sixty-six (66%) of respondents sought treatment at the onset of symptoms of which 68.5% went to private institutions. One of the main reasons for not seeking services was long waiting time (63.1%) and perceived attitude of health care provider. Another research conducted by Mwangi et al (2014) founded that 38.5% of the participants had been screened for HIV because the disease is

associated to immoral behaviour. Whereas; study among Nepal adolescents by Pandey, (2019), hindrances to the usage of adolescent youth friendly services were culture, religion and tradition. Both school teachers and health care providers find it difficult to discuss SRH Issues and services due to cultural and religious beliefs. Hence, the young people lack appropriate knowledge and skills for effective decision making on sexual behaviours.

5.2.3 External Environmental Factors Influencing Risky Sexual Behaviours

As per the outcomes of this research, the significant determinants of risky sexual behaviour were university environment, pornography, peers, and drug/alcohol use. The findings correspond with the study done in Western Ethiopia which identified peer pressure when under influence of alcohol and cigarette smoking increases the risk since it limits capacity of reasoning. This goes together with university environment as there is lack of parental monitoring (Pandey, 2019). In as much, males have more access to internet information hence engage in pornography more often (Awoke et al., 2016). According to Maina (2017), watching pornography influenced individuals into homosexuality with a ($P < 0.05$) though it is individual decision.

5.2.4 Rules and Regulations

The study established the relationship between rules and regulations and prevalence of risky sexual behaviour among learners. In keeping with previous research findings on risky sexual behaviour, strict rules and regulations on sexuality play a vital role in reduction of risky sexual behaviour. Awareness about rules and regulations is a key determining factor when it comes to strict enforcement of rules and regulations. This study revealed that there were no rules and regulations that address issues of sexual relationships among students with 96.2% of the respondents confirming as such against 3.8% who indicated that there were university rules that somewhat addressed sexuality issues with a focus on risky sexual behaviour. Those who responded that they “engaged in” penile/vaginal and unprotected vaginal sex were almost half of the students respectively. According to Pandey (2019) unprotected sex and inconsistent condom use were among the RSBs. The study had fewer respondents as compared to Awoke et al., (2016), since 39.6 % of respondents who did not use condom and had drunk alcohol. Study by Doku (2012), 25% were sexually experienced as early as 15

years out of which 31% had multiple sexual partners and used substances of abuse. Another study by Yi et al (2010), revealed that the people had habitual risky sexual behaviour out of which 34.6% of the sexually active learners; reported two or more sexual partners. Out of that number, 52.6% had not used condom in last sexual act and both males and females had used drugs. In as much; Awoke (2016) observed that due to social interactions, peer pressure and environmental factors; males are more probable to involve in intercourse than the females.

5.3 Conclusions

- i. The study looked into the pervasiveness of Risky Sexual Behaviour (RSB) among undergraduate learners of Masinde Muliro University of Science and Technology. The outcomes of this research revealed that 40.9% of students engaged in penile -vaginal and unprotected penile vaginal sex respectively within the last three months. On the other hand, the highest proportion of students never engaged in RSB within last three months as sex with commercial sex worker (90.5%), penile – anal (84.6 %), unprotected penile - anal/oral and objects to genital (82.8%) respectively. As per the results, a conclusion is made that there is prevalence of Risky Sexual Behaviour among undergraduate learners of Masinde Muliro University of Science and Technology.
- ii. With respect to health outcomes of risky sexual behaviour (RSB) and health seeking behaviour, it was revealed that STDs and HIV, unwanted pregnancy with subsequent option of terminating pregnancy through unsafe abortion were some of the outcomes associated with risky sexual behaviour. Depending on direction taken by students, psychological effects such as depressive and suicidal feelings could emerge due to a guilty conscience resulting from negative outcomes of risky sexual behaviour. The students who had delivered babies and terminated pregnancy at least once were 5.9% each. Depending on the choices made, those who felt depressed at least once were 45.1 % and those who have had suicidal feelings were 27%. From the results in relation to third objective, a conclusion is made that health seeking behaviour arising from exposure to risky sexual behaviour was a common occurrence among the

undergraduate students at Masinde Muliro University of Science and Technology.

- iii. From the analysis the very highly rated factors influencing sexual behaviors included university environment with 71.0%, peers 67.2%, pornography 64.1%, drug/alcohol use 59.2%, home environment 57.7%, and church activities 57.5%.
- iv. The third objective sought to explore the association between Sociodemographic characteristics and Students Risky Sexual Behaviour among undergraduate learners at Masinde Muliro University of Science and technology. Chi square results (age: $\chi^2 = 31.681$, $df=12$, $p=0.002$, area of residence: $\chi^2=23.815$, $df=12$, $p=0.022$, marital status: $\chi^2=73.025$, $df=12$, $p=0.001$) showed a significant relationship between selected socio-demographic characteristics of students with multiple sex partners and risky sexual behaviour. Pearson Product Moment Correlation Coefficient was computed to determine the degree of linear association between sociodemographic characteristics and risky sexual behaviour among students at MMUST and outcomes established a noteworthy relationship between sociodemographic characteristics and risky sexual behaviour among students at MMUST ($r= 0.601$; $P<0.05$). Regression analysis yielded an R^2 value of 0.394 which implied that Socio-demographic characteristics accounted for 39.4% of the variance in risky sexual behaviour among the studied students. According to the outcomes, a conclusion is made that sociodemographic characteristics significantly influenced risky sexual behaviour among undergraduate students at Masinde Muliro University of Science and Technology.

5.4 Recommendations

- i. The Ministry of Education should partner with parents, churches and NGOs in the effective management of Environmental Factors that contribute to Sexual Behaviors to the young people in order to reduce the high prevalence of Risky Sexual Behaviour among the learners.

- ii. The MMUST and other institutions of higher learning administration should design interventions for accommodation for all students whereby rules and regulations are reinforced.
- iii. Policy by the government through the Ministry of Health and Education to reinforce implementation of youth friendly health services. This would help raise awareness among the youth for more information on reproductive health issues that will enable the students to make informed decisions on their sexual behaviour so that significant number of students seek HIV and STD tests and treatment.
- iv. Policy measures should be formulated by the government in collaboration with the universities to strengthen the current Information Education and Communication (IEC). This will provide information to the young people on the consequences of risky sexual behaviour in order to enhance behavioural change among students in universities.

5.5 Recommendation for Further Research

- i. There is need to assess the socio-demographic factors that enhance healthy sexual behaviour among young adults.
- ii. There is need to replicate further comparative research on risky sexual behaviour among students in various levels of study.
- iii. A similar study should be done to assess why the students continue to practice homosexuality yet it is unacceptable.
- iv. Another research should be done to explore the attitude of health providers towards young adult health seeking behaviour.

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APPENDICES

Appendix I: Informed Consent Form

Greetings,

My name is Margaret A. Aroka, pursuing a Master's degree in Public Health from Kenyatta University. I will be conducting a research on Determinants of Risky Sexual Behaviour among undergraduate students attending selected Universities of Western Kenya. The study is for academic purpose that will help in designing health programs towards behaviour change communication on Sexual and Reproductive Health Rights by the Ministry of Medical Services and Ministry of Public Health and Sanitation.

Procedures to be followed: The questionnaire is used for data collection and each participant must fill out the questionnaire. It takes about 15 minutes to complete the questionnaire. Thank you very much. Participants will receive feedback when the survey is complete.

You have the right to opt out of participation in this study, as the decision to participate in the study is voluntary and participants have the right to withdraw from the study at any time without sacrifice.

Discomforts and Risks: Some questions and answers can look offensive and provocative due to individual beliefs about sexuality. You may also feel that the answer is wrong. We guarantee that there are no correct or incorrect answers to these questions. Share your concerns with researchers via short message service on 0727269486/0754368233.

Benefits: You may find it empowering to complete a survey as you will think more often about your personal sexual orientation and behavior. How to conceptualize it in general can have a positive impact on self-awareness and self-examination. It may also be encouraging that researchers are doing something constructive to provide more information about sexuality and sexual behavior related to sexual orientation in relationships with adolescents.

Confidentiality: The questionnaire will be filled in a private setting within the institution. Complete anonymity and confidentiality will be assured. All the responses to the questions in this study are designed to be anonymous as possible. Once you have completed, the papers will be collected and stored safely and will only be accessed by the researcher.

Contact information: If you have any questions you may contact Dr. Priscilla Kabue Supervisor 1 on 0722466297 or Dr. Joan Kabaria Muriithi Supervisor 2 or Kenyatta University Ethical Committee secretariat on chairman.kuerc@ku.ac.ke, secretary kuerc@ku.ac.ke, Ercku2008@gmail.com.

Participants statement: The above data in regards to the participation of the research is clear to me. I have been allowed an opportunity to get clarification on some things and my inquiries have been responded to agreeable to me. My support in this study is willful. I comprehend that I won't be defrauded in any capacity regardless of whether I choose to leave the review and my choice won't change care concurred to me.

Code _____ of _____ participation.....
Signature.....date.....

As the undersigned, I explained to the volunteers in a language he/she could understand the steps to follow in this study and all the risks and benefits associated with it.

Name of interviewer Signature..... Date

Thank you for taking in filling of the questionnaire.

Appendix II: Questionnaire

Reference Number..... Date filled.....

The questionnaire is divided into six sections

- A. General Information on socio- demographic data
- B. Sexual orientation
- C. Attitude towards sexual orientation
- D. Environmental factors that determining risky sexual behaviours
- E. Risky sexual behaviours
- F. Health seeking behaviour due to challenging outcomes to risky sexual behaviour

SECTION A: GENERAL INFORMATION ON DEMOGRAPHIC DATA

1. Fill in your personal information appropriately as provided::

- a) Gender of student FEMALE MALE
- b) Age of Student 18- 20 YRS 21- 22 YRS 23-24 YRS
- c) Religion: Catholic Seventh Day Muslim Protestant
Any other specify.....
- d) What is your year of study at the University? 1ST 2ND 3RD
4TH
- e) What program are you enrolled in at the University? BSc BA
- f) What type of family are you from? Monogamous Polygamous
Single parent Orphaned
- g) What is the source of your support in college? Parents Partner
Sponsor Sugar daddy Sugar mummy
Any other specify.....
- h) What is family socio economic status? High Middle Low
- i) What is your marital status? Married Single Cohabiting
If Yes, what is the gender of your partner? Male Female
- j) What is your area of residence while in school? Family home
University Hostel Rental Outside the University
Any other specify.....

SECTION B: SEXUAL ORIENTATION

2. Using the scale below rate yourself on your sexual orientation by putting a tick(✓) on the correct response

- i. Exclusively homosexual
- ii. Predominantly homosexual but incidentally heterosexual
- iii. Equally homosexual and heterosexual
- iv. Predominantly heterosexual but more than incidentally homosexual
- v. Exclusively heterosexual

3. Which of the following best describes how you think of yourself

Sexual orientation	Very highly (5)	Highly (4)	Moderately (3)	Averagely (2)	Minimal (1)
Straight/heterosexual					
Gay or lesbian					
Bisexual					

SECTION C: SEXUAL ORIENTATION AND RISKY SEXUAL BEHAVIOUR

4. Indicate your level of agreement or disagreement with the items below using the scale

Items	Scale of attitude				
	Strongly agree(1)	Agree (2)	Neutral (3)	Disagree (4)	Strongly disagree(5)
Homosexual orientation					
Positive regard towards					
1. Would you mind associating in anyway with a homosexual friend?					
2. Would you appreciate the work of a gay/lesbian artiste on realizing their sexual orientation?					
3. Would you consider marriage between gays okay?					
4. Would you view					

Homosexuality as being sinful?					
5. Do you think that homosexuality is a mental illness?					
6. Would you associate homosexuals with deviant sexual acts, such as child molestation, rape voyeurism (peeping Toms)?					
7. Would you consider supporting a homosexual in an election to a public office?					
8. As a parent, would you tolerate a gay child?					
Negative regard towards					
9. Would you recommend unprotected sex for Homosexuals?					
10. Do you think that many people in the society would encourage homosexuals to have multiple sexual partners?					
Items	Perceptions towards Sexual Orientation				
Bisexual orientation	Strongly agree (5)	Agree (2)	Neutral (3)	Disagree (4)	Strongly disagree (5)
Positive regards towards					
11. I Would you tolerate a bisexual friend?					
12. As a parent, would you tolerate a son or daughter who is bisexual?					

Negative regard towards					
13. Do you feel that bisexuals should have sex with anybody?					
14. Do you regard bisexuality as sinful?					
15. Would you consider it normal for bisexuals to have multiple sexual partners?					

(Kite and Deaux, 1996)

5. What is your feeling towards

Sexual Orientation	Appropriate /acceptable	Inappropriate /unacceptable
a).Homosexual (Lesbian or gay) individuals		
b) Bisexual individuals		
c) Heterosexual individuals		

SECTION D: FACTORS THAT INFLUENCE SEXUAL BEHAVIOURS

6. In your own opinion rate the degree at which these factors affect sexual orientation

Factors	Sexual Attraction Rating				
	Very highly (5)	Highly (4)	Moderately (3)	Averagely (2)	Minimal (1)
i. Parent					
ii. Home environment					
iii. Cultural practices					
iv Church activities					
v. University atmosphere					
vi. Drug/alcohol use					
vii. Low socioeconomic status of the family					
viii. Sexual abuse					
ix. Peers					

x. Newspapers					
xi. Music					
xii. Television					
xiii. Radio					
xiv. Pornography					

SECTION E: PREVALENCE OF RISKY SEXUAL BEHAVIOUR AMONG UNIVERSITY STUDENTS

8. How often do you engage in the sexual behaviour listed below?

Sexual behaviour	Very often (5)	Often (4)	Sometimes (3)	Hardly (2)	Never (1)
Masturbation					
Penile /vaginal					
Penile /oral					
Penile/anal					
Object to genitals					
Unprotected vaginal sex					
Unprotected anal/oral sex					

9. Have you ever engaged in the following mentioned sexual activities? Respond to the questions by putting a tick ()

Sexual activity	Yes	No
i. Have you had more than three sexual partners in last 3 months		
ii. Have you had 2 sexual partners in the last 3 months		
iii. Have you had only one sexual partner in last 3 months		
iv. Have you had sexual intercourse in last 3 months		
v. Have you had sex with a commercial sex worker in the last 3 months		
vi. Had you taken alcohol or any type of addictive drugs before you		

performed your last sexual exposure?		
vii. Do you consistently use condoms with each sexual encounter		
viii. Have you ever used emergency contraceptive following unprotected sex?		
ix. Did you use condoms with your last sexual partner?		

(Gullone *et al*, 2014; Turchik, 2007)

10. What other sexual behaviour have you been involved in and how often? Give your answer in space provided

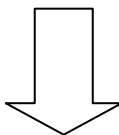
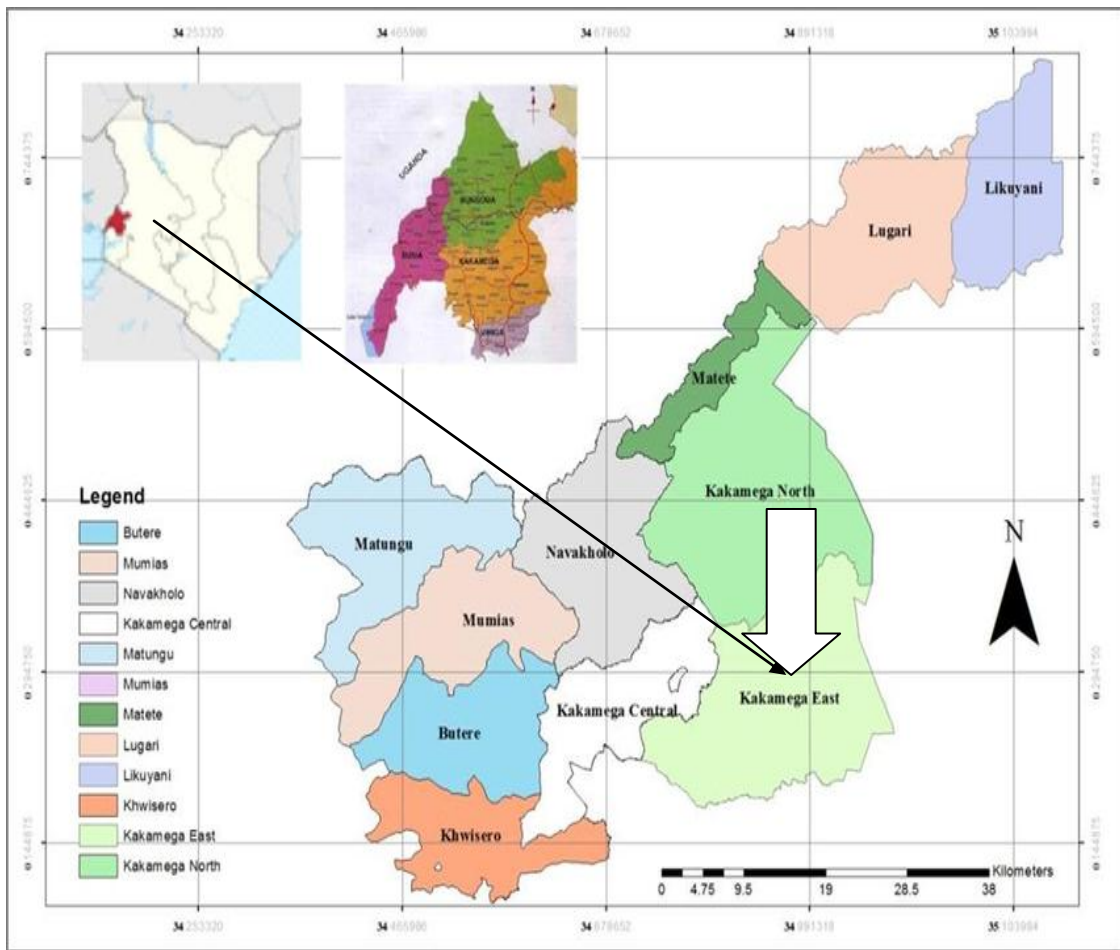
Sexual behaviours
i
ii.
iii.
iv.

SECTION F: HEALTH CHALLENGES/ CONSEQUENCES OF RISKY SEXUAL BEHAVIOUR AND ACTION TAKEN

11. What health challenges or/and action have you taken following risky sexual behaviours?

Challenge/ action	Never	At least once
Female students ONLY to respond		
i. Got pregnant		
ii. Delivered baby		
iii. Terminated pregnancy		
All students to respond on how they acted or felt		
iv. Treated for STI/D		
v. Screened for HIV		
vi. Felt depressed		
vii. Felt like committing suicide		

Appendix III: Map showing Area of Study



Key: Masinde Muliro University of Science and Technology

Appendix V: Research Permit



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: 020 430 7000,
011 782067, 020 40 215
Fax: +254 20 318245, 318746
Email: dp@nacosti.go.ke
Website: www.nacosti.go.ke
WhatsApp: please quote

NACOSTI, Upper Kabete
Off Wajakir Way
P.O. Box 50677-00100
NAIROBI-KENYA

Ref No: **NACOSTI/P/18/14147/20639**

Date: **5th January, 2018**

Margaret Dorothy Adhiambo Aroka
Kenyatta University
P.O Box 43844-00100
NAIROBI

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Determinants of risky sexual behaviors among undergraduate students attending Maseno University, Kisumu County, Kenya”* I am pleased to inform you that you have been authorized to undertake research in **Kisumu County** for the period ending **5th January, 2019**.

You are advised to report to the **County Commissioner and the County Director of Education, Kisumu County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a **copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.


BONIFACE WANYAMA,
FOR: DIRECTOR-GENERAL/CEO
Copy to:

The County Commissioner
Kisumu County.

The County Director of Education
Kisumu County.

Appendix VI: Research Permit

THIS IS TO CERTIFY THAT:
MS. MARGARET DOROTHY ADHIAMBO
AROKA
 of KENYATTA UNIVERSITY, 269-40105
 Maseno, has been permitted to conduct
 research in Kisumu County

Permit No : NACOSTI/P/18/14147/20639
 Date Of Issue : 5th January, 2018
 Fee Received : Ksh 1000

on the topic: **DETERMINANTS OF RISKY**
SEXUAL BEHAVIOURS AMONG
UNDERGRADUATE STUDENTS
ATTENDING MASENO UNIVERSITY,
KISUMU COUNTY, KENYA



for the period ending:
 5th January, 2019

.....
 Applicant's
 Signature

.....
 Director General
 National Commission for Science,
 Technology & Innovation

CONDITIONS

1. The Licence is valid for the proposed research, research site specified period.
2. Both the Licence and any rights thereunder are non-transferable.
3. Upon request of the Commission, the Licensee shall submit a progress report.
4. The Licensee shall report to the County Director of Education and County Governor in the area of research before commencement of the research.
5. Excavation, filming and collection of specimens are subject to further permissions from relevant Government agencies.
6. This Licence does not give authority to transfer research materials.
7. The Licensee shall submit two (2) hard copies and upload a soft copy of their final report.
8. The Commission reserves the right to modify the conditions of this Licence including its cancellation without prior notice.



REPUBLIC OF KENYA



National Commission for Science,
 Technology and Innovation

**RESEARCH CLEARANCE
 PERMIT**

Serial No.A 17064

CONDITIONS: see back page