The Socio-Demographic Factors Associated with Condom Consensus among Adolescents in South Africa

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DECLARATION

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DEDICATION

I dedicate the success of this study to my unborn children, nieces, nephews, and all young people who see me as their role model. May this paper be a reminder to you that no matter the struggles and challenges you face in you working towards becoming a better version of yourself. When you put God first, mountains will be moved in your favour and chained doors shall be opened in your favour. May my dreams be a stepping-stone towards achieving yours, if I could sanely achieve this dream, which appeared enormous to attain, just know that you too are born to achieve greater than I did.

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LIST OF ABBREVIATIONS

AIDS	Acquired Immuno-Deficiency Syndrome
ART	Antiretroviral therapy
CAPs	Condom accessibility programs
CSE	Comprehensive sexual education
GBV	Gender-based violence
HBM	Health Belief Model
HIV	Human Immunodeficiency Virus
HSRC	Human Sciences Research Council
MSM	Men who have sex with men
NDoH	National Department of Health
NSP	National Strategic Plan
SABSSM	South African National HIV Prevalence, HIV Incidence, Behavior and Communication Survey
SBCC	Social and Behavioral Change Communication Programs
SDGs	Sustainable Developmental Goals
SSE	Sexual Self-Efficiency
UNAIDS	Joint United Nations Program on HIV/AIDS
USAID	United States Agency for International Development
WHO	World Health Organization

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CHAPTER ONE: INTRODUCTION

1.1 Background

Condom-less heterosexual sex is argued to be primary mode of the transmission of HIV, STIs, and adolescent unplanned pregnancies in Africa (Mabaso et al., 2021; UNICEF, 2021). In 2017 out of all countries in Africa, South Africa had the highest number of people living with HIV and this was 7, 52 million (Statistics South Africa, 2018). Adolescent pregnancy was approximated at 60% in 2020, where of these, 79% were unplanned pregnancies among females aged 15 to 19 years of age (Barron et al., 2022). With regards to STIs, chlamydia was high among both male and female adolescents aged 20 to 24 years, at 12.6% and 10.2%, respectively (Francis et al., 2019). Currently in South Africa, adolescents aged 15 to 24 years of age are more likely to participate in risky sexual behaviors such as condom-less sex (Khuzwayo et al., 2020).

Even though condoms are a vital modern contraceptive that can prevent the spread of HIV, STIs and adolescent pregnancy, adolescents in South Africa often do not report their use (Muchiri et al., 2017). Additionally, regardless of governmental and non-governmental youth development organizations efforts to combat unprotected sexual intercourse, in South Africa inconsistent condom use among adolescents prevails (Pallin et al., 2013).

Previous studies report that key to consistent condom use is consensus about using condoms, which is achieved through negotiation (Exavery et al., 2012; Maher et al., 2013). Other factors that have been associated with consistent condom use are parent-child relationship, wealth status, marital status, age-disparate relationships, poverty, place of residence, late sexual debut, type of relationship, gender-based violence and communication (Kassa et al., 2018; Mpondo et al., 2018; Closson et al., 2017).

To raise awareness about HIV epidemic, STIs and adolescent pregnancy, various campaigns have been launched. One of most popular campaigns in South Africa is the Abstinence, Be Faithful and Condomise (ABC) campaign. Years later, it was recommended by the SABSSM of 2012 that the ABC campaign be revived as a mechanism to reeducate people of South Africa

about HIV, STIs, and adolescent pregnancy prevention strategies (Burman et al., 2015).

Additionally, in 2018 the National Department of Health launched a campaign (Their Peace of mind #NoRegrets) in partnership with USAID and the Centre for Communication Impact promoting condom use. The campaign was said to encourage change in conversations about sexual health by promoting condom usage and better choices (Nkgweng, 2018). Despite these campaigns and the expansion of national level public sector condoms, adolescents are still at an increased risk of being infected with HIV, STIs, and unexpectedly becoming pregnant in South Africa (Mabaso et al., 2021).

As such, there has been growing interest amongst researchers regarding the concept of sexual self-efficiency (SSE) in HIV prevention strategies for example using condoms (Closson et al., 2017; Closson et al., 2018; Assarzadeh et al., 2019; Brar et al., 2020). Though SSE is explained as an individual's capability to make decision about their sexuality and avoidance of risky sexual behavior, communication about safe sex practices between sexually active partners is under-researched. Communication about safe sexual intercourse amongst sexually active adolescents is important to combat high rates of HIV infections, STIs, and adolescent pregnancies.

Though safe sex communication is essential for intimate partners to achieve condom consensus, there are socio-demographic factors that are predictors for it (Yachao et al., 2019). While new HIV, STIs infections and unwanted pregnancies among adolescents are accounted for by lack of condom use during sexual intercourse among sexually active adolescents aged 15-24 years, the socio-demographic factors associated with condom consensus are not well understood, as they are not commonly researched.

Classifying the socio-demographic factors that hinder condom consensus among adolescents is crucial, as this can inform organizations and policies that seek to eradicate a lack of condom consensus among adolescents. For this study, condom consensus is understood as the negotiation that occurs between two sexual partners prior to sexual intercourse that leads to a mutual agreement to use a condom. The intervention of this research is therefore to examine the socio-demographic factors associated with condom consensus in adolescents in South Africa.

1.2 Problem Statement

Condom-less heterosexual intercourse is the main contributor to HIV prevalence, STIs and adolescent pregnancy (Mabaso et al., 2021). Unprotected sexual intercourse remains popular among adolescents regardless of the campaigns that have been present in South Africa (Mabaso et al., 2021). Additionally, even though previous literature highlights consistent condom use to be one of the key strategies to reduce transmission of HIV, STIs and adolescent pregnancy condom-less sex remains popular (Ajayi et al., 2019).

Condoms are a HIV and STI transmission preventative method and are also known for being vital protection against unwanted pregnancies (USAIDS, 2016). Since 1992, the South African National Department of Health (NDoH) had been implementing a national male condom program, whereas the female condom program was only introduced in June 1998 (Beksinska et al., 2012). According to the trends recorded in a national survey, in the years 2002 and 2005, condom use at last sex was low when compared to 2008. In 2008 condom use at last sex was recorded as 85.2% and 66.5% for males and females, respectively. In 2012 condom use at last sex dropped by 17.7% for males and 16.7% for females (Shisana et al., 2014).

Furthermore, in 2017 condom use at last sex for males increased by 0.2%, and for females remained the same since 2012 (Leickness et al., 2019). In 2008 and 2009, the NDoH distributed 12.3 male condoms, which was an increment from the 9.1 male condoms of 2005 (Beksinska et al., 2012). In response to the drop of condom use at last sex in 2012, from 2013 to 2016 the NDoH increased condom distribution to 1.8 billion male condoms and 60 million female condoms (NDoH, 2016).

Even though condoms are available for free to the public, they are underutilized, accounting for the decline in condom use at last sex intercourse (Ashmore et al., 2015). Among adolescents, inconsistent and incorrect condom use is significant (Shisana et al., 2014). Consistent condom use was recorded as 28.1% in 2017, which is argued as a broader increase from the 27.4% in2012 (Leickness et al., 2019). USAIDS suggested that accurate knowledge about HIV and AIDS is inadequate, regardless of the awareness campaigns (Shisana et al., 2014; Leickness et

al., 2019).

Consequently, inconsistent and incorrect use of condoms has serious implications for adolescent well-being, and further intensifies health concerns in South Africa. One of the implications of this is the disruption of learning opportunities due to adolescent pregnancy, which may result in increased level of school dropouts particularly among girls (Muchiri et al., 2017). Extant literature focuses more on the action, viz. condom use, and not the importance of mutual agreement in using condoms processes, viz. condom consensus.

Additionally, due to the fact that condom consensus is a communicative process where decision-making is key, understanding issues regarding power disparities in relationships is crucial. Patriarchy more broadly has succeeded in labelling women as subordinates, and men as superior (Sikweyiya et al., 2020). Condom use and decision-making in relationships is therefore often influenced by patriarchy and unequal power relations. Unequal power relations exacerbate female rights violations, for example, gender-based violence. As a result of unequal power relations and gender-based violence, women often feel challenged to have to negotiate condom use, or even initiate conversations about condom usage due to a lack of agency (Marx et al., 2018, Madiba et al., 2017). Due to high proportion of females and men having sex with men (MSM) reporting non-consensual removal of condoms, condom consensus has a profound impact on consistent and correct condom use (Latimer et al., 2018). It is therefore the aim of this study to examine the socio-demographic factors associated with condom consensus.

1.3 Justification

South Africa's National Strategic Plan on HIV, TB, and STIs of 2017 to 2022 aims to reduce new HIV infections from 270 000 per year to less than 100 000. One of the strategies to reach this is to establish communication strategies to change behavior and encourage people to reduce their risk of being infected with HIV. Another strategy mentioned is to increase the distribution of both male and female condoms (SANAC, 2017).

Despite similar initiatives in the past, for example, the increase of male and female condoms in public sectors of 2013 to 2016 by the NDoH, consistent and correct condom use in South Africa remains low. This is evident through the condom use statistics 67.5% for males and 49.8% for females in 2012 and (67.7% for males and 49.8% for females) in 2017 (Leickness et al., 2019).

It is recorded that since 2002, there has been an increase in HIV prevalence among people aged 15 to 49 years and an increase of 5% from 15.6% was realized in 2017. Additionally, it is recorded that there were 88 400 estimated new HIV infections among adolescents aged 15 to 24, which was the highest incident when compared to other age groups rate in 2017 (Leickness et al., 2019). As such ,this study focuses on South African individuals aged 15 to 24 years of age.

As far as is evident in the literature, condom consensus among adolescents aged 15 to 24 years in South African remains unexamined, where a study that focuses on condom consensus is important. An attempt to examine condom consensus was made in a study for which the dependent variable was sexual self-efficiency (SSE) in improving condom use (Closson et al., 2017). The study, however, only examined gender differences in the association between sexual negotiation and self-efficiency for condom use.

Additionally, when analyzing the age-group structure of South Africa and the demographic dividend, intervention programs that will ensure the academic success and healthy livelihoods of adolescents are crucial. The demographic dividend is known as the increase in the economic growth of a country, which begins with a change in the age structure as a country transition from high to low fertility and mortality rates (Gribble et al., 2012). The decrease in fertility rate result in a decrease in the population under the age of 15, which is relative to the economically active young adult population. This means that the government has a fewer people to support and thus creating a window opportunity of increased economic growth through the implementation of the right economic and social policies and through investments. In South Africa there are more people in the economically active group than children and the elderly, where, as such, South Africa has youthful population. The youth in South Africa is made up of the age group 15 to 34 years and it makes up approximately 35.1% of the country's population (MYPE, 2019).

A youthful population is beneficial to a country as in the future there will be more people who

are actively investing in the economy through being part of the workforce. Additionally, a youthful population means that the government must invest most resources into education and health care, this benefits the economy as it reduces unemployment. For South Africa to benefit from the demographic dividend, it is important for adolescents to remain in school, reducing their risk of being adolescent parents, along with risky behaviors that increase mortality rates. For the window of opportunity for economic growth in South Africa to be achieved, the above mentioned is not enough to achieve a demographic dividend instead policies need to be put in place to make sure that South Africa benefits from this window of opportunity.

Furthermore, although there has been progress with Sustainable Development Goals in sub-Saharan Africa, SDG8 (promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all) has been deteriorating, and limited progress has been achieved with SDG3 (ensure healthy lives and promote well-being for all at all ages). As such studies that focus on informing policies that have a potential of influencing the livelihood of adolescents are crucial.

Therefore, the purpose of this study was to examine the association between condom consensus and selected socio-demographic factors. Research focusing on condom consensus is crucial to produce new evidence on how best to alleviate high adolescent pregnancy in South Africa. Similarly, this research is important to establish the nature of association in order to influence campaigns and awareness programs that seek to address condom use issues among adolescents between 15 to 24 years of age. The gap found in literature is addressed along with socio-demographic factors that need to be targeted for awareness as the study describes levels of condom consensus and socio-demographic factors associated with condom consensus.

1.4 Research question and sub-question:

1.4.1 Research question:

1. What are the sociodemographic factors associated with condom consensus among adolescents in South Africa?

1.4.2 Sub-questions:

1. What are the levels of condom consensus among adolescents in South Africa?

2. What are the sociodemographic factors significantly associated with condom consensus among adolescents in South Africa?

1.5 Research Objective and Sub- Objectives:

1.5.1 Research Objective

To investigate the sociodemographic factors associated with condom consensus among adolescents in South Africa.

1.5.2 Sub-Objectives

1. Objective 1- To describe the levels of condom consensus among adolescents in South Africa.

2. Objective 2- To examine the sociodemographic factors associated with condom consensus among adolescents in South Africa.

CHAPTER TWO: LITERATURE REVIEW, THEORETICAL AND CONTEXTUAL FRAMEWORK

2.1 Introduction

This section of the study provides a review of studies from South Africa and other countries. These studies will be used to better understand this study, which focuses on the association between condom consensus and socio-demographic factors among adolescents in South Africa. This section therefore firstly reviews what previous studies highlight regarding mutual agreement and no consensus among sexually active partners. Second, discussion focuses on the socio-demographic factors that determine consistent condom use and inconsistent condom use among sexually active partners.

2.2 Communication, Negotiation and Confidence

Literature notes that communication, negotiation, and perceived control/confidence are strong predictors of consistent condom use, which is important with regards to HIV, STIs and adolescent pregnancy prevention (Exavery et al., 2012; Maher et al., 2013; McLaurin-Jones et al., 2015; Ntshiqa et al., 2018; Mpeta et al., 2021). Consistent and correct condom use is important because condoms are estimated to be 80% to 85% effective in preventing HIV and STIs transmission as well as adolescent pregnancy (USAIDS, 2016; Holland et al., 2014; Muchiri et al., 2017). However even though condoms are recognized as a key contraceptive method worldwide, in South Africa condom use has been decreasing since 2012 among adolescents aged 15 to 24 years (Pallin et al., 2013).

According to a study done in three districts in Tanzania, a majority of 73.4% women of reproductive age reported being confident enough to negotiate condom use with sexual partner. The study further recorded that women who were confident to negotiate condom use were 3.13 times more likely to use a condom at last sexual intercourse compared to women who were not confident (Exavery et al., 2012).

Similarly, a study done in Cambodia highlighted the importance of negotiating condom use. Among female sex workers aged 15 to 29 years of age, condom consensus was achieved through negotiation strategies such as sweet talk, including phrases such as “no condom, no sex”. A participant highlighted that when her client was drunk and refused to use a condom, she gently convinced him of the importance of using one (Maher et al., 2013). As such, confidence is highlighted as a key factor for negotiating condom use (Barchi et al., 2021).

On the other hand, a study in South Africa found that fear of negotiating condom use leading to inconsistent use. Additionally, fear of initiating a conversation about condoms among women was highlighted to be due experiences of abuse within a relationship (Pitpitan et al., 2012). In another study, the decision to use a condom among adolescents was found to be shaped by concerns for the future and parental expectations (Davids et al., 2021).

Moreover, socio-demographic factors (level of education, age, occupation status, condom use at first sex, alcohol consumption, frequency of condom use, HIV status and exposure to social behavioral change communication programs) are also highlighted as some of the predictors of condom consensus (Ntsiqa et al., 2018; Exavery et al., 2012; Wet-Billings et al., 2020; Ngome et al., 2016).

2.3 Predictors of condom consensus

2.3.1 Level of education

Secondary and tertiary education is associated with consistent condom use, whereas primary or no education is associated with inconsistent condom use (Ntsiqa et al., 2018; Exavery et al., 2012; Ngome, 2016; Wet-Billings et al., 2020). A qualitative study done in South Africa among secondary learners recorded that adolescents had fear about engaging in sexual intercourse without condoms, due to awareness that consequently condom-less sexual intercourse could lead to contracting a STI or becoming pregnant, and as such, could jeopardize their future desires of pursuing tertiary education (Davids et. al, 2021). These finding can be understood through a

study that focused on adolescents in Cape Town (South Africa), which concluded that positive outlook and future prospects of employment were associated with consistent condom use (Muchiri et al., 2017).

Similarly, another study done in South Africa highlighted adolescents who had only primary education were less likely to use a condom compared to adolescents who had secondary education (Ntshiqa et al., 2018). Evidence highlights that adolescents in lower classes were 2.6 times less likely to exhibit good attitudes compared to adolescents in higher classes (Mudonhi et al., 2019). In agreement with this study is one conducted in Ghana among men, which found that consistent condom use increased with level of education, where individuals in elevated level of education were more likely to use condoms frequently compared to those in lower classes (Ahinkorah et. al, 2021).

Contrary to these studies, another study highlights that tertiary education is associated with inconsistent condom use (Holland et al., 2014). Whereas a study that focused on Iranian adolescents highlighted that no association was found between condom use and education (Hooshyar et al., 2018). However, a systematic review of 65 articles found that in 44 studies, condom use was more likely among people with elevated levels of education (Zuilkowski et al., 2011).

2.3.2 Age of respondents

Extant literature highlights that condom use is inversely proportional to age, meaning that, with an increase in age, condom use decreases (Exavery et al., 2012; Mudonhi et al., 2019). About 82% of the world's HIV positive adolescents are found in Sub-Saharan Africa, and adolescent girls aged 15 to 19 years make up the largest group of new HIV infections (Mpeta et al., 2021). In South Africa, females aged 15 to 24 years in 2018 made up approximately 25% of new HIV infections (Wet-Billing et al., 2020). This age group 15 to 24 in South Africa is recognized as adolescent age group, associated with risky sexual behaviors (Khuzwayo et al., 2020).

In a study that focused on Tanzanian women aged 15 to 49 years, condom use was popular

among women below the age of 20 years (Exavery et al., 2012). Moreover, a South African study focusing on women aged 16 to 24 years proved that male condom use at last sexual intercourse was reported at 57.8%, with women aged 16 to 19 years making up to 68.4% and women aged 20 to 24 years making up 54.5% (Ntshiqa et al., 2018).

However, in a study done among adolescents in Soweto (South Africa), males aged 15 and younger knew less about HIV transmission and had more negative beliefs about condom use (Closson et al., 2018). Thus, a study that focused on adolescents aged 14 to 19 suggested that intervention program that focus on reducing sexual risk among adolescents should be introduced at an early age than 15 years (Barchi et al., 2021).

2.3.3 Occupational status

Some studies find occupational status to be associated with consistent condom use (Kavuma et al., 2022; Ntshiqa et al., 2018; Wet-Billings et al., 2020; Ngome et al., 2016). In a study that focused on heterosexual females in South Africa, employed females were less likely to use a condom at last sexual intercourse, compared to unemployed females and females who were students (Ntshiqa et al., 2018). However, in another study, about 96.16% individuals that reported using a condom consistently were students, whereas 14.28% were employed adolescents, and 5.52% were unemployed adolescents (Wet-Billings et al., 2020).

Contrary to that study, in a study in Central Uganda, adolescents aged 15 to 24 years, employed adolescents were found to be 0.034 times less likely to use a condom consistently, when compared to unemployed adolescents (Kavuma et al., 2022). Additionally, a multivariate analysis study done in Iran found that being employed or unemployed affected condom use at last sex (Hooshyar et al., 2018).

2.3.4 Condom use at first sex

Condom use at first sex is argued to influence consistent condom use (Exavery et al., 2012). According to a study based on adolescents aged 15 to 24 years in Uganda, 59% of females and 43% of males used condoms at first sex (Tumwesigye et al., 2013). In the same study it is highlighted that condom use at first sex was correlated with being in school. Additionally, condom use at last sex was associated with not consuming alcohol (Tumwesigye et al., 2013).

On the other hand, late sexual debut was significantly associated with condom use at first sex whereas early sexual debut was associated with non-condom use at first sex (Kincaid et al., 2014; Phora, 2019). Similarly, in a study, adolescents who had used a condom at sexual debut years later were 36% more likely to be still using condoms than those who did not use a condom at first sex. On the other hand, a study highlighting gender disparities where condom use among female adolescents at first sexual intercourse was slightly lower than that of male adolescents (Phora, 2019).

2.3.5 Social and Behavioral Change Communication programs

Individuals who were exposed to SBCC programs were more likely to use a condom and they reported elevated levels of consistency (Leickness et al., 2019; Ntshiqa et al., 2018). The role of after school HIV communication programs is argued to positively influence the decision-making process of individuals (Phil et al., 2020). Adolescents who form part of such programs are often found to abstain from sexual intercourse until a later age. These programs often tackle issues related to gender inequality, which is argued to exacerbate HIV infections, STIs and unwanted pregnancy (UNIADS, 2019).

Evidence suggests that condom use increased by 27% between 2002 and 2008 among adolescent women due to behavioral change programs (Ntshiqa et al., 2018). However, years later, it is recorded that, despite intervention programs that seek to promote consistent condom use to prevent HIV transmission, there are new HIV infections among adolescent (Wet-Billings et al., 2020).

2.3.6 HIV status

Not being aware of a partner's HIV status is one of the reasons for consistent condom use (Martin et al., 2016). Additionally, it was found in a study that 55.8% ART clients who had sexual intercourse with regular partners used condoms consistently (Ali et al., 2019). Similarly, a study done with HIV positive individuals reported consistent condom use (Ajayi et al., 2019).

However, inconsistent condom use, fear of negotiating, and lack of confidence were found to be true for women 18 years and older, who were less likely to get tested for HIV with their sexual partners (Pitpitan et al., 2012). Furthermore, inconsistent condom use was recorded more among women with HIV positive partners in a stable relationship than among those with HIV negative partners.

Moreover, in another study, people living with HIV were found to be more likely to inconsistently use condoms, due to a lack of awareness that condoms are still needed if both partners are HIV positive (Deuba et al., 2017; Ali et al., 2019). Additionally, in another study, unprotected sexual intercourse was found to be popular among people living with HIV who had casual sexual partners (Deuba et al., 2017).

2.3.7 Alcohol consumption

With regards to alcohol consumption, a study about students with the ages 12 to 24 years recorded that drunkenness among females lead to inconstant condom use during sexual intercourse (Mola et al., 2016). In the same study, a total of 87.6% adolescents reported that they did not use condoms, even though they had not consumed alcohol in their latest sexual encounter (Mola et al., 2016).

A study in Uganda among university students found an association between alcohol intake and inconsistent condom use, reporting that 50% and 37% did not use a condom consistently with a new partner during sexual intercourse (Choudhry et al., 2014). Another study reported contrary findings, noting the strong likelihood of respondents reporting using a condom being associated

with alcohol intake (Kusathan et al., 2017).

Even though consistent condom use was high among Cambodia female sex workers, there were instances when condom consensus was not achieved. The study highlights that alcohol intoxicated clients had the potential of being more violent, and thus, that female sex works did not even insist on condom use (Maher et al., 2013). Additionally, in another study, inconsistent condom use and lack of confidence was found to be true for women 18 years and older, who attended drinking avenues (Pitpitan et al., 2012).

2.3.8 Condom accessibility

Free access to condoms is said to be a solution to reducing HIV transmission and new infections of STIs (Bom et al., 2019). In South Africa, there is a free condom distribution program that distributes male and female condoms in all nine provinces. Though condom distribution increases, actual condom use decreases (Leickness et al., 2019). Similarly, in a study that focused on adolescents in Botswana, despite the distribution of free condoms HIV, STIs and adolescent pregnancies are on the rise (Kanda et al., 2018).

A study among Iranian 19- to 29-year-olds found that 22.1% of participants reported condom accessibility to be a reason for not using a condom at last sex (Hooshyar et al., 2018). A study that focused on Midwestern university students' lower likelihood of having a condom accessible during sexual intercourse was associated with elevated levels of alcohol use (Harkabus et al., 2013). Furthermore, the same study highlights that condom accessibility requires planning and is positively associated with consistent and actual condom use (Harkabus et al., 2013).

2.3.9 Frequency of condom uses

In a South African study that focused on male adolescents aged 15 to 24 years, 92.38% of 15 to 19-year-olds reported that they use condoms sometimes, where some reported never using

condoms (Wet-Billing et al., 2020). Additionally, in South Africa, studies have found out that an increase in age, duration of relationship, and frequency of sexual intercourse are associated with frequency of condom use (Muchiri et al., 2017). According to Muchiri et al. (2017), frequency of condom uses decreases from using a condom consistently (every time) to inconsistently (almost every time, and sometimes).

2.4 Theoretical Framework

Modified components of the Health Belief Model were adapted to provide association of the relationship between condom consensus and the socio-demographic factors among adolescents aged 15 to 24 years in South Africa. The Health Belief Model was developed in the 1950s by the psychologists Hochbaum, Kegels and Rosenstock, who worked for the US Public Health Services (Abraham et al., 2015). The theory was coined in order to understand why individuals did not have interest in free X-ray screening for tuberculosis.

The first research was done by Hochbaum, who discovered that perceived susceptibility to tuberculosis and behavioural evaluation was different between those who did and did not attended screening (Abraham et al., 2015). A second study was done by Kegels, who found out that useful predictors of the frequent visits to the dentist could be the result of perceived susceptibility to the worst imaginable dental problems (Abraham et al., 2015). Lastly, there was a greater number of check-up visits to the doctor, and compared to no intervention over an eight-month follow up, these results were due to health education based on the HBM and anticipated benefits (Abraham et al., 2015; Rosenstock, 1974).

It was later suggested by various studies that the Health Belief Model key health beliefs that provide a useful framework for understanding disparities among individuals' health behavior patterns and for modeling behavior change intervention (Abraham et al., 2015; Jones et al., 2015). The HBM focused on two aspects, namely: threat perception, and behavioral evaluation. Threat perception focused on perceived susceptibility and perceived severity. Behavioural

evaluation focused on perceived benefits and perceived barriers (Abraham et al., 2015; Jones et al., 2015). The Health Belief Model proposed that cues to action of positive health behavior can be activated if appropriate health beliefs are upheld by an individual. Later versions of the model include the individual's health motivation focuses on the individuals concern about their health (Abraham et al., 2015).

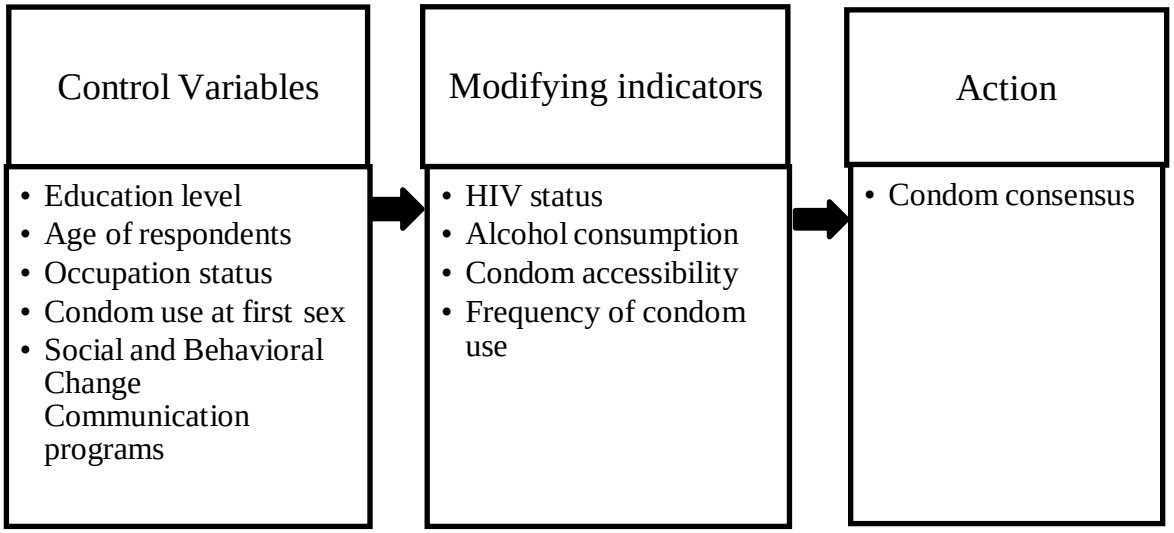
For the purpose of this study, only three constructs were used from the Health Belief Model. These are the socio-demographic factors associated with behavior change, modifying factors, and action of behavior change. This enables the study to investigate and provide an extensive association between socio-demographic factors and condom consensus while considering modifying factors.

2.5 Conceptual framework

This study adapts the health belief model in order to examine the socio-demographic factors associated with condom consensus among adolescents in South Africa. The conceptual framework in Figure 2.1 below assumes that there is a link between control variables (level of education, age, occupation status, condom use at first sex and SBCCs) and modifying variables (HIV status, alcohol consumption, condom accessibility and frequency of condom use). The relationship is suspected to either be that which influences or hinders condom consensus.

Evidence shows that level of education, age, occupation status, condom use at first sex and SBCC programs have an influence on condom use and non-condom use (Exavery et al., 2012; Ntshiqa et al., 2018). These background variables are not proximate determinants of condom consensus. HIV status, alcohol use. and condom accessibility are regarded to be factors that can either hinder or influence condom consensus

Figure 2.1: Adopted Health Belief Model



Source adopted from Abraham et al., 2015: pp 32

2.6 Hypotheses:

The significance level that will be used to test these hypotheses will be at 0,05:

- H0: There is no relationship between sociodemographic factors and condom consensus.
- H1: There is a relationship between sociodemographic factors and condom consensus.

CHAPTER THREE: METHODOLOGY

3.1 Study design

This is a quantitative, cross-sectional study that utilized secondary data collected from January to December 2017. The study utilized the Fifth South African National HIV, Behavior and Health Survey of the year 2017. The household record was downloaded from the database HSRC. The dataset was modified to fit the description of this study, where ages less than 15 years and greater than 24 years were dropped from the data. The survey included several indicators of the population, with questions being related to individuals, families, and community behaviors and perceptions.

3.2 Data Source and Sampling Procedure

The survey was funded through a cooperative agreement between the US President's Emergency Plan for AIDS Relief (PEPFAR) and the US Centers for Disease Control and Prevention (CDC) Global Fund. Additional financial resources came from the South African National AIDS Council, which secured support for the survey from Right to Care, Soul City, Love Life, United Nations Children's Fund, US Agency for International Development and the Center for Communication Impact (Leickness et al., 2019).

The data was representative of all people living in South African households. The 1000 SALs were drawn from the frame of 84 907 SALs of the national population sampling of 2015 by Statistics South Africa for the survey. For first stage primary sampling, units were defined as the 1000 SALs sampled from the Statistics South Africa of 2015. The sample size matched the population size, which was disproportionally distributed in the country South Africa, stratified into nine provinces (Leickness et al., 2019).

For secondary sampling units systematically sampling approach was used to sample 15 visiting points from each of the 1000 small area layers. From the 15 visiting points, all individuals living in a household responded to the survey (Leickness et al., 2019).

3.3 Study population and sample size

Population of interest for the survey was people aged 15 and older who lived in households in South Africa. This study however only focused on adolescents aged 15 to 24 years in South Africa who had a sexual relationship within the past 12 months with the respondent. Only the most recent sexual relationship was considered for this study. This population was chosen, as literature has shown that there is high HIV prevalence among adolescents in South Africa and that this is due to unprotected heterosexual intercourse (Mabaso et al., 2021).

The data set consist of 1090 variables and 66 615 cases. The weighted sample for this study is 6018 and the unweighted sample is 933.

3.4 Characteristics of study population

Table 3.1: Frequency and Percentage Distribution of Socio-Demographic Factors

Variables	Frequency (N=6018)	Percentage
Level of Education		
Primary /No education	226	3.76
Secondary education	5216	86.67
Tertiary education	576	9.57
Age of respondents		
15- 19 years	890	14.79
20- 24 years	5128	85.21
Occupation status		
Unemployed	4354	72.35
Studying	213	3.54
Employed	1451	24.11
Condom use at first sex		
Used a condom	4452	73.98
Did not use a condom	1566	26.02

SBCCs		
Agree	2611	43.39
Disagree	2534	42.11
Did not know	873	14.51
Modifying indicators		
HIV Status		
HIV positive	320	5.32
HIV negative	5698	94.68
Alcohol consumption		
Consumed alcohol	436	7.24
Did not consume alcohol	5582	92.76
Condom accessibility		
Easily accessible	5827	96.83
Not easily accessible	191	3.17
Frequency of condom uses		
Every time	3939	65.45
Almost every time	765	12.71
Sometimes	1314	21.83

Table 3.1 above highlights the characteristics of the study population. As highlighted in the table above, most of the participants had been through secondary education (86.67%) and 9.57% had been through tertiary education. Only 3.76% made up the primary/no education category. When analyzing age, 85.21% were adolescents aged 20 to 24 years and only 14.79% were those who were 15 to 19 years. A larger population were those who were unemployed (72.35%), with only 24.11% being employed and 3.54% being students. With regards to condom use at first sex, only 26.02% adolescents did not use a condom at first sexual intercourse and a majority of 73.98% used a condom. A majority of 43.39% adolescents agreed that there were enough SBCCs in their communities, whereas 42.11% and 14.51%, disagreed, and did not know, respectively.

Only 5.32% was HIV positive and the rest population was HIV negative. Alcohol consumption

was rare before sexual intercourse among the adolescents, where only 7.24% had consumed alcohol, and the high of 92.76% did not consume alcohol before their last sexual intercourse. A majority of 96.83% adolescents reported that condoms were easily accessible to them and only 3.17% reported that condoms were not. Lastly, frequency of condom uses highlights that 65.45% adolescents used condoms every time, 21.83% sometimes, and 12.71% almost every time.

3.5 Questionnaire Design

Only five changes were made to the previous SABSSM surveys used to develop the 2017 SABSSM. The survey was divided into four questions the household questionnaire, questionnaire responded to by the parent or guardian of individuals younger than 11 years, the questionnaire for children 12 to 14 years of age, and the question for people aged 15 and older. For this study, only the 15 and older questionnaire was used. The questionnaire was developed with the inputs of from SANAC, National Department of Health, Gauteng Provincial Department of Health, Public Service and Administration. NGOs (Right to Care, Soul City, Love Life) were also consulted to develop the questionnaire. English language questionnaires, information sheets and informed consent forms were translated into ten South African official languages to hinder language barrier issues. The translated questionnaires were trialed during September 2016 in KwaZulu-Natal and North West, with five SALs from each province among 150 households.

3.6 Study Variables

Reviewed literature and a theoretical framework were used to guide this study. According to previous literature, the selected socio-demographic factors and modifying factors have either influenced or hindered consistent condom use, however no evidence has been shared on how the influence condom consensus. The health belief model asserts that behavior evaluation that leads to an action is due to the threat perception of illness. In this study, the aim was to determine whether sexually active partners will have an agreement about using a condom, as unprotected sexual intercourse is the mode of spread for HIV.

3.6.1 Dependent variable

The outcome variable is condom consensus with the most recent sexual partner. The question that was used to measure the outcome variable from the survey is "who suggested using a condom?" the responder had three answers "yourself", "your partner" and "mutual agreement". To derive the outcome variable these responses were categorized into two responses 0 = no consensus ("yourself" or "your partner") and 1= condom consensus ("mutual agreement").

3.6.2 Modifying Variable

Literature and the health belief model framework highlights that there are perceived barriers to preventative action, such as alcohol consumption before sexual intercourse, frequency of condom use, condom accessibility, and perceived susceptibility to HIV may be the reason for preventative action. Modifying variables for this study are HIV status, which included: (0) = HIV positive and (1) = HIV negative; alcohol consumption has two categories (0) = consumed alcohol and (1) = did not consume alcohol; condom accessibility has two categories (0) = easily accessible and (1) = not easily accessible; and frequency of condom use has three categories (0) = every time, (1) = almost every time, and (2) = sometimes.

3.6.3 Control Variable

For this study, control variables are sociodemographic factors, namely level of education, age, occupational status, condom use at first sex, and SBCCs. Evidence shows that progression in age and education level is linked to awareness and receptiveness to health education (Ahinkorah et al., 2021; Kipping et al., 2014). Similarly, being employed is associated with being financially well off, where as such, the ability to make better health choices, for example, being able to purchase condoms (Ntshiqa et al., 2018). Condom use at first sex is associated with frequent condom use, and it is understood that using a condom at first sex creates an expectation to use condoms every time (Exavery et al., 2012). On the other hand, evidence highlights that SBCCs influences sexual abstinence and positive outlook on life, thereby increasing condom use among

adolescents (Phil et al., 2020).

Table 3.2: Categorization and Definition of variables used in this study

Variable	Definitions	Codes and categories
Dependent variable		
Condom consensus	Who suggested using a condom?	No consensus……0 Mutual agreement…1
Modifying variable		
HIV status	What was the result of that HIV test?	HIV positive ..... 0 HIV negative 1
Alcohol consumption	The last time you had sex with your partner did you drink alcohol before sex?	Consumed alcohol ..... 0 Did not consume alcohol.... 1
Condom accessibility	Did you or your partner pay for the last condom you used or did you get it for free? (Male and/female condoms)	Easily accessible .....0 Not easily accessible 1
Frequency of condom uses	How often do you use a condom with your partner?	Every time .....0 Almost every time.....1 Sometimes 2
Control variables		
Level of Education	What is the highest educational level that you obtained?	Primary/No education…….0 Secondary education……1 Tertiary education…….2
Age	How old were you on your last birthday? (Age of respondents)	15- 19 years……0 20- 24 years……1

Occupation status	Current occupation status	Unemployed…….0 Student……1 Employed……2
Condom use at first sex	Did you use a condom at first sex?	Used a condom ..... 0 Did not use a condom ... 1
SBCC	There are enough community-based organizations helping with HIV/AIDS in your community?	Agree……0 Disagree/Do not know……1

3.7 Data analysis

According to the study, objectives two steps were used to analyze data, while dropping data and excluding missing cases. A household record was utilized, it was downloaded as a Stata file from the HRSC. It was then extracted and uploaded to Stata software. Prior to running univariate, bivariate and multivariate analysis data were reviewed so as to clean it by dropping data irrelevant to this study. For example, the data included people aged 15 years and older, where people younger than 15, and older than 24 years were dropped.

Objective 1: To examine the levels of condom consensus among adolescents aged 15 to 24 years in South Africa.

Using STATA software, univariate and bivariate analysis were computed. Univariate analysis is included in Chapter 3 to describe the levels of condom consensus among adolescents among the study population and the few selected variables. Cross-tabulations were computed to analyze the patterns of condom consensus by selected socio-demographic factors. Pearson's Chi-square test was used to check for association between variables and statistical significance was marked at

p<0.5. The Chi-square equation is:

$$x^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Where:

x^2= Chi-square (Chi2), $\sum$= Summation, O_i= Observed values, E_i = Expected values

Objective 2: To describe the sociodemographic factors associated with condom consensus among females 15 to 24 years in South Africa.

Multivariate analysis was conducted using a binary logistic regression model to examine the socio-demographic factors associated with condom consensus in South Africa among adolescents between 15 to 24 years of age. The dependent variable condom consensus has only two categories, viz.: no consensus, and mutual agreement. Binary logistic regression is best for this study, as it estimates the probability that an event will occur through presenting the odds ratio. The formula for binary logistic regression is:

$$Ln\,(\gamma) = \log_e \frac{P_i}{1-P_j} = a + (\beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_p X_p)$$

Multivariate analysis is divided into two stages, one illustrating the unadjusted odds ratios model, and the other the adjusted odds ratios model. Results are presented as OR (odds ratios), with a 95% CI (confidence interval). For this study, an odds ratio is used for identification, interpretation, and analysis of socio-demographic factors associated with condom consensus. The odds ratio refers to the likelihood of adolescents having a mutual agreement about using a condom. In such case that the odds ratio is greater than the reference category, which is equal to one, this means that the index category is more likely to occur. In such case that the odds ratio is less than one, this means that the probability of the index category occurring is less that of the reference category.

3.8 Ethical issues

I have used secondary data, which is data that I did not collect. I am not affiliated with the HSRC (Human Science Research Council) which is the organization that collected the data I will use. In the datasets, personal information of the participants was not revealed the participants remain anonymous to me. Ethical approval from the University of the Witwatersrand Human Research Ethics Committee is not a requirement for this study. However, I have received the Ethics Waiver Approval letter with the ethics number: WDEMG2021/08/05.

CHAPTER FOUR: RESULTS

4.1 Introduction

This section of the chapter has two sub-sections. In the first sub-section, the first objective was to examine the levels and patterns of condom consensus among adolescents in South Africa. The results of the bivariate analysis show the Chi-square test association between the outcome variable (condom consensus) and selected socio-demographic variables. The second sub-section analysis the results of binary logistic regression responding to the second objective of this study, namely to examine the socio-demographic factors associated with condom consensus among adolescents in South Africa.

4.2 Results analysis for levels of socio-demographic factors associated with condom consensus among adolescent in South Africa.

Figure 4.1: Levels of Condom Consensus

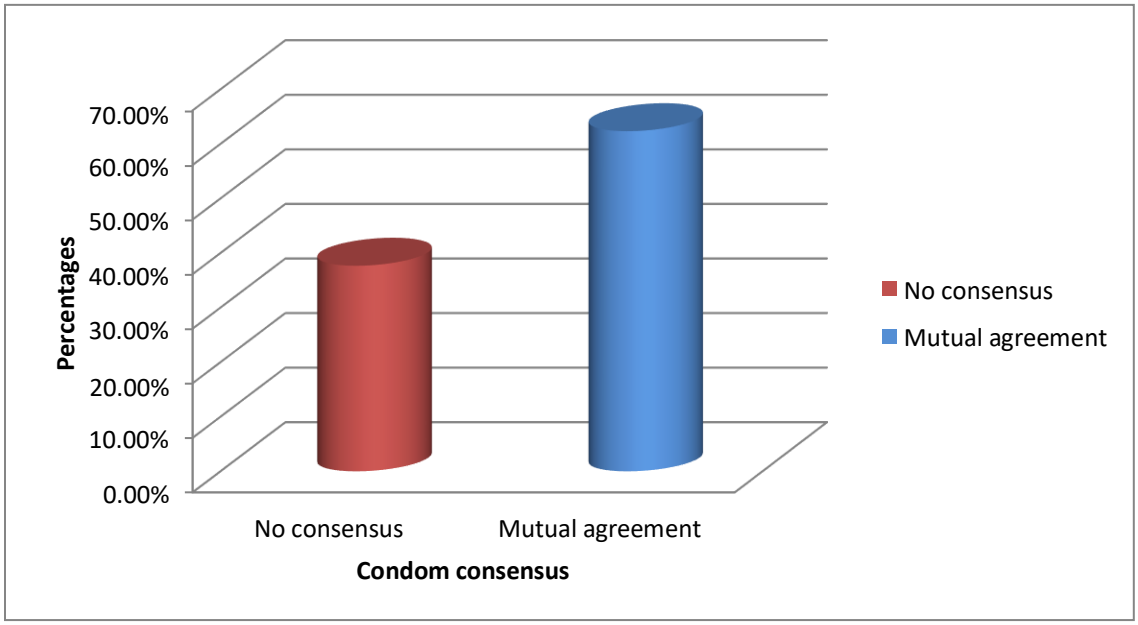


Figure 4.1 above illustrates that there were 37.67% adolescents who reported no consensus with their most recent sexual partners and 62.33% adolescents who reported having a mutual agreement about using condoms with their most recent sexual partner.

Table 4.1: Percentage Distribution of Socio-Demographic Factors by Condom Consensus

Socio-demographic factors	Condom Consensus (%)		p-value
	No Consensus	Mutual Agreement	
Control variables			
Level of education			0.762
Primary/No education	4.57%	4.21%	
Secondary education	87.14%	86.28%	
Tertiary education	8.29%	9.61%	
Age of respondents			0.779
15- 19 years	15.43%	14.75%	
20- 24 years	84.57%	85.25%	
Occupation status			0.346
Unemployed	69.14%	72.90%	
Student	4.29%	2.92%	
Employed	26.57%	24.19%	
Condom use at first sex			0.729
Used a condom	73.43%	72.38%	
Did not use a condom	26.57%	27.62%	
Social and Behavioral Change Communication Program			0.937
Agree	40.92%	42.20%	
Disagree	43.71%	42.54%	
Did not know	15.14%	15.27%	
HIV status			0.761
HIV positive	5.43%	4.97%	
HIV negative	94.57%	96.03%	
Alcohol Consumption			0.060
Consumed alcohol	9.71%	6.35%	
Did not consume alcohol	90.29%	93.65%	

Condoms accessibility			0.043
Easily accessible	95.14%	97.60%	
Not easily accessible	4.86%	2.40%	
Frequency of condom use			0.000
Every time	64.57%	67.07%	
Almost every time	7.71%	15.78%	
Sometimes	27.71%	17.15%	

In Table 4.1 above, level of education attained by most participants was secondary education with 86.60 percent. Most participants who had been through secondary education had mutual agreement about using a condom; this is evident through the respective 86.28% and 9.61% condom consensus for secondary and tertiary education. However, for secondary education, no consensus was 87.14%, which was greater compared to other levels of education. For tertiary education, no consensus was 8.29%, while for primary or no education it was 4.57 percent. The Chi2 test of the association shows that the relationship between condom consensus and the level of education is not significant (p=0.762).

Participants between the ages 20 to 24 years have the highest mutual agreement about using a condom (85.25%) compared to no condom consensus (84.57%). Participants aged 15 to 19 years had the lowest mutual agreement of 14.75% when it came to using a condom, and the highest no condom consensus (15.43%). The Chi2 test for association signifies that there is no significant association between condom consensus and age of respondents (p-value 0.779).

Mutual agreement about using a condom was high among unemployed adolescents (72.90%) and no condom consensus was also high among these adolescents, at 69.14 percent. Participants who were students had greater no consensus than mutual agreement, at 4.29% and 2.92%, respectively. For participants who were employed, only 24.19% had mutual agreement and 26.57% had no consensus. The p-value (0.346) of the Chi2 test for association highlights that there is no significant association between the occupation status of participants and condom consensus.

More adolescents reported having use a condom at first sex, and only 27.22% reported that they did not use a condom at first sex. With regards to participants who used a condom at first sex, mutual agreement was greater (72.38%) compared to those who did not use a condom at first sex (27.62%). No consensus for participants who used a condom at first sex was greater (73.43%) than mutual agreement. For adolescents who did not use a condom at first sex, mutual agreement was higher than no consensus (26.57%). The Chi2 test of association shows that there is no significant relationship between condom use at first sex and condom consensus (p-value 0.729).

A majority of adolescents disagreed that there were enough SBCCs in their community (42.98%). However, mutual agreement was greater among those adolescents who disagreed (42.54%) compared to those who agreed, and did not know. No consensus, on the other hand, was low among those who agreed (41.14%) and amongst those who did not know (15.14%). Condom consensus and SBCCs were therefore found to not be significantly associated with each other (p=0.937).

With regards to HIV status, 94.57% HIV negative adolescents reported no consensus, and only 95.03% reported mutual agreement. For adolescents who were HIV positive, 4.97% reported mutual agreement, and 5.43% reported no consensus. HIV status and condom consensus were found to be statistically insignificant (p=0.761).

Adolescents who did not consume alcohol had greater mutual agreement (93.65%) than those who consumed alcohol before sexual intercourse (6.35%). No consensus was also high amongst adolescents who did not consume alcohol (90.29%) and 9.71% for those who consumed alcohol. Alcohol consumption and condom consensus were found to be statistically insignificant (p=0.060).

Mutual agreement was high among adolescents, who reported that it was easy to access a condom (97.60%), whereas no consensus was (95.14%). No consensus among adolescents who reported that accessing a condom is not easy was greater (4.86%) than mutual agreement, which was 2.40 percent. Condom accessibility and condom consensus were found to be statistically significant (p=0.043).

With regards to frequency of condom use, adolescents who reported using a condom every time were (66.13%), those who use condoms almost every time (12.75%), and sometimes were (21.11%). For no consensus, adolescents who used condoms every time numbered 64.57%, for almost every time 7.71%, and sometimes 27.71 percent. Mutual agreement was greater among adolescents who reported using condoms every time (67.07%) when compared to the other two categories. Frequency of condom use, and condom consensus is statistically significant (p=0.000).

4.3 Binary logistic regression analysis of the determinants of adolescent condom consensus.

Table 4.2: Adjusted and Unadjusted Binary Logistic Regression Model indicating Socio-Demographic Factors and Condom Consensus

	Model 1		Model 2	
Socio-demographic factors	UOR (95%CI)	p-value	AOR (95%CI)	p-value
Level of education				
Primary/No education	Ref		Ref	
Secondary education	1.480[-0.746- 2.938]	0.262	1.302[0.631 – 2.685]	0.475
Tertiary education	1.841[-0.813- 4.168]	0.143	1.597[0.666 -3.827]	0.294
Age of respondents				
15 – 19 years	Ref		Ref	
20 – 24 years	1.074[0.727- 1.586]	0.721	0.971[0.644 – 1.463]	0.888
Occupation status				
Unemployed	Ref		Ref	
Student	0.762[0.364-1.594]	0.470	0.693[0.310-1.550]	0.372
Employed	0.875[0.632- 1.210]	0.420	0.807[0.573 – 1.137]	0.221
Condom use at first sex				
Used a condom	Ref		Ref	
Did not use a condom	1.018[0.744-1.393]	0.910	1.084[0.778 – 1.509]	0.634
SBCCs				

Agree	Ref		Ref	
Disagree	0.882[0.652-1.193]	0.414	0.933[0.684 – 1.273]	0.664
Did not know	0.862[0.565-1.316]	0.492	0.922[0.596-1.426]	0.761
Modifying indicators				
HIV status				
Positive	Ref		Ref	
Negative	1.221[0.661-2.253]	0.524	1.275[0.673 – 2.415]	0.455
Alcohol consumption				
Consumed	Ref		Ref	
Did not consume	1.759[1.052-2.941]	0.031	1.649[0.989 – 2.750]	0.055
Condom accessibility				
Easily accessible	Ref		Ref	
Not easily accessible	0.433[0.205-0.912]	0.028	0.457[0.224– 0.932]	0.031
Frequency of condom use				
Every time	Ref		Ref	
Almost every time	1.980[1.220- 3.214]	0.006	1.931[1.185-3.145]	0.008
Sometimes	0.573[0.407-0.805]	0.001	0.563[0.397-0.798]	0.001

Table 4.2 above is a representation of adjusted and unadjusted binary logistic regression model (Model 1 and Model 2). It indicates the association of socio-demographic factors and condom consensus among adolescents in South Africa. From Table 4.2 Model 1, only alcohol consumption, frequency of condom use, and condom accessibility were statistically significant with condom consensus. For Model 2 only, frequency of condom use and condom accessibility were statistically significant with condom consensus, due to the p-value being less or equal to 0.05.

Unadjusted Regression Results

The results illustrate that adolescents with secondary and tertiary education were 1.480 and 1.841 likely to have a mutual agreement about using a condom compared to adolescents with primary and no education. Additionally, condom consensus was 1.074 times more likely for adolescents

aged 20 to 24 years than for those aged 15 to 19 years, whereas the odds of condom consensus were 0.762 and 0.875 less likely among students and employed adolescents than for unemployed adolescents.

Adolescents who did not use a condom at first sex were 1.018 likely to have a mutual agreement about using a condom than adolescents who used a condom at first sex. When analyzing the results for SBCC programs, condom consensus was less likely among adolescents disagreed and those who did not know whether there were enough community-based organizations helping with HIV/AIDS in their community (UOR, 0.882; CI, 0.652- 1.193) and (UOR, 0.862; CI, 0.565-1.316).

Before adjusting for other factors, condom consensus was 1.221 more likely for adolescents who were HIV negative than for adolescents who were HIV positive. With regards to alcohol consumption, adolescents who did not consume alcohol were 1.759 times more likely to achieve condom consensus when compared to adolescents who did consume alcohol. Additionally, alcohol consumption was statistically significant with condom consensus p=0.031.

The odds of condom consensus were 0.433 less likely for adolescents for whom condoms were not easily accessible, compared to those who reported easy accessibility. Additionally, condom accessibility was statistically significant, with condom consensus for model 1, p= 0.028. For frequency of condom use, adolescents who reported using condoms almost every time and sometimes were 1.980 more likely and 0.573 times less likely to have condom consensus. For frequency of condom use, the categories ‘every time’ and ‘sometimes’ were statistically significant with p=0.006 and 0.001, respectively.

Adjusted Regression Results

Similar to Model 1 (unadjusted regression model) Model 2 (adjusted regression model) highlights that condom accessibility and frequency of condom use were significantly associated with condom consensus.

When other factors were kept constant in Model 2, adolescents with secondary and tertiary education were respectively 1.302 and 1.597 times more likely to experience mutual agreement about using a condom than adolescents with primary/no education. The likelihood of condom consensus for adolescents aged 20 to 24 years was 0.971 times less likely than for adolescents aged 15 to 19 years. With regards to occupation status, condom consensus was 0.693 less likely for students, and 0.807 times less likely for employed adolescents than for unemployed adolescents.

Furthermore, the odds of condom consensus were 1.084 more likely for adolescents who did not use a condom at first sex than for those who did use a condom at first sex. Additionally, for SBCC programs, condom consensus was less likely among adolescents who disagree and those who did not know whether there were enough community-based organizations helping with HIV/AIDS in their community (A0R, 0.933; CI, 0.684- 1.273) and (AOR, 0.922; CI, 0.596-1.426).

Adolescents who were HIV negative were 1.275 times more likely to have condom consensus compared to adolescents who were HIV positive. When considering alcohol consumption, adolescents who did not consume alcohol before their last sexual intercourse were 1.649 more likely to have mutual agreement about using a condom compared to those who did consume alcohol. The likelihood of condom consensus was 0.457 less likely for adolescents for whom condoms were not easily accessible, than for adolescents who had easy access to condoms. Condom accessibility was also statistically significant with p=0.031. Regarding frequency of condom use, likelihood of condom consensus was 1.931 more likely and 0.563 less likely for adolescent who reported using condoms almost every time, and sometimes, respectively. Frequency of condom use was statistically significant, with p=0.008 and p=0.001 for almost every time and sometimes, respectively.

CHAPTER 5: DISCUSSION

5.1 Introduction

This section includes a full discussion of results based on each objective of this study. The purpose of this section is to provide an interpretation and explanation of the analysis results. The results are based on the bivariate and multivariate analysis as illustrated in the previous section (section 4).

5.2 Discussion of Hypothesis testing

According to theoretical framework health belief model, behavior change is influenced by socio-demographic factors (Abraham et al., 2015). The hypothesis for this study, which was also indicated in Chapter 2 (2.4) was:

- H0: There is no relationship between sociodemographic factors and condom consensus.
- H1: There is a relationship between sociodemographic factors and condom consensus.

Using the binary logistic regression unadjusted and adjusted model, results present that alcohol use (p=0.031), condom accessibility (p=0.028), and frequency of condom use (p=0.006 and p=0.001) are statistically significant with condom consensus. The results highlight that when other factors are constant, the likelihood of condom consensus was 0.457 less likely for adolescents for whom condoms were not easily accessible, whereas adolescent who used condoms almost every time were 1.931 more likely to achieve condom consensus, and those who used condoms sometimes were 0.563 less likely to achieve condom consensus. This study therefore rejects the null hypothesis (H0) which suggests that there is no relationship between socio-demographic factors and condom consensus.

5.3 Discussion of Research Findings

While condoms have been proven to be effective in reducing HIV transmission, STIs and

adolescent pregnancy, heterosexual intercourse without condoms among adolescents in South Africa poses a challenge to reducing new HIV infections among adolescents. This poses a threat to the aim set by NSP of 2017 to 2022, which seeks to reduce new HIV infection by approximately 80 percent. Additionally, it slows down achievement of SDGs. This study is therefore crucial in order to establish communication that will be effective in behavioral change and encouraging adolescents to reduce the risk of HIV and STI transmission as well as adolescent pregnancy. As such, the general objective of this study was to investigate the socio-demographic factors associated with condom consensus among adolescents in South Africa. Overall, in this study, condom consensus was significantly associated with condom accessibility and frequency of condom use.

Before adjusting for other factors, this study determined that condom consensus was 1.759 times more likely among adolescents who did not consume alcohol compared to adolescents who did. For the unadjusted binary logistic regression, condom consensus and alcohol consumption were statistically significant with one another. Even though condom consensus was 1.649 times more likely for adolescents who did not consume alcohol when factors were kept constant, alcohol consumption was not statistically significant with condom consensus for adjusted binary logistic regression. What these results suggest about alcohol consumption is that indeed not consuming alcohol before sexual intercourse has a positive influence on whether a mutual agreement will be achieved with regards to using a condom.

The findings of this study are in alignment with studies that have highlighted that alcohol consumption is associated with inconsistent or no condom use (Mola et al., 2016). Similarly, in a phenomenological qualitative study conducted in Botswana among young adults, it was recorded that alcohol use is a major barrier to condom use. From the in-depth interviews recorded for that study, adolescents highlighted that in such case that either one of them had consumed alcohol, a condom would either be incorrectly used, or not used at all (Khanda et al., 2018). Correspondingly, in a study done in a few selected KwaZulu-Natal high schools, out of the 42% of Grade 10 learners who were sexually active 40% reported not using a condom at last sex and 34% out of the 40% had consumed alcohol before sexual intercourse. Another study supporting these results was conducted in Ethiopia, which recorded that drinking alcohol among youths was

an indicator for engaging in risky sexual behavior, such as unprotected sex (Kassa et al., 2016).

For this study, positive association between 'did not consume alcohol' and 'condom consensus' can be explained through the effects of alcohol to thinking process. Alcohol is explained to be a psychoactive substance, which affects the functioning of the mind and creates change in the awareness of the individual. Alcohol is therefore deduced as having the ability of impairing decision-making, thereby causing poor judgement (Pitpitan et al., 2012; Kassa et al., 2016). Thus, for this study, adolescents who did not consume alcohol were able to achieve mutual agreement about using a condom.

Secondly, the study highlights that, for both unadjusted and adjusted binary logistic regression, those who reported not having easy accessibilities to condoms were less likely to achieve mutual agreement about using a condom. After keeping factors constant, condom consensus was 0.457 less likely for adolescents for whom condoms were not accessible, when compared to adolescents who reported having easy access to them.

A study done in Botswana among adolescents noted that accessing profession healthcare is challenging for adolescents, particularly due to the environment not being adolescent friendly, and opening hours being inconvenient (Mwinga, 2012). Since condoms are made widely available at healthcare institutions, it is clear as to why adolescents could be facing challenges with accessing them, even though they are free. It can therefore be argued that if condoms are to be made more accessible to adolescents by making them available in their common gathering spaces, condom consensus would be achieved. The lack of adolescent-friendly institutions that offer free condoms and those that educate about sexual and reproductive health is disastrous, as adolescents turn to rely on their peers for information regarding sexual responsibility and health, and resort to not using condoms (Davids et al.,2021).

This study suggests that condom availability programs (CAPs) should be made compulsory in schools in South Africa. This is due to the finding of a study that reviewed twenty-nine articles from six countries, which found that CAPs do not increase sexually risky behavior, but instead increases condom uptake (Algur et al., 2018). CAPs will not increase condom accessibility, but will however be influential when it comes to frequency of condom use.

Another factor that ought to be carefully considered according to the results of this study is frequency of condom use, whereas for frequency of condom use, the likelihood of condom consensus was 1.668 greater for adolescents who used condoms almost every time and 0.582 times less likely for those who used condoms sometimes. It is important that adolescents are influenced to understand the importance of using a condom all the time when engaging in a sexual activity. This can partly be achieved through making carrying condoms and protecting self a recommendable societal norm (Farrington et al., 2017). Moreover, it is necessary to clarify for adolescents that sexual intercourse is not necessarily a symbol of true love; this can assist in clearing the blurred understanding of the act itself. This clarification has the potential of pouring into understanding that using a condom when having sexual intercourse is not a sign of dishonesty, but rather, of being responsible about ones' health.

Corroborating previous studies, this study found a positive association for secondary and tertiary education. This suggests that educational level has an influence on the level of maturity of an individual, with a positive influence on both knowledge and decision making about sexual health (Ntshiqa et al.,2018; Bom et al., 2019; Ajayi et al., 2019). However, when looking at the odds for those between the ages of 20 to 24 years, it is clear that maturity is not a proximate determinant of condom consensus.

Additionally, the odds of students and employed adolescents confirm that a change in basic assumptions regarding elevation in social status, financial stability, and sexual health is necessary (Muchiri et al., 2017). According to Socrates, everyone desires the good, and as such, if adolescents with high social status are to emphasize the importance of condom consensus and using condoms every time, the desired social norm of using condoms frequently would be achieved in various societies.

A study done among Tanzanian woman found that condom use at first sex influences consistent condom use (Exavery et al., 2012). However, the odds of did not use a condom at first sex in this study highlight that condom consensus can be achieved even if condoms have not been used before by sexual partners. As condoms are usually not used at first sex in noncausal relationships, there is need to normalize condom use even amongst main or primary sexual

partners, and not just for casual sexual partners (Farrington et al., 2017).

When looking at the odds of condom consensus among HIV positive adolescents, this study acknowledges that there is a need to educate HIV positive adolescents about the importance of using condoms. Knowledge of HIV status, in particular, being HIV positive and perceived severity, do not always translate to behavioral change, which in the case of this study, is condom consensus. In this study, adolescents who were HIV positive were less likely to have a mutual agreement about using condoms. These results are in line with the study done among ART clients, who assumed that since they were HIV positive, there was no need for them to use condoms (Ali et al., 2019). This study is therefore in agreement with the claim that HIV positive adolescents need to be made aware that using a condom is crucial for them as form of self-protection, as well as for their partner, as form of partner protection (Farrington et al., 2017).

The success of condom availability programs lies in ensuring that within communities there are enough SBCCs made known to adolescents and those that provide after-school programs that seek to decrease the HIV, STI, and adolescent pregnancy crisis. Even though such programs may have their own flaws that require restructuring due to their decrease in performance as recorded by previous studies (Billing et al., 2020). It is undeniable that such programs do play a crucial role in society, and have assisted in channeling the energy of adolescents in the past into more productive actives than risky sexual behaviors (Ntshiqa et al., 2018). It is in this way that these programs need to be executed in communities as intervention programs. The odds of SBCCs highlight that indeed those who are aware of the programs are at an advantage of making positive choices about their sexual lives, when compared to those who are not aware of SBCCs.

5.4 Strengths and limitations of the study

5.4.1 Strengths

This study used secondary data with a large sample size that was collected by various means. Though the study focuses on South Africa, its results can be used to generalize situations of other

countries only where the age group is adhered to the age limit. Generalization of results is important, as the issue discussed in this study does not affect South Africa alone, but Africa as a whole. This study has highlighted need for further research that has not been investigated in South Africa which could have a positive impact on policy.

5.4.2 Limitation

Self-reported information often leads to underreporting as well as overreporting, thus compromising secondary data. This is often common with surveys that question sexual history of individuals. For example, question about frequency of condom use or condom use at first sex may lead to a biased response. This could be partly due to the desire of appearing morally acceptable adolescents, according to religious values that forbid sexual intercourse out of marital union. Adolescents who overreport information about their sexual history may present a limitation to this study. The results of this study are therefore interpreted with consideration of this limitation. Secondly, a causal relationship cannot be concluded as the study uses cross-sectional data that is collected at a particular point in time and does not follow through the sequence of events. As such, the interpretations in this study only focus on the association between dependent variable and independent variables. This data excludes young adolescents aged between 10 and 14 years. Even though individuals aged 10 to 14 years are not regarded as adolescents in South Africa, this data would widen the scope of the study. Including these ages is important, as those are the initial stages of physical, cognitive, and emotional development. Adding this data would aid intervention programs in dealing with the social issue while adolescents are still in their initial stages of adolescence.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

A summary of the key findings and conclusion of this study are provided in this section. Additionally, the recommendations for policy and research are outlined in the sub-section of this study.

6.2 Conclusions

This study found that there is significant association between condom accessibility and condom consensus as well as frequency of condom use and condom consensus. Adolescents who reported not having easy access to condoms were less likely to achieve mutual agreement about using a condom. This study validated previous studies that argue that adolescents are not fond of public health institutions, due to the treatment they receive there. As a result of this dislike, adolescents are unable to easily access condoms thus the odds of condom consensus are less likely. Shockingly, this study found that being HIV positive does not intensify the likelihood of condom consensus among adolescents, as anticipated by the health belief model.

While these results may be used as a basis for informing intervention programs that seeks to address high HIV prevalence among adolescents, there are other aspects from this study that need to be considered. For more favorable results, intervention program exposure of SBCCs is crucial among adolescents. Awareness by SBCC needs to focus more on alcohol use and provide counselling about condom consensus so as to yield condom use among adolescents.

6.3 Recommendations

6.3.1 Policy recommendations

It is a goal for South Africa to reach the stage where there is condom consensus among adolescents, as this can have positive implications for HIV prevalence, STI infection, and adolescent unwanted pregnancies. This study therefore suggests that though only alcohol had a significant association with condom consensus, intervention programs ought also to focus on the

adolescents who were less likely to achieve condom consensus. These are adolescents who had primary or no education, were unemployed, or had HIV negative, who did not have easy access to condoms. Additionally, the distribution of condoms should be focused on various institutions that are mostly populated by adolescents such as schools.

6.3.2 Program Recommendations

Public schools in South Africa need to have mobile clinics that provide HIV/AIDS, STI, and pregnancy screening and counselling programs. This will bridge the gap of adolescents being unable to access health care services due operating hours and stigmatization of visiting a community clinic. This program will also create employment opportunities for adolescents who have already completed tertiary education, and are looking for employment opportunities. Secondly, a program that runs during the weekend that enables adolescents to volunteer at public hospitals and clinics will create an adolescent-friendly space at these healthcare institutions. Most adolescents spend most of their time at school, and as such, SBCC programs could be advertised in schools so as to reach a broader audience and thus fulfil their intended purpose. Alternatively, SBCC could collaborate with schools to create after school programs that focus on guiding adolescents as they explore their changing bodies.

6.3.3 Research recommendations

Based on the finding of this study, it is recommended that future research focuses on association between condom consensus and condom use at last sex. This study may provide a response to whether having an agreement about using a condom actually manifests into using a condom during sexual intercourse. Secondly, a mixed methods or quantitative study that investigates the association between alcohol use and condom consensus may prove critical to providing practical solutions that may be consider by intervention programs. A study that focuses on factors that influence positive health behaviors associated with condom consensus among those exposed to SBCC are crucial to the already existing body of knowledge.

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