TRENDS AND DETERMINANTS OF SEXUAL BEHAVIOUR IN WESTERN CAPE, SOUTH AFRICA: A STUDY OF YOUNG ADULTS TRANSITIONING TO ADULTHOOD USING THE CAPE AREA PANEL STUDY.

By

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Abstract

The transition to adulthood is a significant period in the lives of many young people throughout the world. HIV/AIDS continues to attract much attention from researchers as it is a matter of particular concern for young people. Recent data suggests that the HIV prevalence among females aged 15-24 in South Africa is 12.7%, and 4% among males. Increasingly there has been a major outcry especially among international donor agencies that despite widespread HIV/AIDS campaigns in South Africa behaviour change has not been realised. Given the fact that in South Africa HIV/AIDS is fuelled by heterosexual intercourse, it is imperative to monitor trends in sexual behaviour among young adults in order to be able to identify and understand those sexual behaviours that fuel the epidemic. This study uses the Cape Area Panel Study (CAPS) data conducted in the Cape Town Metropolitan between 2002 and 2005. It tracks trends in sexual behaviour, and determines the predictors of risky sexual behaviour among these young adults. The study reveals that condom use is extremely high among all population groups, except among Coloured males whose condom use actually declined between 2002 and 2005. The study also reveals that the percentage of young adults engaging in risky sexual behaviour, such as having multiple sexual partners has declined between 2002 and 2005. Early sexual onset determines risky sexual behaviour later in life. This suggests that in order to equip young adults to act in a sexually responsible manner later in life, protective factors such as family involvement, schooling, peer influence and self-esteem must be strengthened before sexual onset. The conclusion drawn from this study is that in order to curtail rising trends in inconsistent condom use and multiple sexual partners and to increase the age at first sex, early intervention programs are necessary.

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DECLARATION

Submitted in fulfilment / partial fulfilment of the requirements for the degree of
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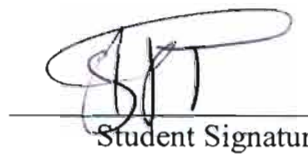
I declare that this dissertation is my own unaided work. All citations, references and borrowed ideas have been duly acknowledged. I confirm that an external editor was not used. It is being submitted for the degree of Master of Arts in the Faculty of Humanities, Development and Social Sciences, University of KwaZulu-Natal, Durban, South Africa. None of the present work has been submitted previously for any degree or examination in any other University.



Student Signature

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List of Acronyms

ABC	Abstain, Be Faithful, Condomise
Add Health	National Longitudinal Study of Adolescent Health
AE	Enumeration Areas
AIDS	Acquired Immunodeficiency Syndrome
AIDSCAP	AIDS Control and Prevention
BSS	Behavioural Surveillance System
CASE	Community Agency for Social Enquiry
CAPS	Cape Area Panel Study
DHS	Demographic and Health Survey
HIV	Human Immunodeficiency Virus
HSRC	Human Sciences Research Council
ICDP	International Conference on Population and Development
KFF	Kaiser Family Foundation
MDG	Millennium Development Goals
MDR-TB	Multidrug-resistant tuberculosis
NIDS	National Income Dynamics Study
NPPHCN	National Progressive Primary Health Care Network
NRC & IOM	National Research Council and Institute of Medicine
NSAM	National Survey of Adolescent Males
NSFG	National Survey of Family Growth
PWG	Global HIV Prevention Working Group
SABC	South African Broadcasting Corporation
StatsSA	Statistics South Africa
STD	Sexually Transmitted Diseases
STI	Sexually Transmitted Infections
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations Children's Fund
UNGASS	United Nations General Assembly Special Session
USAID	United States Agency for International Development
USA	United States of America

VCT	Voluntary Counselling and Testing
WHO	World Health Organisation
XDR-TB	Extensively drug-resistant tuberculosis
YRBS	Youth Risk Behaviour Survey

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CHAPTER 1

INTRODUCTION

1.1 Introduction

In the year 2000 world leaders agreed on eight development goals. These were termed the Millennium Development Goals (MDG) (United Nations, 2006). These goals provided countries throughout the world with a framework for development and "time bound targets by which progress can be measured" (United Nations, 2006:3). The goals set are: to eradicate extreme poverty and hunger, achieve universal primary education, promote gender equality and empower women, reduce child mortality, improve maternal health, and lastly, to combat HIV/AIDS, malaria and other diseases.

Attaining the stipulated MDGs has proved elusive in sub-Saharan Africa, especially given the recent HIV and AIDS epidemic and the recurring burden of disease. The target of the United Nations (UN) is to begin to reverse the spread of HIV and AIDS by the year 2015 (Salaam-Blyther, 2008). It has become clear that many developing countries, including South Africa, have failed to achieve targets on the reduction of HIV/AIDS. In South Africa, HIV and AIDS have undermined many development goals, evident in the declining life expectancy (Tillotson & Maharaj, 2001). With HIV/AIDS the life expectancy of South Africans is 50 years, while without HIV and AIDS it could have been above 60 years (Avert HIV/AIDS, 2008; UNICEF, 2009). Although the rate of infection has levelled off in South Africa, the number of deaths from HIV/AIDS has increased substantially and the growth of the epidemic, in some instances, especially in younger women has increased (United Nations, 2006).

AIDS is adding to existing developmental and structural problems such as; gender differentials, poverty and political instability that exist in many developing countries (Leibbrandt *et al.*, 2004; United Nations, 2006). Poverty reinforces HIV/AIDS either through risky sexual behaviours such as prostitution and transactional sex and through malnutrition which increases the likelihood of infection (Stillwaggon, 2002). HIV/AIDS is a great threat to economy because it affects adults in their economically active years (United Nations, 2006; Whiteside & Sunter, 2000). Being HIV-positive could lower productivity at work and raise production costs due to increased absence from work.

1.1.1 The Transition to Adulthood

Many governments and agencies have realized that attaining MDGs in the future, involves designing intervention strategies that impact on the transition to adulthood. The transition to adulthood is defined as a period of social, psychological, economic and biological change (NRC & IOM, 2005). It is during this period that most young people normally begin school, have their first sexual encounter and begin to develop sexual relationships, enter the labour force and set up a new home (NRC & IOM, 2005). During this period young adults can establish behaviour patterns that can be detrimental to their health and wellbeing and lead to negative outcomes later in life.

Prolonged transition from childhood to adulthood poses a challenge to many South African young adults, "Children used to "become" adults through institutionalized rites of passage, e.g. circumcision, or (arranged) marriage."(Dehre & Riedner, 2005:5), these have now being replaced by a long transition to adulthood. For example traditional practices such as puberty rites, sexual education and the practice of 'ukusoma' (thigh sex) have eroded (Harrison, 2008a), which has left young adults without any alternatives, especially in contexts of pervasive socio-economic inequalities. Compared to 20 years ago, more young people are entering adolescence earlier and healthier, more likely to spend their adolescence in school, more likely to postpone entry into the labour force, and more likely to delay marriage and childbearing (NRC & IOM, 2005).

Challenges faced by today's young adults are shaped by family characteristics, socio-economic status, academic status, geographical location, population and age group. Becoming involved in sexual relationships is a key concern which has not only attracted attention from academics, but also governments worldwide. Where contraception among young adults is inconsistent or low, a high rate of teenage pregnancies and sexually transmitted infections (STIs) occur. With 33.2 million of the world's population living with HIV and AIDS, and unacceptably high levels of teenage pregnancy rates in the United States and Southern Africa, it has become clear that targeting behaviour change is what will ultimately reverse the trend (PWG, 2008).

1.1.2 Background to the Study

Risky sexual behaviours such as the inconsistent use of condoms and multiple sexual partners are common among South African young adults (Brook *et al.*, 2006; Kaufman *et al.*, 2004; Manzini, 2001). Among key challenges of HIV and AIDS in South Africa is that besides high contraceptive use and knowledge about the disease, behaviour change has not been realised (Tillotson & Maharaj, 2001). A recent survey indicates that despite South Africa having a much publicized and well coordinated sex education programme, risky sexual behaviour is still on the rise, placing the increase between 30% and 50% in the previous six years (Markinor, 2007). A global fund spokesman was quoted as having said that the main reason they pulled the plug off loveLife was that similar programmes elsewhere with fewer resources and funding were far more effective. For major funders it would be irresponsible to pump money into a programme that did not produce any results (Salaam-Blyther, 2008).

Due to the high youthful population and the sexual behaviour of young adults in South Africa, pre-marital sex and fertility and STIs are commonplace (Brook *et al.*, 2006; Kaufman *et al.*, 2004). Such trends are contributing towards making South Africa the nation with the world's highest number of people living with HIV/AIDS (Kaufman *et al.*, 2004; UNAIDS, 2007). The HIV prevalence among young women aged 15-24 in South Africa is 16.9%, while the prevalence among young men of the same age group is 3.7% (Dorrington *et al.,* 2006). According to Dickson-Tetteh and Ladha (2000), by age 19 almost a third (33%) of all teenagers have either conceived or had a child. A recent study by the South African Broadcasting Corporation (SABC) and the Kaiser Family Foundation (KFF) (2006) revealed that at least half of all young females who report ever having sex have been pregnant at least once.

Young people have the fastest growing infection rates (Eaton, Flisher & Aaro, 2006). Nearly half of all new HIV infections occur between the ages of 15-24 (Maharaj, 2006; Marston & King, 2006) and according to loveLife (2000) 60% of all new infections in South Africa occur in those aged 15-24 years. HIV and AIDS is the second major cause of death among South African adults, and is responsible for nearly a third of all deaths (Rispel, Setswe & Stewardship, 2007). The dreaded multidrug-resistant TB (MDR-TB) and extensively drug-

resistant TB (XDR-TB) are related to HIV and AIDS. Thus, sexual risk taking may contribute to the burden of disease (Wellings *et al.*, 2006).

The driving force behind HIV and AIDS in South Africa is heterosexual intercourse and risk taking behaviour (Booysen, 2004; Mathews, 2005; Shisana *et al.*, 2005; Slaymaker, 2004; Tollitson & Maharaj, 2001). The provision of condoms and anti-retro viral drugs can only serve as a safety net for those who are exposed to the risk of HIV and other STIs. Changing sexual behaviour should be the core aim of any programme that seeks to reduce STIs and teenage pregnancy. Donovan and Ross (2000:1897) argue that "for the foreseeable future, limiting the impact of AIDS hinges on determining and modifying sexual behaviour wherever appropriate and possible."

Defining and Measuring Sexual Behaviour

It is not easy to define the term sexual behaviour because it is laden with traditional and cultural connotations. Sex is a private matter. Fenton *et al.* (2001:84) argue that sexual behaviour is difficult to unravel as it is "largely a private activity subject to varying degrees of social, cultural, religious, moral and legal norms and constraints." Sex in this study refers to heterosexual vaginal sex. This definition excludes anal sex or homosexual sex or other sexual acts. The definition adopted for this study is appropriate to the aetiology of HIV in South Africa as it is a generalised epidemic fuelled by heterosexual intercourse. Risky sexual behaviour is defined as sex between unmarried or non-cohabiting couples (Cleland *et al.*, 2004). It is also defined as sex with multiple partners without using a condom. Sex with multiple partners is a key epidemiological determinant of HIV infection.

In attempting to explain sexual behaviour, Slaymaker (2004) states that sexual behaviour has several dimensions to it which include number of partners, relationship to partner, frequency of sex and condom use. For the purpose of this study, sexual behaviour will be defined using four proxies: ever had sex, condom use at last sex, age at first sex and number of sexual partners in the last 12 months (both serial and concurrent). Condom use in this study refers to the UN defined condom use in most recent premarital sex act (Slaymaker, 2004). These proxies are among the indicators recommended by United Nations General Assembly Special Session (UNGASS) to describe the sexual behaviour of young adults aged 15-24 in

generalised epidemics and also make up the list of MDG indicators. Indicators permit monitoring and will therefore be used to determine trends of sexual behaviour over time (Cleland *et al.*, 2004). The measurement of indicators will be estimated at successive points in time and the changes in the value of the indicator over time will yield trends in modification of sexual behaviour.

In order to attain the desired MDGs, South Africa must deal with the sexual behaviour of young adults. Cleland *et al.* (2004:80) reasoned along these lines when he stated "HIV/AIDS control programmes need to be based on monitoring of not only trends in infections but also trends in those behaviours that underlie epidemic curtailment or further spread." And hence this study attempts to fill that gap by reporting on the trends of those behaviours in the Cape Town Metropolitan area.

The term young adult as used in this study does not refer to the United Nations defined young adult. The United Nations definition of youth refers to persons aged between 15 and 24 (United Nations, 2007). The Cape Area Panel Study Team chose to use the term young adults based on their research goals to capture schooling, labour, familial and sexual transitions in young adults aged 14-22.

The study of sexual behaviour in South Africa is important because risky sexual behaviour manifests in two ways: through the spread of HIV and AIDS and teenage pregnancies. Therefore, the study of sexual behaviour plays a crucial role in understanding STIs and in halting the increasing teenage pregnancies. Santelli (2000) states that "trends in adolescent sexual behaviours influence rates of adolescent pregnancy and STDs, and are used to monitor the progress of health promotion activities." Information on changes in sexual behaviour over time is not only crucial in understanding premarital and/or adolescent fertility and HIV, it also helps to monitor and evaluate the impact of HIV prevention campaigns like loveLife that seek to change the sexual behaviour of young adults. For example, the AIDS Control and Prevention (AIDSCAP) project in Bangkok initiated a Behavioural Surveillance System (BSS) to track changes in sexual behaviour (Henry, 2008). The survey was designed to collect information about sexual behaviour in relation to HIV infection and the survey also provides indicators that can be tracked over time. The data obtained from BSS helped inform health

managers in Bangkok to direct interventions towards sexually active single women who are not prostitutes (Henry, 2008).

Although sexual behaviour has been studied in many different settings, research indicates that regional variations exist mainly in the social and economic determinants of sexual behaviour (Wellings *et al.,* 2006). The economic and social conditions experienced by young adults in the Cape Town Metropolitan area are not the same as those experienced by young adults in other South African provinces and elsewhere. It is therefore crucial to focus on the factors influencing the sexual behaviour of this particular group so that appropriate intervention strategies can be put in place. This will assist in the advancement of the formation of effective policies that deal with both HIV/AIDS and unplanned pregnancy among young people. Studying the determinants of sexual behaviour will help in the creation of an environment in which safe sexual behaviour can take place, which in turn will help South Africa attain the MDGs (Wellings *et al.*, 2006).

Most sexual behaviour studies in South Africa focus primarily on the determinants of sexual behaviour. As will be observed from the literature review, many studies have been done on sexual behaviour but they are mostly cross-sectional and qualitative. The changing socio-economic climate in South Africa, increased access to education and the changing economic climate should reflect on the trends of sexual behaviour. Panel studies are becoming the most effective way of analysing the impact of various programs ranging from poverty alleviation programmes to voluntary counselling and testing (VCT) programmes. The government has embarked on a longitudinal study called the National Income Dynamics Study (NIDS) which is meant to observe income, consumption and expenditure of households over time. However, a national longitudinal study that observes sexual behaviour over time has yet to be instituted. There is therefore a need for a quantitative longitudinal study in order to examine trends in sexual behaviour. This study will also attempt to unveil the role that family involvement plays in determining the sexual behaviour in young adults.

The contribution of this paper to current research on sexual behaviour is three fold. Firstly, the determinants of sexual behaviour will be studied using the CAPS data set, and explained through the three-fold theoretical model of personal factors, proximal factors and the distal factors. Secondly, trends of sexual behaviour will be observed overtime and lastly these

changes will be linked to the determinants of sexual behaviour. The data for this study relies on longitudinal data from the Cape Area Panel Study (CAPS).

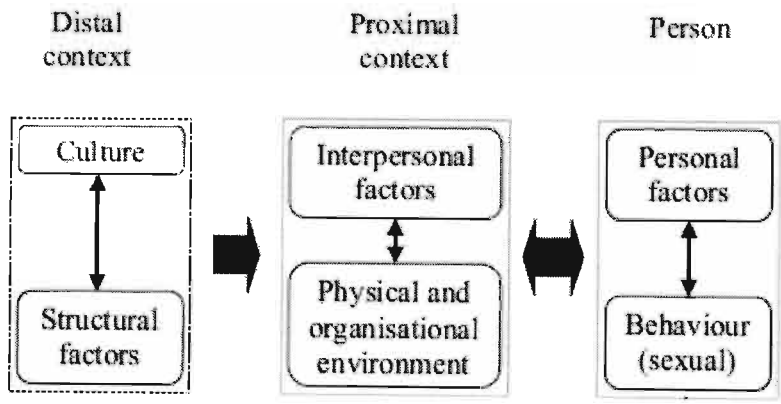
1.2 Aims and Objectives

The purpose of this study is to firstly establish the trends of sexual behaviour among young adults aged 14-22 years old living in the Cape Town Metropolitan area. The trends will be observed across all three Waves from 2002 to 2005. The main aim of observing trends is to determine how sexual behaviour has changed overtime. Has reported number of sexual partners in the past 12 months decreased? Has condom use changed over time? The study also aims to identify the main predictors of sexual behaviour among young adults aged 14-22 years living in the Cape Town Metropolitan area.

1.3 Theoretical Framework

Various theories have been used to explain risky sexual behaviour in young adults. This study draws on the framework developed by Eaton, Flisher and Aaro (2003) which states that the sexual behaviour of young adults in South Africa is shaped by the interaction of factors at three levels: within a person, within an individual's proximal context and within his or her distal context. As Figure 1.1 indicates, the relationship between these three is complex and confounding.

Figure 1.1: Framework for organizing the relationship between sexual behaviour, personal factors and the proximal and distal contexts



Source: Eaton, Flisher and Aaro, 2003

The theory was based on research conducted on the sexual behaviour of young adults in South Africa. The rationale behind this theory is that the widely-used cognitive theories applied to explain sexual behaviour do not fully explain sexual behaviour in young adults. Most models used are derived from developed countries and generally ignore the environmental, social and cultural factors (Auerbach, Wypijewska & Bradil, 1994, cited in Tillotson & Maharaj, 2001). For example in the West, women's vulnerability to HIV infection is seen as biological, but in developing countries women's vulnerability to HIV and therefore risky sexual behaviour is now seen in the context of socio-economic dependency and gender inequality. Eaton, Flisher and Aaro (2003:149) stress that "personal factors and the proximal and distal contexts interact to encourage HIV risk behaviour in ways that are not fully captured by social-cognitive models." The cognitive theories explain sexual behaviour in the light of vulnerability to risk, the perceived health threat and perceptions about social norms. Social cognitive theories fail to unravel factors shaping the sexual behaviour of young adults in South Africa.

Personal factors refer to feelings and cognitions related to sexual behaviour, HIV/AIDS as well as self-efficacy and self-esteem (Eaton, Flisher & Aaro, 2003; Mathews, 2005). "Personal factors influence sexual behaviour and the environment that intimately impinge on an individual" (Mathews, 2005:147). A low self-esteem is a personal factor which is associated with earlier sexual debut, multiple sexual partners and a negative attitude towards condom use (Mathews, 2005). Personal factors such as the way individuals internalize acquired knowledge has failed to change the sexual behaviour of young adults. The Health Belief Model (HBM) and Social Cognitive Learning Theory (SCLT) both stress the significant role that a perceived health threat plays in influencing the behaviour of the population at risk (Eaton, Flisher & Aaro, 2003).

Low perceived personal vulnerability is a risk factor because it reduces the motivation to take the necessary precautions. Precautions include avoiding multiple sexual partners, insisting on condom use, and delaying sexual onset. South African young adults fail to internalize the knowledge they have about HIV and AIDS by underestimating their risk of acquiring HIV. Research conducted in South Africa among outpatients of an STI clinic indicates that 9% of youth perceived themselves to be at risk of contracting HIV (Blecher *et al.*, 1995). This is an

indication that there are influences impacting the personal context of young people in South Africa, which go beyond the cognitive theories.

Research conducted in South Africa indicates that proximal factors play a major role in shaping the sexual behaviour of young adults. "Proximal context encompasses features of relationships and the environment that intimately impinge on an individual." (Mathews, 2005:147). Proximal factors include interpersonal relationships and the physical and organisational living environment. Interpersonal factors such as the inability to negotiate condom use are risk factors. Negotiating condom use; coercive male dominated sexual relationships; peer pressure to be sexually active; relationship with parents and health workers are seen by Eaton, Filsher and Aaro (2003) as proximal factors that affect the sexual behaviour of young adults. For example, the physical and organisational living environment of the individual refers to where an individual lives, access to quality health services, condom availability, a lack of recreational facilities and negative media influences. The proximal environment also refers to social determinants, household influence, peer pressure and other factors in the immediate living environment (Eaton, Flisher & Aaro, 2003; Mathews, 2005; Wellings *et al.*, 2006). Research conducted in South Africa indicates that both boys and girls experience considerable peer pressure to be sexually active (Buga *et al.*, 1996; Cassimjee, 1998; NPPHCN, 1996). Young men are pressured to have multiple sexual partners to gain some social status while young women are pressured into sex by other sexually experienced girls (Blecher *et al.*, 1995; Wood *et al.*, 1997).

Aside from personal and proximal factors, structural factors influence sexual behaviour and are referred to as the distal context. Mathews (2005:148) states that "the distal context encompasses the less immediate elements of a person's environment." This refers to cultural factors and factors such as traditional beliefs, social expectations and structural determinants and all factors that encompass an entire country or community or a particular population group.

Reproductive decisions, events and conditions occur within immediate interpersonal contexts that are located in and shaped by the broader socio-economic cultural and political environments (Dehre & Riedner, 2005). South Africa has a long history of colonialism followed by apartheid – a political regime that played a major role in depriving certain

population groups their rights, creating chronic poverty and unemployment in the process. It thus follows that in South Africa, poverty, unemployment, overcrowding and low levels of education are paramount in the Coloured and Black African populations and are associated with higher levels of adolescent risky sexual behaviour and HIV/AIDS. Inequality and socio-economic status impact on the sexual behaviour of the different population groups in South Africa. Thus distal factors have an influence on the proximal and individual context.

Personal, proximal and distal factors play a role in shaping the sexual behaviour of young adults. As explained above, these three factors overlap and reinforce each other. Distal factors, such as cultural, political, legal and economic factors, are difficult to modify and can encompass an entire community. Ideally, sexual behaviour changes should occur over time in response to both secular and non-secular social forces, i.e. in response to changes in the personal, proximal and distal factors. Indeed, recent socio-economic and cultural changes in the developing world have affected the timing of marriage, and therefore sexual onset (Wellings *et al.,* 2006). It is anticipated that trends in sexual behaviour will confirm the powerful role that changes in personal and environmental factors have on sexual behaviour. These factors differ from society to society, and even within a country. Cape Town has a unique cultural, political, economic and social climate and the distal and proximal factors affecting young people in Cape Town will be mostly inimitable.

1.4 Organisation of the Dissertation

This dissertation has five chapters. Chapter one serves as an introduction and provides background information about transitions to adulthood. The motivation and objectives of the study as well as the theoretical framework are also presented in this section. Chapter one ends by providing the theoretical framework to be used in this research, justifying how it is linked to the broader aim of the study. Chapter two presents existing literature on sexual behaviour drawing extensively on research conducted in South Africa. The literature review also examines determinants of sexual behaviour. Chapter three provides the research methodology and analysis used for the study. It also provides information about the data used for the study and how it relates to the research aims. Chapter four presents the findings of the quantitative data analysis. The final chapter of the study discusses the main findings of the study, and provides recommendations and a conclusion.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Recent HIV/AIDS campaigns in sub-Saharan Africa have focused on behaviour change as an intervention strategy. In order for South Africa to successfully combat HIV/AIDS and unplanned pregnancy, behaviour change has to be realised. In the absence of a vaccine for HIV/AIDS and in contexts of pervasive poverty where prevention from mother to child (PMTCT) programmes and access to anti-retro viral drugs are hampered by an inadequacy of resources, behaviour change remains a paramount strategy in halting the spread of the epidemic (Goldstein *et al.*, 2005). Several international studies report that the decline in HIV prevalence is due to changes in sexual behaviour (Asiimwe-Okiror *et al.*, 1997; Mwaluko *et al.*, 2003; Santelli *et al.*, 2000; Wellings *et al.*, 2006). In fact, sub-Saharan African countries such as Uganda and Zimbabwe have attributed the declining incidence of HIV/AIDS infections to mainly behaviour change (Gregson, Garnett & Nyamukapa, 2006; Stoneburner & Low-Beer, 2004). In South Africa, Shisana and Simbayi (2002) also report that South Africans are changing their sexual behaviour in response to the AIDS epidemic.

According to Santelli *et al.* (2000) early initiation of sexual intercourse, frequency of intercourse, number of sexual partners and use of condoms and other forms of contraception are key behavioural determinants of unintended pregnancy and STIs, including HIV. The sexual behaviours covered by this study include sexual onset, age at first sex, condom use at last sex and multiple sexual partners. Trends of sexual behaviour as well as factors that influence sexual behaviour will also be presented.

2.2.1 Sexual Onset

Early age at first coitus is a predictor of risky sexual behaviour and STIs (Edgardh, 2000; Genuis & Genuis, 2004; Gregson *et al.*, 2005; Kaestle *et al.*, 2005; Pettifor *et al.*, 2004; Santelli *et al.*, 2000; Slaymaker, 2004). Wellings *et al.* (2006: 1708) states that age at first sex is of public health interest due to three main reasons: early initiation is more likely to be non-consensual and to be subsequently regretted, less likely to be protected against unplanned pregnancy and infection, and is associated with a higher number of lifetime sexual partners. A study conducted in rural KwaZulu-Natal also shows that early sexual debut is associated with

risky behaviour at first sex, and is a predictor of sexual behaviour later in life (Harrison *et al.*, 2004). Manzini (2001) affirmed this by associating age at first sex with exposure to unintended pregnancy and risk of infection. A rise in the rate of premarital sex leads to unwanted pregnancies and also leads to a higher rate of induced abortions (Mensch, Grant & Blanc, 2005). Early age at sex is correlated with an increased likelihood of acquiring HIV/AIDS among young adults (UNAIDS, 1999).

On average, sexual activity in South Africa begins anywhere between the ages of 13-17 (Cerwonka, Isbell & Hansen, 2000; Eaton, Flisher & Aaro, 2003; Pettifor *et al.*, 2004; Richter, 1996; Shisana *et al.*, 2005). However, some studies report that the age at first sex is as early as 10 years (CASE, 2000). A South African national survey conducted in 2003 with a sample of about 11 904 youths aged 15-24 indicated that 67% of all young adults have already initiated sex (Pettifor *et al.*, 2004). The median age at first sex among those sexually active was reported to be 17 years. Another study by Shisana *et al.* (2005) in South Africa reported similar results, it revealed that the median age at first sex for those aged between 15 and 24 is 17 years. The study also demonstrated a decline in the age at sexual debut by comparing the current sample with the older generation. Compared with the older generation, especially those currently aged 50-59, the age at first sex has decreased by more than 20%. However, a recent study from rural KwaZulu-Natal in South Africa indicated that the age at first sex among young men and women aged 12-25 was slightly higher, 18.5 years for women and 19.2 years for men (McGrath *et al.*, 2009).

Other South African studies also report an early age at first sex. A survey conducted jointly in 2006 by the South African Broadcasting Cooperation (SABC) and the Kaizer Family Foundation (KFF) among 4000 young South Africans aged 15-24 indicates that at least two-thirds (67%) of young South Africans report that they had ever had sex (SABC & KFF, 2006). Another study by Eaton, Flisher and Aaro (2003) suggest that at least half of young people in South Africa are sexually active by age 16.

2.2.2 Number of Sexual Partners

Having multiple sexual partners plays a significant role in the spread of the HIV (Edgardh, 2000). The number of sexual partners can be expressed in two ways, lifetime number of sexual partners and number of sexual partners in the past 12 months. "While lifetime number

of sexual partners provides insight into the lifetime risk a young person has been exposed to, the number of partners they have had in the past 12 months better reflects their recent sexual behaviour; as with other measures of sexual behaviour, the number of sexual partners in the past 12 months should better capture changes in sexual behaviour" (Pettifor *et al.*, 2004:23). The chance of contracting STIs is greater for people who have sex with many partners (Pettifor *et al.*, 2004; Slaymaker, 2004; Stoneburner & Low-Beer, 2004).

A study of 12 Demographic and Health Surveys (DHS) largely from sub-Saharan Africa found that a substantial proportion of young men aged 15-19 reported having had two or more sexual partners in the past 12 months (Bankole *et al.*, 2007). In South Africa the results from national surveys also suggest that multiple sexual partnerships are more common in men aged 15-24 years than in other age groups (Mathews, 2005). The first South African National Youth Risk Behaviour Survey in 2002 indicates that among young people who had ever had sex, 70% reported having had one or more sexual partners in the past three months (Reddy *et al.*, 2003). Research done in South Africa indicates that the majority of school going adolescents reported having had one or two lifetime number of sexual partners (Eaton, Flisher & Aaro, 2003). An older age at sexual debut is found to predict a low number of lifetime sexual partners (Bakken & Winter, 2002).

2.2.3 Contraceptive Use: Condom

Among countries in sub-Saharan Africa, South Africa has a high contraceptive prevalence (Maharaj, 2006; Mathews, 2005; SABC & KFF, 2006; Shisana & Simbayi, 2002). Contraceptive use in South Africa dates back to the mid-apartheid years whereby non-barrier methods were favoured over condoms in order to control fertility. During this period contraception was entirely the responsibility of women since they have the ability to conceive. However, the International Conference on Population and Development (ICPD) held in Cairo in 1994, supported the involvement of men in fertility control by advocating for the use of the male condom, this is also be crucial for STI prevention. Maharaj (2001) states that male support of family planning methods may increase use of contraception methods in general. In this era of HIV/AIDS the use of dual methods of contraception has become important in order to deal with both the risk of HIV and unwanted pregnancies (Kleinschmidt, 2004).

A national survey of young adults in South Africa revealed that 52% report using a condom at last sex and 87% reported that they were able to access condoms whenever they needed them (Pettifor *et al.*, 2004). According to a national HIV prevalence survey, 90% of youth in South Africa have easy access to condoms (Shisana & Simbayi, 2002). A study conducted in KwaZulu-Natal by Maharaj (2006) reveals that over 94% of young adults knew that condoms prevent disease, while 74% knew that condoms prevent pregnancy. The study also indicates that nearly 60% of young adults used a condom in the last sex. The study by the SABC and KFF (2006) also indicates that over 60% sexually experienced young people report having used a condom the last time they had sex.

Other studies report lower levels of condom use. For example, Mathews (2005) observed that among sexually active men and women condoms were not used in 45% to 80% in the most recent sexual act. This raises the issue of consistency in the use of condoms. The use of condoms is stigmatized and is associated with a lack of trust. Asking a partner to use a condom may be associated with carrying a disease (Marston & King, 2006). The major issue with the male condom is consistency in the use of the condom. A recent study by Maharaj and Cleland (2008) indicated that condom use among college students in Durban, South Africa is high (over 70%), however only about one-fifth (20 %) used it consistently. Promotion of condom use is a central tenet of many HIV prevention efforts and is a key indicator of progress made in changing sexual behaviour, however the use of condom produces minimal protection if not used consistently (Hearst & Chen, 2004; Pettifor *et al.*, 2004).

2.3 Trends over Time

In the past few years there has been a change in sexual behaviour in response to both secular and non-secular social forces, and as a result, there is no universal homogeneity in trends of sexual behaviour (Wellings *et al.*, 2006). For example Uganda is a peculiar case in sub-Saharan Africa that has reported a decline in sexual risk behaviours such as multiple sexual partners after introduction of interventions (Asiimwe-Okiror *et al.*, 1995). However, the same interventions have not produced the desired results elsewhere in sub-Saharan Africa. Longitudinal studies observed that during the early 1980's to the late 1990's Uganda experienced a dramatic increase in the prevalence of HIV/AIDS (Kamali *et al.*, 2000). In the late 1990's a study conducted by Kamali *et al.* (2000) indicated that the prevalence of HIV

decreased from 8.2% to 6.9% in a rural surveillance site in response to changes in sexual behaviour. Other studies conducted in Uganda also attributed the decrease in HIV prevalence to a change in sexual behaviour, especially among young adults (Asiimwe-Okiror *et al.*, 1995). This decline in the prevalence of HIV was attributed to the behaviour change model of ABC - Abstain, Be Faithful and Condom Use. Uganda was severely impacted by HIV infection during a time when medical interventions were not available, during a time of war and political instability, therefore the decline in the HIV sero-prevalence is almost entirely attributed to the change in sexual behaviour. The changes in sexual behaviour reported in Uganda were delayed sexual debut among adolescents, reductions in partner numbers, increased marital fidelity and increased condom use among casual partners (Muyenje, 2007). Hogle (2002) observed that sexual relationships with multiple partnerships were more than halved between 1989 and 1995. Indeed it is essential to experience declines in early sexual onset, multiple sexual partnerships, and an increase in condom use in order to curtail the impact of the epidemic (Santelli *et al.*, 2000)

2.3.1 Ever had sex

Research from a number of countries over the years indicates that globally, a shift towards later marriage has resulted in an increase in premarital sex (Wellings *et al.*, 2006). Studies conducted in the United States using the National Survey of Adolescent Males (NSAM), the National Survey of Family Growth (NSFG), the Youth Risk Behaviour Survey (YRBS) and the National Longitudinal Study of Adolescent Health (Add Health) attempted to estimate trends in sexual behaviour among young people. Trends in sexual behaviour where observed using the variables: ever had sex, had sex in the last three months, pill use at last intercourse, condom use at last intercourse, number of partners in the last three months, and number of lifetime partners (Santelli *et al.*, 2000). The analysis of the YRBS indicated that the proportion of males reporting ever having had sex declined by 9% from 1991 to 1997. Similarly, the NSAM records a significant 8% decline in the percentage of males who report ever having had sex between 1988 and 1995. In the YRBS significant declines were observed among White, Black and Hispanic males. In the same study the only significant decline among females was observed among Black females. All four surveys recorded significant differences between Black males and females (Santelli *et al.*, 2000).

Several studies have also been conducted in developing countries. A study conducted by Okware *et al.* (2005) revealed that the median age of sexual debut in Uganda increased from 14 to 17 years between 1989 and 1995. Another study by Curtis and Sutherland (2004) using 32 surveys in sub-Saharan Africa, Latin America and the Caribbean revealed that trends in premarital sex among men and women aged 15-24 in sub-Saharan Africa have been changing between 1988 and 2003. For example, in Ghana rates of premarital sex in the last 12 months among males declined from 46% in 1993 and to 24% in 1998 (Curtis & Sutherland, 2004). Among females, a decline was also observed from 49% in 1993 to 31% in 1998. The Tanzanian DHS reported a decline in premarital sex in the last 12 months among young men from 65% in 1991/92 to 57% in 1999 (Curtis & Sutherland, 2004). On the contrary, among young women in Tanzania the prevalence increased from 35% in 1991/92 to 39% in 1999. In Zimbabwe Cutis and Sutherland (2004) also report a decline in premarital sex in the last 12 months from 38% in 1994 to 34% in 1999 among males, however females reported a slight increase from 13% in 1994 to 15% in 1999. Although this studies report trends, they are however repeated cross sectional surveys and do not follow the same individuals over time.

2.3.2 Condom use at last sex

Repeated cross sectional studies have been used in countries like Sweden to determine trends in condom use (Fenton *et al.*, 2001). Other studies have indicated that condom use has increased in prevalence globally, although it is still low in developing countries. Studies in the United States have recorded an increase in condom use (United Nations, 1996). In the United States surveys reported trends in condom use at last sex among young adults aged 15-17. The YRBS reported that condom use increased from 39.7% among females in 1991 to 51.9% in 1999. Among males it increased from 57.4% in 1991 to 63.8% in 1999 (Cutis & Sutherland, 2004). The NSFG reported an increase in condom at last sex among females from 33.8% in 1988 to 20.7% in 1995. The trend among males was significant, increasing from 61.5% in 1988 to 72.1% in 1995. The Add Health survey only had rates for the 1995 Wave in which 51.3% of females reported condom use at last sex compared to 64.2% of males (Cutis & Sutherland, 2004). All these surveys indicate that condom use has been increasing among young adults in the United States, however rates of condom use at last sex still remain lower for females than for males.

In sub-Saharan Africa, condom use in Uganda increased from about 5% in 1987 to over 60% in 2002 (UNAIDS, 2006). Results from the study commissioned by the United States Agency for International Development (USAID) indicated that condom use at last sex with a non-regular sexual partner increased from 20% in the mid-1990s to 33% in the late 1990s among women and from 33% to 39% among men in Zambia.

2.3.3 Two or more sexual partners

Having two or more sexual partners has remained relatively unchanged in the surveys from the United States. The YRBS reports that the percentage of females who report having two or more sexual partners in the last three months had an insignificant increase from 18.0% in 1991 to 19.2% in 1999 (Cutis & Sutherland, 2004). Males reported a significant decline from 39.1% in 1991 to 34.0% in 1999. However, other surveys indicated insignificant trends. In all surveys females were less likely to report having had two or more sexual partners in the past 12 months (Cutis & Sutherland, 2004).

In sub-Saharan Africa WHO also reported that the number of Ugandan men reporting 3 or more non-marital sexual relationships fell from 15% in 1989 to about 3% in 1995 (UNAIDS, 2006). However, other regions in sub-Saharan Africa have not been as successful, especially the Southern African sub-continent. A longitudinal study conducted by Mwaluko *et al.* (2003) in Tanzania indicates that despite of widespread HIV knowledge, sexual behaviour remained largely unchanged across all three Waves conducted in 1994-1995, 1996-1997 and 1999-2000. Other countries like Thailand have also recorded changes in sexual behaviour. In Thailand a decline in the number of visits to sex workers was reported (Carr *et al.*, 1994, cited in Tillotson & Maharaj, 2001), which was followed by a decline in the HIV prevalence.

These observations indicate that regional variations should be expected. Ultimately changes in sexual behaviour should be traced back to changes in the determinants of sexual behaviour. "Factors that determine variation in sexual behaviour are environmental and include shifts in poverty, education and employment" (Wellings *et al.*, 2006:1707). The CAPS data set will be used to link the changes in sexual behaviour to the current HIV prevalence rate and changes in the determinants of sexual behaviour.

2.4 Factors influencing sexual behaviour

Sexual behaviour in young adults is brought about and shaped by various external factors. Sexual behaviour is influenced by positive motivations for sex which may be physical, relationship-oriented, social or individual (Ott *et al.*, 2006). South Africa's history of social inequalities manifests itself in geographical and racial differentials in the prevalence of HIV/AIDS and poverty (Kaufman *et al.*, 2004). This section presents a literature review of the impact that these factors have on sexual behaviour.

2.4.1 Socio-economic and Demographic Factors

Wellings (2006:11) states that "through the interplay between demographic and structural factors, social norms, and public policies, spatial differences can be properly understood." These differences have expressed themselves in the way young people behave sexually and hence Cassidy, O'Connor and Dorrer, (2006:2) stated that "differences of gender, class and ethnicity provide young people with dramatically different resources and opportunities with which they must invent their adult identities."

Several studies conducted in South Africa, Brazil and United States have revealed racial differentials in sexual behaviour. African boys from urban and rural areas are more likely than White boys to have had sex in the past year (Kaufman *et al.*, 2004). A study conducted by Maharaj and Cleland (2008) among 3000 young adults attending college in Durban South Africa indicate that reported virginity was high among Indian females (65%) followed by Indian males and White males and females (just under 50%) and lowest among Black Africans (11.3% and 29.7% for men and women respectively). More than half (51.3%) of sexually experienced African men reported having had at least five lifetime number of sexual partners. Similarly, findings by Pettifor *et al.* (2004) in a South African national survey on HIV and Sexual Behaviour established that 71% of African youth age 15-24 reported ever having had sex while only 58% of Coloured youth and 43% of White youth and Indian youth reported ever having had sex. Another study by Maharaj (2006) revealed that Black males have a lower level of condom use compared to other population groups.

South Africa has high levels of socio-economic inequalities and it will be crucial to determine the role that they play in influencing sexual behaviour. According to NRC & IOM (2005: 6) "poverty and economic vulnerability enhance the likelihood that young people will engage in risky sexual behaviours." A review of literature by Kirby (1999, cited in Kaufman *et al.*, 2004) indicates that adolescents living in areas where there is a high rate of crime, high population density, extreme poverty, low education and a high unemployment rate have a higher likelihood of engaging in risky sexual behaviour. Studies conducted in Sweden and the United States indicates that a lower socio-economic status (SES) is highly correlated with early coitus (Edgardh, 2000). Lack of recreational facilities, schooling and employment may result in increased sexual activity among young adults (Kelly & Parker, 2000; Mathews, 2005).

Wojcicki (2005) reviewed 36 studies to determine the link between socio-economic status (SES) and HIV risk behaviour. Fifteen of the studies found no relationship between SES and HIV infection, 12 found an association between low SES and the results from one study was inconclusive. This indicates to us that the relationship between SES and high risk behaviour is complex. Research conducted in the United States indicates that educational level predicts lifetime number of sexual partners (Bakken & Winter, 2002). Kelly and Parker (2000) argue that education fosters a constructive value system that equips individuals in making the right decisions about their health, thereby enhancing their ability to act in a sexually responsible manner. Educated young adults are most likely to use protective measures when engaging in sexual activities.

Findings by De Walque (2002) indicate that low risky sexual behaviour correlates with a higher level of education. A study conducted in the Limpopo province in South Africa found that ever having had sex was not significantly associated with being in school, but condom use at last sex was more commonly reported among young adults at school and was associated with having fewer sexual partners (Hargreaves *et al.,* 2008). This is also is confirmed by other studies (Filmer, 1998; Glynn, 2004, Lagarde *et al.,* 2001) which reported high levels of condom use among the more educated. A recent studying by McGrath *et al.* (2009) also revealed that being in school is associated with a later age of sexual onset. Hargreaves *et al.* (2008) states that school attendance might affect communication within the sexual relationship, improve confidence, self efficacy and safer sexual practices among young

men and women. Thus, schooling reinforces personal factors that help young adults in making informed decisions about sexual behaviour. Young women attending school, for example, are less likely to have an older male partner compared to those out of school. Schooling can provide young adults, especially girls, with monitoring and safety which may not be available elsewhere (Kaufman *et al.*, 2004). School may nurture self-esteem which enables young adults, especially women, to communicate better with their partners about safer sexual practices.

A few studies indicate that the relationship between sexual behaviour and education is sometimes ambiguous. Some studies indicate that levels of HIV in sub-Saharan Africa are high among the more educated (Johnson & Way, 2003; Donnelly, 2006). An improvement in socio-economic status may increase risky behaviour because wealthy and educated people have more resources that attract multiple partners (Bärnighausen *et al.,* 2007; Shelton, Cassell & Adetunji, 2005). Booysen (2004) established that women with some primary education and secondary education level are more likely to have engaged in risky sexual behaviour relative to their non-educated counterparts. Kaufman *et al.* (2004) asserts that school may serve as an opportunity for sexual harassment and violence and may provide opportunities for the opposite sexes to make sexual contact. Anecdotal evidence in South Africa have reported sexual harassment in some rural and township schools. However, as already indicated by a number of studies (Filmer, 1998; Glynn, 2004; Hargreaves *et al.,* 2008; Lagarde, 2001; Maharaj, 2006) educated young women have a higher likelihood of using condom, and therefore a lower the risk of HIV infection.

International studies have indicated that poverty is associated with risky sexual behaviour. A study conducted in Costa Rica and Chile observed notable differences between young adults from affluent neighbourhoods to those from poor households in terms of level of education, professional expectations and understanding of sexuality (UNAIDS, 1999, cited in Dehre & Riedner, 2001). A study conducted by Bachanas *et al.* (2002) among American young people attending a poor inner city clinic revealed that the average age at first sex was 14 years among young adults age 12-19, indicating a younger age at first sex among adolescents in poor communities.

"Poverty and social marginalisation are pervasive factors in the lives of the majority of South Africans, exerting a powerful influence on sexual behaviour" (Mathews, 2005:150). Young adults from rural communities are more likely to engage in risky sexual behaviour because protective factors such as knowledge, schooling, condoms and lack of empowerment are hindered by high levels of poverty (Brook *et al.*, 2006). Studies have indicated that current school attendance is a protective factor associated with a delay in sexual onset, deprived young adults may lack the resources to be in school and hence this increases their sexual risk behaviour (Magnani *et al.*, 2002). A study conducted in South Africa revealed that sexually active young adults residing in farming areas and rural informal settlements report low use of condoms compared to their counterparts in urban areas (Pettifor *et al.*, 2004). Another study conducted by the HSRC reports high levels of annual number of sexual partners and lower rates of condom use among young adults aged 15-24 residing in poor urban and rural informal settlements (Shisana *et al.*, 2005). According to Kelly and Parker (2000), 15-19 year olds in South Africa from poor households are twice as likely to have had sexual intercourse compared to those from affluent households.

Family poverty as a stressor results in negative relations between the parent and the child. Family poverty results in parent-child distant relationships. Research also indicates that adolescents from poor household are most likely to have deviant friends. Brook *et al.* (2006) identifies both parent-child relationship and having deviant peers as risk factors. In many poor households there is a breakdown of parental authority and these further impacts on the sexual behaviour of young adults (Mathews, 2005). A low level of parental supervision was identified among low income Black families in the United States. This indicates that a low level of income may lead to low parental involvement which is a risk factor for risky sexual behaviour. A study conducted by Brook *et al.* (2006) indicated that family poverty was significantly associated with adolescent's risky sexual behaviour. The study also revealed that among girls family poverty was positively associated with vulnerability to deviant behaviour, but the positive association between involvement with deviant peers and adolescent risky sexual behaviour was stronger for boys than for girls.

Women in poor neighbourhoods are known to engage in transactional sex with multiple sexual partners as a way of economic survival (Booysen, 2004). Transactional sex is motivated by basic survival and subsistence needs (Hunter, 2002; Luke, 2002 in Dunkle *et al.*,

2004). Studies conducted in South Africa indicate that young women often receive gifts in exchange for sex from their partners (Dunkle *et al.*, 2004; MacPhail & Campbell, 2001; Maharaj & Munthree, 2007; Marston & King, 2006). A study conducted in South Africa indicated that 71.1% of young women who have sexual relationships with older men were provided with resources in exchange for sex (Hargreaves *et al.,* 2008). In this case, the nature of the sexual partnership may influence sexual behaviour in general. Often women involved in this type of relationships may be economically dependent on their male partners limiting their ability to negotiate safer sex (Bärnighausen *et al.*, 2007). Poverty deprives people of the necessities of life, e.g. food and shelter, thus causing them to respond in ways that, although harmful, will ensure that they obtain these necessities. Maharaj and Munthree (2007:239) also noticed that "gift giving under conditions of economic hardships and fierce social pressure has the potential to greatly influence decision making regarding sexual activities."

2.4.2 HIV Knowledge and Sexual Self-efficacy

Various studies have attempted to reveal factors that influence sexual behaviour at the individual level. These factors include HIV knowledge and self-esteem. Knowledge and sexual self-efficacy moderate the relationship between risk factors, such as peer pressure, and sexual behaviour (Bachanas *et al.,* 2002). The 1998 South African Demographic and Health Survey (SADHS) indicates that HIV and AIDS knowledge is not necessarily translating into behavioural change (Booysen & Summerten, 2002) and hence Pettifor and colleagues (2004:11) state that "young people reported high levels of self-efficacy when it came to believing that they could discuss condoms with their partner and refusing sex when they didn't want it. These reported beliefs were not, however, always matched with actual behaviour". These findings are also supported by Maharaj (2006), in her study conducted in KwaZulu-Natal which revealed that 94% of respondents were aware that HIV can be prevented by using a condom. A young adult who has a high condom use self-efficacy has a higher chance of negotiating condom use in a sexual encounter (Bachanas *et al.,* 2002).

A study conducted by Bachanas *et al.* (2002) indicated that sexual self-efficacy was not associated with risky sexual behaviour. The 2003 SADHS indicates that over 80% of men and over 70% of women aged 15-49 have a good knowledge of HIV and AIDS (DOH, MRC & OrcMacro, 2007). Further analysis indicates that HIV and AIDS knowledge is internalised differently by women from different socio-economic classes. A survey that sampled 4000

South Africans aged 15-24 indicated that six in ten South Africans aged 15-24 are very concerned about contracting HIV within the coming 10 years. A study by Maharaj (2006) in Durban South Africa also revealed that young adults who perceived that their HIV Risk was medium or high had reduced odds of using condoms. Young people may feel that they do not have control over their risk and may feel little motivation to act in a sexually safe and responsible manner. Individuals might be unwilling to act on acquired knowledge due to personal, cultural, geographical and economic barriers (Slaymaker, 2004). The extent to which people can protect themselves from HIV infection depends on their knowledge of perceived risk and their capacity to apply that knowledge, the amount of power a person has to negotiate safer sex and the prevailing cultural and societal norms.

2.4.3 Peer Influence and Sexual Coercion

Peer pressure is one of the prominent factors that arises from the immediate environment and plays a major role in shaping the sexual behaviour of young. Kaufman *et al.* (2004) states that adolescents act differentially according to the opportunities or limitations they experience at school, work and play. These tendencies themselves might be a creation of other distal factors such as poverty.

The subject of reference groups has long been established in sociology. Early adulthood represents a period in life when young adults encounter pressure from reference groups in their immediate environment. Reference groups can be peers, a particular media theme or even certain influential individuals in the community. In his research, Mirande (1968) attempted to associate peer pressure and sexual behaviour among American students and his premise was that "the sexual behaviour of an individual will tend to be a function of the expectations of his peer reference group, irrespective of the direction of influence" (Mirande, 1968: 573). "Clique" influence can be stronger than adult influence (Coleman, cited in Miranda, 1968). This is particularly true for young adults who stay in poor households that lack parental authority and monitoring.

A study conducted among undergraduate college students in the United States revealed that respondents who have never had sex are more likely to have peers who disapprove of intercourse and those who were sexually experienced were associated with deviant peers. Almost 80% of males and 55% of females who engaged in premarital sex indicated peer

group encouragement (Mirande, 1968). The same association was confirmed by Bachanas and colleagues (2002) in their study of the sexual behaviour of a group of 158 African American girls aged 12-19 from deprived households.

Research conducted by MacPhail and Campbell (2001) in South Africa indicates that peer pressure plays a role in influencing the sexual behaviour of young males. Involvement with deviant peers is positively associated with risky sexual behaviour. This might explain why schools in townships have high levels of teenage pregnancies and STIs. Black African boys and girls at lower grades experience peer pressure that ushers them into early sexual debut, or having multiple sexual partners (Buga *et al.*, 1996; Cassimjie, 1998; PPHCN, 1996). This assertion is also made by Ott *et al.* (2006:84) who observes that "peer approval has been examined as a positive motivation among early adolescents and has been associated with an early onset of sex."

Coercion is strongly related to gender roles, cultural expectations and the financial situation of young people. Several studies indicate that sexual coercion is related to multiple sexual partners and a low likelihood of using contraception later in life (Koenig *et al.*, 2004). A qualitative study conducted by Harrison (2008a) in rural KwaZulu-Natal revealed that among teenage girls interviewed, none of them had initiated sexual activity in their relationship and most were not ready for their first sexual encounter. Young women who are in relationships with older men also have limited autonomy (Harrison, 2008a). A South African study conducted by Maharaj and Munthree (2007) indicates that of all sexually experienced women, 46% reported that they were coerced into first sex. Sexual coercion at first sex is more common among Black women than any other population groups in South Africa, they accounted for 97% of all women who reported coerced first sex (Maharaj & Munthree, 2007). Another South African National survey revealed that 10% of women aged 15-24 reported forced sex as compared to only 2% of males (Pettifor *et al.*, 2004).

A national study of 15-24 year olds South Africans by Pettitor *et al.*, (2004) revealed that women who had experienced forced sex had a high likelihood (6 times) of using condoms inconsistently compared to other women. A study conducted in Swaziland among 941 secondary school students reveals that close to a tenth had initiated sex before the age of 13 (Buseh, 2004). Coercion by young people's peers or by adults is viewed as a major

contributor to this early sexual initiation (Glover *et al.*, 2003; Manzini, 2001). In some instances women can be subjected to coerced sex and physical violence should they refuse sex or insist on condom use.

2.4.4 Family Influence

A crucial factor that shapes sexual behaviour is that of family involvement or support. Family support in this study refers to socialisation for adult life, emotional support during times of change and financial and other material support (Morrow & Richards, 1996). Family is the primary source of norms and role models (Bakken & Winter, 2002). The sexual behaviour of young adults may stem from early childhood "during infancy and early childhood, the family monopolizes the experiences of the individual and serves as an important point of reference in guiding behaviour and shaping attitudes" (Mirande, 1968: 572). Parental factors are important determinants of sexual behaviour. This includes factors such as communication and monitoring, parental education and living in a two-parent household (Peres *et al.*, 2008). Certain groups of young people may be vulnerable if they lack the structure to support them and this may lead them to engage in particular sexual behaviours (Morrow & Richards, 1996).

A distant parent-child relationship is characterized by a breakdown in parental authority, rebellious behaviour and stress which has been found to correlate with risky sexual behaviour. (Brook *et al.*, 2006). Eaton, Flisher and Aaro (2003) state that poor communication within a household, poor supervision and a lack thereof may influence sexual behaviour adversely. Literature suggests that family stressors such as divorce, deprivation at an early age and conflict may trigger early puberty, which then leads to early coitus (Edgardh, 2000). It is not surprising that early and persistent sexual activity in females has been associated with depression (Halpern *et al.,* 2000). Thurman *et al.* (2006:633) states that "the lack of a parental role model and loss of love and affection from parents may also influence sexual behaviour." Studies conducted in the United States indicate that there is a high correlation between sexual behaviour and young adults who spend time away from adult supervision. Another research conducted in Sweden using a national survey on adolescents sexual activity established that living with both biological parents was a factor postponing early sexual debut among young girls and boys (Edgardh, 2000).

Several studies have indicated that household structure, for example living in a one-parent household increases the likelihood of early sexual onset (Kirby, 1999; Peres *et al.*, 2008; Thurman *et al.*, 2006). Research reveals that being raised by a single mother is associated with an early onset of sex (Bakken & Winter, 2002). A population based study conducted in Zimbabwe also found a high incidence of early sexual onset among maternal orphans (Gregson *et al.*, 2005). The presence of a father in a household is significant. A study conducted in the slums of Kenya indicated that female adolescents living in households without fathers are most likely to engage in sex at an early age (Ngom, Magadi, & Owuor, 2003).

Orphans are more likely to be sexually exploited and to engage in sex at an earlier age than non-orphans (Foster & Williamson, 2000; UNICEF, 1996). Orphanhood removes protective factors against sexual risk behaviour such as school attendance and may encourage prostitution or survival sex (Rau, 2003; Thurman *et al.,* 2006; UNICEF, 1996). In South Africa, a recent study by McGrath *et al.* (2009) has revealed that the hazards of first sex were significantly higher for young men and women who were orphans. Another study conducted by Thurman and colleagues (2006) using a sample of 1694 Black South African youth aged 14-18 from the second Wave of the Transitions to Adulthood study in KwaZulu-Natal South Africa indicated that orphans were most likely to have ever engaged in sex and had an earlier age at sex even after adjusting for socio-demographic variables. Almost 50% of orphans reported having had sex compared to 39% of non-orphans, 20% of orphans had engaged in sex by the age of 13. Similar studies conducted in Uganda and Zimbabwe among orphans recorded an early onset of sex (Gregson *et al.,* 2005; Sharpe *et al.,* 1993).

2.4.5 Culture and Gender

Cultural factors play a major role in influencing the sexual behaviour of young adults. Gender differentials in sexual behaviour are dictated by culture. Many traditional African societies are patriarchal, which may influence the sexual behaviour of both men and women (Airhihenbuwa, 1995). It has already been established that female sexual behaviour is more subject to influence by social factors than male sexual behaviour (Mirande, 1968). For instance, communication is pivotal in promoting safer and healthy sexual practices (Maharaj, 2001). However, culturally defined gender roles reinforce male dominance and female submissiveness and this hinders communication on sexual matters. Gender roles, beliefs and

socio-cultural beliefs about women's sexuality provide a framework within which young women's sexual behaviour is controlled (Harrison, 2008a). Young men face pressure from both peers and relatives to demonstrate their manhood by engaging in unsafe sexual practices (Blecher *et al.*, 1995; Wood *et al.*, 1997).

Gender differentials in South Africa impact on the sexual behaviour of young adults (Jewkes *et al.*, 2001; Preston-Whyte *et al.,* 1990; Richter, 1996; Wood *et al.*, 1997). In some societies, for example, men are expected to have more sexual partners than women (Mantell *et al.*, 2006; Marston & King, 2006). A study conducted in South Africa among a group of 916 men and 1003 women aged 14-25 indicates that more young men reported a higher number of sexual partners than young women (Hargreaves *et al.,* 2008). Thus, in some societies, risky sexual behaviour improves the social status of men while jeopardizing that of women (Ott *et al.*, 2006). In these societies, the sexual behaviour of women is influenced by their male counterparts (Blanc, 2001; Fenton *et al.*, 2000). The expectation that young women should not engage in premarital sex may prevent them from adopting safer sexual practices (Mathews, 2005), thus making women more vulnerable to risky sexual behaviour.

The fertility conundrum is also a barrier to condom use (Presston-Whyte, 1999, cited in Tillotson & Maharaj, 2001). There are also strong socio-cultural factors that hinder the use of condoms (Maharaj, 2001). Cultural norms create gender imbalances which puts women in a difficult position to negotiate when, where and how to have sex (Tillotson & Maharaj, 2001).

2.5 Summary

Globally sexual behaviour is influenced by various factors. The literature review indicated that individual factors, SES and family influence are the major contributors however these factors vary along demographic lines, from study to study and from society to society. The sexual behaviour of young adults is shaped by their immediate environment which is imposed by structural factors. Hence, it is important to determine factors influencing sexual behaviour in the unique immediate environments in which young adult live. However, the literature review lacks longitudinal studies which observe trends over time in sexual behaviour in relation to the changing environment which young adults live. This paper is an endeavour to contribute in that regard by observing trends over time and determinants of sexual behaviour in the changing environment of young adults residing in the Cape Town Metropolitan area.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter presents the methodology of the study. Sexual behaviour is an area that has been widely researched in South Africa. For that reason secondary data was used for this study. Numerous data sets are available on sexual behaviour (SADHS 1998, 2003; Transition to Adulthood in the Context of AIDS in South Africa, 2007, HRSC/Mandela HIV/AIDS survey, 2002, 2005; HIV and Sexual Behaviour Among Young South Africans: A national survey of 15-24 year olds, 2003). However, most of these surveys are cross sectional and a survey like the SADHS is a repeated cross sectional survey, it does not observe the same individuals over time. The CAPS data set was chosen because it is a longitudinal data set and it meets the research aims of this study. Longitudinal data permits for observation of trends over time. This is crucial in monitoring risky sexual behaviour among young adults as well as evaluating the impact of various prevention and intervention programmes on reducing risky sexual behaviour.

3.2 Study Setting

The Western Cape Province is situated in the southern-most tip of South Africa. According to a community survey conducted by Statistics South Africa the estimated population of the Western Cape is 5 278 585 (StatsSA, 2007). The Western Cape is composed of four population groups: Coloureds (50.2%), Black African (30.1%), Whites (18.4%) and Indians (1.3%). The focus of this study is on the three major population groups i.e. Coloureds, Black Africans and Whites. The small number of Indians (1.5%) was merged into the Coloured population. Indians constituted a minority in the CAPS enumeration areas and will thus be statistically insignificant in relation to other population groups. Compared with other provinces in South Africa the Western Cape is the most resourced province. According to StatsSA only 3% of the population of the Western Cape does not have access to a phone (telephone or cellular phone) (StatsSA, 1996). It is a highly urbanised population with 88.9% of its population living in urban areas. The Western Cape also has the highest education ratings compared to other provinces in South Africa, with about 10% of the population aged at least 20 having a higher education qualification. According to Shisana *et al.* (2005) the Western Cape has a national HIV prevalence of 0.3% and the prevalence among young adults

aged 15-24 is 2.3%, the lowest in the country. KwaZulu-Natal records the highest prevalence of 16.1%.

The Cape Town Metropolitan area from which the data set is derived is the economic hub of the province and serves as the legislative capital city of the Republic of South Africa and has an estimated population of 2 893 247 (StatsSA, 2006). The major population group in the Western Cape is the Coloured population. The Coloured population is a minority group in other South African provinces with the exception of Northern Cape and Western Cape.

3.3 Data Source

The Cape Areas Panel Study (CAPS) study is a longitudinal survey of young adults and their households. It is currently composed of four Waves. The first Wave of the study was conducted in 2002, the second Wave was conducted in 2003 (Wave 2a) and 2004 (Wave 2b) and the third Wave of the study was conducted in 2005. The fourth Wave was conducted in 2007/8 and it does not form part of this study. Waves 1-3 will be used in this study but due to non-response in 2003 and 2004 on some of the questions, some sections of the study will only use Waves 1 and 3.

The data set is composed of two modules- a household module and a young adult module. The household module is composed of 22 631 individuals representing 5 256 households (See Table 3.1). The young adults includes a sample size of 4 752, aged 14–22. This young adults are residents of the 5 256 households. The study collected information on young adults and their households, living arrangements, schooling, work and reproductive health. The sample design was weighted to be representative of the sample households and of all different races in the Cape Town Metropolitan area based on the 2001 Population Census. For this reason the sample is clustered and stratified accordingly and therefore involves complex sample design. Table 3.1 provides a brief summary of CAPS (unweighted).

Table 3.1: Numbers of Household Members, Households, and Young Adults in CAPS

Population Group of Enumeration Area	*Household members*		*Households*		*Young adults*	
	Number	*%*	*Number*	*%*	*Number*	*%*
African	9,565	42.3	2,260	43.0	2,126	44.7
Coloured	9,884	43.7	2,036	38.7	1,879	39.5
White	3,182	14.1	960	18.3	747	15.7
Total	22,631	100.0	5,256	100.0	4,752	100.0

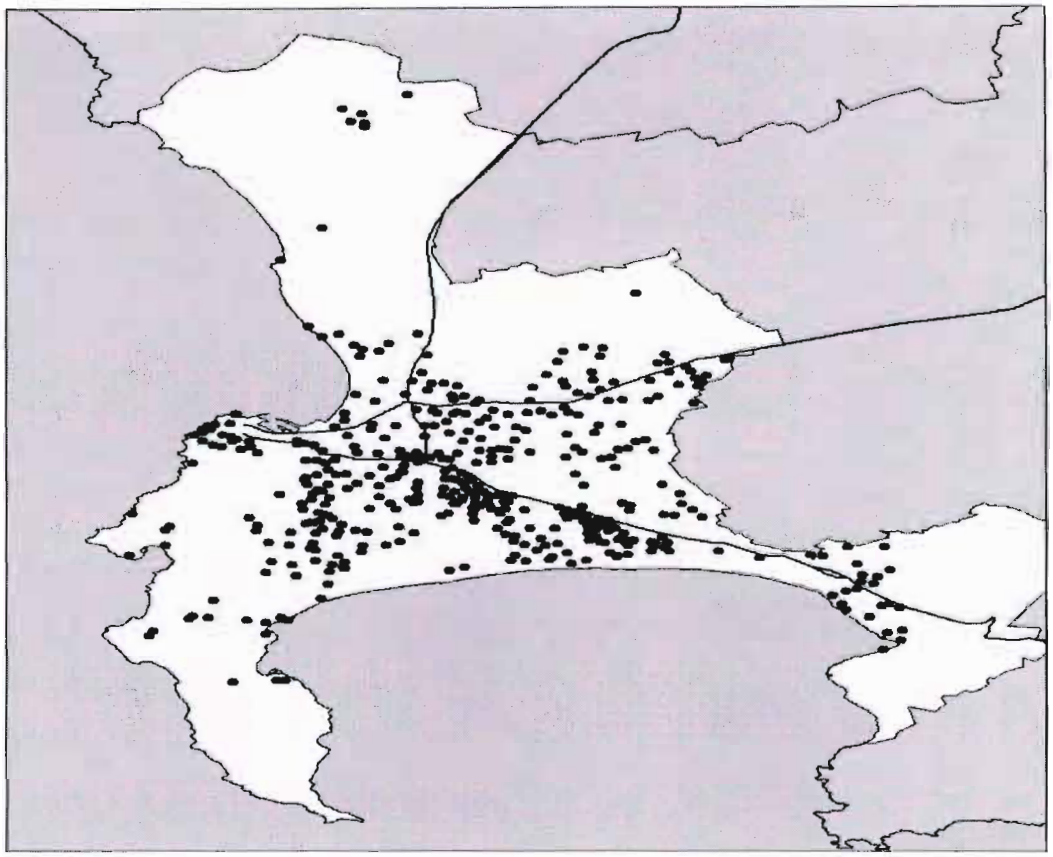
3.3.1. Analytic Sample

The analytic sample to be used is made up of young adults and their households. The young adult module for Waves 1-3 will be used, it is composed of a sample of 4,752 young adults aged 14-22. The household sample that collected information on parents of the 4,752 young adults will be used to assess the economic status of the family and family characteristics. The use of the ages 14-22 in CAPS as opposed 15-24 (UN designation for young adults) had to do with research goals and the timing of events in the lives of young adults. Therefore the use of age groups 14-22 as opposed to 15-24 is unique to childhood transitions in the Western Cape and does not necessarily refer to the UN definition of young adult, or teenager.

3.3.2 Study Design

The sample design used by the CAPS team is based on the Enumeration Areas (EAs) of the Cape Town Metropolitan of the 1996 population census. The purpose was to sample equal numbers of Africans and Coloureds and a White sample roughly half as large (Lam, Seekings & Sparks, 2006). A stratified two-stage sample was designed by working backwards from the target number of young adults in each of the three population groups. The first stage was the selection of sample clusters. The second stage was the selection of households within each cluster. Figure 3.1 presents the final CAPS enumeration areas used for the study.

Figure 3.1: CAPS Enumeration Areas



Source: Lam, Seekings & Sparks. (2006)

The sample was weighted based on the 1996 population census in order to be representative of the entire Cape Town Metropolitan area and to correct for an unequal probability of selection. However, due to the effect that weighting has on regression, all variables will appear to be significant when conducting logistic regression. Only unweighted proportions were used in the bivariate analysis and logistic regression.

3.4 Analytic Framework and Measures

3.4.1 Method of Analysis

The data was analysed using STATA. Univariate analysis was used to test for normality and prepared the dataset for analysis. Bivariate analysis and chi-squared testing were used to compute sample characteristics, proportions and determine the statistical significance before proceeding to multivariate analysis. For the multivariate analysis the method used is multiple logistic analysis as it applies to studies that deal with numerous independent variables.

Married young adults were not included in the study because motivations that inform the sexual behaviour of married young adults may be different from those that motivate unmarried young adults who are traditionally expected to abstain from sexual activities.

Table 3.2: Proportion of young adults married.

Current Marital Status	Percent
Never Married	98.47
Married	1.33
Divorced	0.20
Total	100.00

About 1.33% (Table 3.2) of young adults who were married was dropped from the dataset. Getting married and death are the only two ways (besides those who refused being re-interviewed) of dropping out of the longitudinal analysis.

Logistic regression

The logistic regression is a method of determining the association between a categorical outcome with a number of predictors (Lee, Forthofer & Lorimor, 1986). Logistic regression has the ability to incorporate a large number of predictor variables even if they are continuous variables (Lee, Forthofer & Lorimor, 1986). The general linear regression equation used is represented by the general formula used for a binary outcome variable p.

$$\text{Logit}(p) = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \ldots + \beta_p X_{pi} + \varepsilon_i$$

Where p is the probability of the presence of the characteristics of interest - the dependent variable. In the study p is represented by:

i. Ever had sex (Model 1).
ii. Condom use at last sex (Model 2).
iii. Two or more sexual partners in the last 12 months (Model 3).

β_j is the coefficients of the independent variables, X_j which in terms of this study is the indicator variables: SES index, gender, population group, age group, education level,

perceived HIV risk, time spent with mother and/or father and communication about personal matters with mother/father in the last 12 months.

Determination of SES Index

The household survey was used to construct an SES Index that measures household wealth. An SES index of a scale ranging from 0-5 was developed using household assets. The following assets were used to construct the SES index;

i. Internal piped water system
ii. Flush toilet.
iii. Electricity
iv. Landline telephone
v. Motor vehicle.

Each household was awarded a score of one for each asset owned. The equation used is:

SES Index = $W_i + T_f + E + Tp + V$

Where W_i = internal piped water

T_f = Flush Toilet

E = Electricity

Tp = Landline Telephone

V = Motor Vehicle

The scale was assigned categories: Low Socio-economic Status (Index 0-1), Middle Socio-economic Status (Index 2-3) and High Socio-economic Status (Index 4-5). For example a household which does not contain any of the items listed will have a score of zero indicating extreme poverty and a household which has all five items will have a score of 5, indicating a high SES (concept adopted from Thurman *et al.*, 2006).

3.4.2 Variables

Sexual behaviour across all three Waves is measured using four proxies: ever had sex, age at first sex, condom use at first sex and number of sexual partners in the last 12 months. Sex in this study is defined as full penetrative vaginal sex. The predictor variables chosen for this study are divided into categories as directed by the theoretical framework. Personal factors were measured using the variable: 'assess your risk of HIV infection' with four possible options: 'no risk', 'low risk', 'medium risk' and 'high risk.' Education was measured using a young adult's level of education ranging from grade 0 to tertiary education. For further

analysis, dummy variables for primary, high school and tertiary education were created. Family involvement was measured using time parents spend with their children and communication between parents and young adults. Time spent with parents was measured using the variables 'how often has mother spent time with just you?' and 'how often has father spent time with just you?', with both variables have four possible responses: never, rare, sometimes and often. Parent-child communication was measured using the variables 'discuss personal matters with mother?' and 'discuss personal matters with father?'

3.4.2.1 Variable selection summary

Trends of Sexual behaviour overtime

This section examines trends over time in sexual behaviour from Wave 1 to Wave 3. In those cases where results are missing, only Wave 1 and Wave 3 are used.

Variables

1. Age at first sex
2. Ever had sex
3. Having had two or more sexual partners in the last 12 months.
4. Condom use at last sex.

Determinants of sexual behaviour

The dependent variable is sexual behaviour which is determined using the following dependent variables.

Dependent variables

The following dependent variables were used;

i. Ever had sex (Model 1)
ii. Condom use at last sex (Model 2)
iii. Two or more sexual partners in the last 12 months (Model 3)

Predictor variables

The following predictor variables will be used. The predictors are divided into three classes: personal factors, proximal and distal factors.

1. Individual factors

i. Perceived risk of HIV infection.

2. *Demographic factors*

    i. Age
    ii. Sex
    iii. Population group
    iv. Marital status

3. *Family Involvement variables*

    i. Time spent with mother/father in the past twelve months
    ii. Communication about personal matters with mother/father

4. *Socio-economic variables*

    i. SES Index

3.5 Limitations of the research

Like in any longitudinal study, some subjects are lost to follow up and this may decrease the sample size as the analysis proceeds from Wave 1 (2002) to Wave 3 (2005). In total 1216 respondents where lost between Wave 1 and Wave 3. The time interval between the Waves is also short and may not have allowed for the observation of change. The multiple regression method used suffers from the inability to deal with confounding variables. Confounding occurs when one predictor variable has a correlation with another predictor variable. But since this research does not attempt to establish causality, the impact of confounding will be minimal. Data on sexual behaviour suffers from reporting biases. Sex is a private, personal and sensitive issue and is laden with hidden meaning. Thus, responses to questions of sex may not necessarily be accurate. In some instances, men may exaggerate the number of their sexual partners and women may underreport.

The Cape Town Metropolitan is home to a large pool of homeless young people. All the young adults in the study had some level of education and resided in a two parent household. Thus the study fails to determine trends of sexual behaviour among orphans and homeless young adults residing in the Cape Town Metropolitan area.

3.6 Ethical Issues

The sample characteristics obtained for this study can be generalized to the rest of the Cape Metropolitan Area because of the applied sample weights which were based on the 1996 population census. The dataset used is the property of the CAPS Team and was collected confidentially. Ethical issues were addressed before data collection. Ethics approval was granted to the CAPS team by human subjects review boards at the University of Cape Town and University of Michigan. Consent was obtained from all participants and in terms of minors (aged less than 18), parental consent was sought. All addresses, names of subjects and names of schools were removed and replaced with EA numbers which cannot be traced back to the communities interviewed.

3.7 Summary

The fact that the Western Cape has a large Coloured population motivated the use of the CAPS data set. Also crucial is that the sexual behaviour of White young adults was recorded. Many South African studies only study the sexual behaviour of Black African young adults without sufficient focus on Whites, Indians and Coloureds (There is however still a need for a study to focus on Indian youth). Use of the CAPS dataset allows us to compare the three population groups overtime.

CHAPTER 4

RESULTS

4.1 Introduction

This chapter examines the main findings of the study. The first part of the chapter starts by providing demographic and socio-economic characteristics of the households that took part in the survey as well the young adults aged 14-22 residing in those households. The second part of the chapter presents the social distribution of the proxies of sexual behaviour used and the trends thereof for the all the three Waves. It also employs logistic regression to explore the major determinants of sexual behaviour for all three Waves. Finally, the chapter gives a brief overview of those predictors which have changed across the three Waves and may have influenced changes in sexual behaviour.

4.1.1 Descriptive Analyses

Demographic and Socio-Economic Characteristics, Household Sample

Table 4.1 presents the demographic and socio-economic characteristics of the households in which the young adults live. As expected, the majority of the population in 2002 was Coloured (57%) followed by Black Africans (27.9%) and lastly, the White population (14.7%). The subsequent Waves indicate that the percentage of the Black population (29.5% in 2003/4 and 27.1% in 2005) remained relatively unchanged across the three Waves, the Coloured population (57.6% in 2003/4 and 62.5% in 2005) increased and the White population (12.9% in 2003/4 and 10.4% in 2005) decreased. In all three Waves, females constitute the majority of the population (52.7% in 2002, 53.3% in 2003/4 and 53.7% in 2005). The age structure of the population is presented in Table 4.1 using a 10-year age group interval. It is quite clear that the percentage of those aged 0-14 is much less than those aged 15-64. However, this population is generally a young population, with Wave 1 (2002) indicating that three quarters (95.6%) are younger than 60 and only a small percentage (4.4%) are over 60s. Wave 2 indicates that the percentage of the elderly remains fairly unchanged accounting for 4.6% and increases slightly to 5.3% in Wave 3.

Table 4.1. Demographic and Socio-economic characteristics of the sample from 2002 to 2005, CAPS Household

Background Characteristics	2002	2003/4	2005
	%	%	%
Age (Years)			
0-9	14.2	13.5	13.1
10-19	30.2	27.7	25.2
20-29	17.6	21.7	24.8
30-39	10.6	9.0	7.1
40-49	15.5	15.4	15.2
50-59	7.5	8.1	9.2
60-69	2.9	2.8	3.3
70-79	1.1	1.3	1.3
80+	0.4	0.4	0.8
Population group			
Black	27.9	29.5	27.1
Coloured	57.4	57.6	62.5
White	14.7	12.9	10.4
Sex			
Male	47.3	46.6	46.3
Female	52.7	53.4	53.7
SES Index			
Low	7.7	Na	4.5
Middle	32.2	Na	32.4
High	60.1	Na	63.0
$N_{unweighted}$	16992	14655	12086
$N_{weighted}$	1 302 460	1 101 074	91930

Table 4.1 also shows that the majority of households belong to the high SES category (60.1% in 2002 and 63% in 2005) with a small fraction belonging to the low SES category (7.7% in 2002 and 4.5% in 2005). A breakdown of SES by population group (Table 4.2) indicates that the majority of Black Africans (21.6%) were poor compared with Coloureds (3%) and Whites (0%) in 2002. This does not indicate that there is no poverty in White households but rather that the level of White poverty in terms of the method used is very low. A majority of White households, despite being poor, are most likely to be in possession of assets than Black and Coloured households. In 2005 it appears that the level of poverty decreased across all population groups, 10.9% of Black African households had a low SES, compared with 2.7% of Coloured households. There were no White households that fell in the low SES category. Similarly the percentage of households in the high SES category increased from 22.1% in

2002 to 25.4% in 2005 for Black Africans, from 68.5% in 2002 to 73% in 2005 for Coloureds and lastly, for Whites, it increased from 97.5% in 2002 to almost 100% in 2005.

Table 4.2. SES Index by population group, Cape Metropolitan Area.

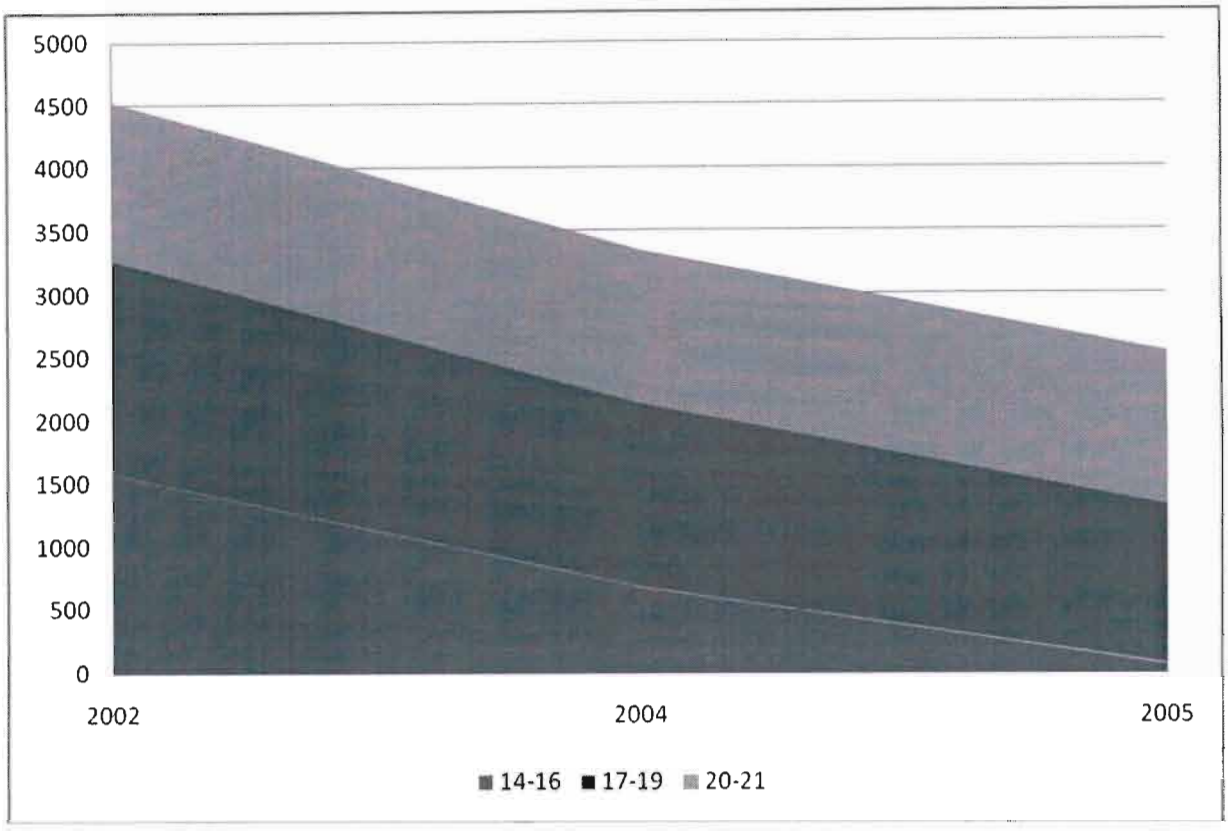
Population group	Low SES (0-1) %		Middle SES (2-3) %		High SES (4-5) %	
	2002	2005	2002	2005	2002	2005
African	21.6	10.9	56.3	63.6	22.1	25.4
Coloured	3.0	2.6	28.4	24.5	68.5	73
White	0.0	0.0	2.5	0.7	97.5	99.3
All	7.8	4.6	32.3	32.5	59.9	62.9
N	100084	43339	417767	309944	773939	599174

Demographic and Socio-Economic Characteristics: Young Adults Sample

The young adult sample is composed of 4529 young adults in 2002, 3889 in 2003/4 and 3300 in 2005. When weighted the sample is equivalent to 385 232 young adults in 2002, 332 003 in 2003/4 and, 274 323 in 2005 and is representative of the entire Cape Metropolitan Area as presented in Table 4.3. In 2005 Coloured young adults (51.8%) constituted the majority, followed by Black Africans (28.7%) and lastly, Whites (19.5%). The percentages for each population group for the subsequent two Waves remain relatively unchanged (see Table 4.3). As expected, females constitute the majority. In 2005, 51.9% of the sample was female. The percentage of females remains fairly stable in 2003/4 (51.5%) and in 2005 (51.3%).

In 2002 about 34.3% of young adults were aged 14-16, 37.1% were aged 17-19 and 28.6% were aged 20-22 as shown in Table 4.3. Since this is a longitudinal study and young adults are growing old, the percentage aged 14-16 decreased in 2003/4 (18.2%) and further declined to 2.4% in 2005. However the percentage aged 17-19 increased in 2003/4 (42.6%) and 2005 (47.3%). Similarly the percentage aged 20-22 increased in 2003/4 (39.1%) and even more in 2005 (50.3%). Figure 4.1 overleaf represents each age cohort through 2002 to 2005.

Figure 4.1: Age cohorts in numbers, CAPS 2002-2005



In 2002, of the 4529 respondents, 87% (3952) were still continuing with their education. Overall, in 2002 almost one percent of young adults had only primary school education and the proportion decreases to 0.7% in 2003/4 and appears to be stalling at 0.7% in 2005. Table 4.3 also indicates that the majority of young adults in 2002 had higher secondary education (46.6%) followed by tertiary education (34.2%). Since the majority of young adults were still continuing with their education the percentage with higher secondary education decreased to 42.1% in 2003/4 and decreased further to 34.5% in 2005. This is accompanied by an increase in the percentage of those with tertiary education, 48.9% in 2003/4 and a further increase to 58.4% in 2005.

Table 4.3. Demographic and Socio-economic characteristics of the Young adults sample, 2002-2005

Year	2002	2003/4	2005
Population group			
Black	28.7	28.6	28.8
Coloured	51.8	52.2	52.3
White	19.5	19.2	19.0
Age			
14-16	34.3	18.2	2.4
17-19	37.1	42.6	47.3
20-22	28.6	39.1	50.3
Sex			
Male	48.1	48.5	48.7
Female	51.9	51.5	51.3
Level of Education			
Primary	1.3	0.7	0.7
Lower Secondary	17.8	8.3	6.5
Higher Secondary	46.6	42.1	34.5
Tertiary	34.2	48.9	58.4
$N_{unweighted}$	4529	3889	3331
$N_{weighted}$	384 154	361 939	359 623

4.1.2 Family involvement

Miller (2002) observed that the contextual and structural features of families, family processes, relationships and practices of parents have an influence on the sexual behaviour of young adults. Table 4.4 shows parental involvement in the lives of young adults. Four indicators where used for these purpose: time spent with mother, time spent with father, communication about personal matters with mother and finally, communication about personal matters with father.

Time spent with parents

In total 41.9% of young adults reported that they often spent time with their mothers and 24.5% reported that they often spent time with their fathers in 2002. In 2005, 49.3% of young adults reported that they spent time often with their mothers and 31.2% reported that they spent time often with their fathers, an improvement from the 2002 results. Variations exist across different population groups and are significant.

Table 4.4. Family involvement variables, CAPS 2002

Young Adults Family Involvement	Black			Coloured			White			All		
	2002	2003/4	2005	2002	2003/4	2005	2002	2003/4	2005	2002	2003/4	2005
Time Spent with Mother												
Never***	15.8	14.8	13.5	13.6	12.8	7.3	6.1	5.7	2.8	13.5	12.9	9.4
Rare***	27.2	25.6	9.3	15.2	14.5	10.2	17.1	14.1	10.5	20.9	19.6	9.9
Sometimes***	17.3	17.4	33.9	27.9	28.7	31.2	32.8	33.9	22.3	23.7	24.1	31.4
Often***	40.1	42.1	43.25	43.3	44.0	51.3	44.0	46.4	64.4	41.9	43.4	49.3
Time Spent with Father												
Never***	42.5	42.8	37.9	38.9	37.2	25.4	14.0	14.1	8.3	36.7	36.6	28.0
Rare***	23.2	21.7	11.7	16.7	16.8	14.9	24.3	20.7	17.3	20.5	19.4	14.0
Sometimes***	10.3	10.1	25.3	21.4	21.7	27.3	30.9	33.6	29.4	18.1	18.2	26.9
Often***	24.3	25.5	25.1	23.0	24.3	32.4	30.9	31.6	45.1	24.6	25.7	31.2
Discuss personal matters with mother												
Never***	29.2	29.5	23.9	25.2	24.8	11.5	9.4	7.3	4.6	24.9	24.9	15.9
Rare***	25.9	24.2	9.5	16.0	15.8	11.9	16.8	15.4	13.3	20.6	19.6	11.1
Sometimes***	22.2	22.6	43.7	37.3	37.7	29.9	48.3	49.4	29.9	32.0	32.1	35.7
Often***	22.7	23.8	22.9	21.5	21.8	46.7	25.5	27.9	52.2	22.6	23.4	37.3
Discuss personal matters with father												
Never***	57.4	58.3	52.7	57.1	56.7	34.0	23.4	22.6	13.4	52.2	53.0	38.4
Rare***	17.6	16.0	10.7	13.7	13.4	15.7	23.9	21.9	19.1	16.8	15.6	14.3
Sometimes***	10.1	10.0	24.6	20.4	20.6	25.8	37.5	40.1	29.6	18.6	18.6	25.8
Often***	15.0	15.6	12.0	8.9	9.3	24.6	18.2	15.5	37.9	12.4	12.8	21.5

***P < 0.1 ** p < 0.05 ***p < 0.01**

In 2002 15.8% of Black African young adults reported that they have never spent time with their mothers, compared with 13.6% of Coloured young adults. Only a few White young adults (6.1%) reported that they have never spent time with their mothers in 2002. In 2003 the percentage that reported never spending time with mother remains relatively unchanged among Black Africans (14.8%), Coloureds (12.8%) and Whites (5.7%). In 2005 the percentage that reported never spending time with mother dropped significantly across all population groups: 13.5% among Black Africans, 7.3% among Coloureds and 2.8% among Whites.

Table 4.4 shows that more Black Africans and Coloured young adults report never spending time with their fathers compared with White young adults and this remains the same in 2003/4 and appears to have declined in 2005. In 2002, 49.5% of Black Africans reported that they never spent time with their fathers, this declined to 42.8% in 2003/4 and 37.9% in 2005. Among Coloureds, 38.9% reported that they never spent time with their fathers in 2002 and this remained fairly stable at 37.2% for 2003/4 and 37.9% for 2005. Similarly the percentage of Whites reporting never spending time with their fathers remains similar - although lower

compared to the other population groups - across the three Waves: 14% in 2002, 14.1% in 2003/4 and 14.3% in 2005.

Disaggregation of the data into male and female reveals that almost equal numbers of males and females report never spending time with their mothers. In 2002 12.2% of females report never spending time with their mothers and this decreases slightly to 11.5% in 2003/4 and 9.3% in 2005 (Table 4.5). In 2002 15.1% of males report never spending time with their mothers and this remained fairly unchanged in 2003/4 (14.5%) and then declined to 9.6% in 2005. The percentage of females reporting never spending time with a father is high. In 2002 39.5% of females report never spending time with their fathers, it remains fairly unchanged in 2003/4 (39.3%) but declined in 2005 (31.2%). In 2002 33.6% of males report never spending time with their fathers and this remained unchanged in 2003/4 (33.7%) but declined significantly to 24.4% in 2005.

Parent-child communication

Parent-child communication also varies significantly according to population group. A large percentages of Black Africans and Coloured young adults in 2002 (29.2% and 25.2% respectively) report never discussing personal matters with their mothers while only a few White young adults (9.4%) report that they have never discussed personal matters with their mothers. The percentage that report never communicating with their mothers about personal matters remain unchanged among Black Africans in 2003/4 (29.5%) but declines to 23.9% in 2005. Among Coloureds the percentage reporting never discussing personal matters with mothers remained fairly unchanged in 2003/4 (24.8%) but took a sharp decline in 2005 (11.5%). Among Whites the percentage reporting never communicating personal matters with their mothers declined to 7.3% in 2003/4 and 4.6% in 2005.

When it comes to never communicating personal matters with a father, the percentage of Black African (57.4%) and Coloured (57.1%) young adults are relatively similar and higher compared to White (23.4%) young adults in 2002. The trend remains the same in Wave 2 and 3. The percentage that report never communicating with their fathers about personal matters remain unchanged among Black Africans in 2003/4 (58.3%) but declines to 52.7% in 2005. Among Coloureds it remains unchanged in 2003/4 (56.7%) and declines sharply to 44% in

2005. Among Whites the percentage reporting never communicating personal matters with a father remains stable at 22.6% in 2003/4 but declines steeply to 13.4% in 2005.

Disaggregation of the data by gender reveals that females (57.8%) were significantly more likely than males (45.8%) to report that they never communicate personal matters with their fathers in 2002 and this is worse among Black Females (63.4%) and Coloured Females (63.2%). The percentage of females reporting never communicating personal matters with their fathers remains fairly unchanged in 2003/4 (58.9%) but declines to 45.3% in 2005. Among males the percentage reporting never discussing personal matters with father is fairly unchanged in 2003/4 (46.4%) and then declines to 30.9% in 2005. With regard to communication about personal matters with mother, the proportion that report never communicating about personal matters with their mothers is 27% for males in 2002 and this remained unchanged in 2003/4 (26.8%) but declined in 2005 (17.3%). Among females, the proportion that report never discussing personal matters with mother was 23% in 2002 and stalled at 23.3% in 2003/4 but declined to 14.8% in 2005.

Table 4.5. Family involvement, stratified by gender

Young Adults Family Involvement	Total Male			Total Female		
	2002	2003/4	2005	2002	2003/4	2005
Time Spent with Mother						
Never	15.2**	14.5	9.6	12.2**	11.5	9.3
Rare	20.3**	19.2	10.0	21.3**	19.9	9.8
Sometimes	24.1**	24.6	35.3	23.3**	23.8	28.0
Often	40.5**	41.7	45.2	43.2**	44.9**	52.9***
Time Spent with Father						
Never	33.6***	33.7	24.4	39.5***	39.3	31.2
Rare	20.2***	19.4	13.7	20.8***	19.4	14.2
Sometimes	20.2***	20.0	27.9	16.3***	16.6	25.9
Often	26.0***	26.9	34.0	23.4***	24.7***	28.8
Discuss personal matters with mother						
Never	27.0***	26.8***	17.3***	23.0***	23.3***	14.8***
Rare	20.2***	19.4	12.1	20.9***	19.7	10.2
Sometimes	32.5***	32.9	36.2	31.5***	31.3	35.3
Often	20.3***	20.8	34.4	24.6***	25.7	39.8
Discuss personal matters with father						
Never	45.8***	46.4***	30.9***	57.8***	58.9***	45.3***
Rare	19.7***	18.8	14.5	14.3***	12.7	14.1
Sometimes	21.2***	21.1	30.0	16.3***	16.3	21.9
Often	13.3***	13.7	24.6	11.6***	12.1	18.8

***P < 0.1 ** p < 0.05 *** p < 0.01**

4.2 Attitudes and Risk Perceptions of HIV

Table 4.6 indicates that there is some variation in perception of risk of HIV infection by population group. The results of those who reported that they perceived themselves at risk of HIV infection are stratified by population group, age, education level and SES level for Waves 1, 2 and 3. The results for Wave 2 should be treated with caution as only a small proportion of young adults responded to this question. Generally, the percentage of young adults who reported themselves at risk of HIV infection increased from 48.1% in 2003 to 65.7% in 2003/4 and then declined to 53.4% in 2005.

In 2002 less than half of Black Africans (41.5%) reported that they perceived themselves to be at risk of HIV infection. In 2003/4 the percentage of Black Africans who perceived themselves to be at risk increased to 60.7% but only to decline to 55.7% in 2005. Almost half of all Coloured young adults in 2002 reported that they were at risk of HIV infection and this increased to 67.9% in 2003/4 and dropped to 48.8% in 2005 almost to the same percentage as reported in 2002. In 2002 a higher proportion of White (68%) young adults reported that they perceived themselves to be at risk of infection compared to Black Africans and Coloured young adults. This increased to 81.3% in 2003/4 and declined to 64.5% in 2005.

Figure 4.2 shows that perception of risk of HIV infection by gender was not significant across all three Waves. However, when disaggregated by population group a high percentage of White males and females perceive themselves to be at risk of HIV infection across all three Waves: 65.4% in 2002, increasing to 79% in 2003/4 and declining to 61.5% in 2005 among White males. A similar trend is observed among White females, the percentage of those reporting themselves to be at risk of HIV infection was much higher in White females, 70.3% in 2002, increasing to 85.1% in 2003/4 and declining to 67.8% in 2005.

Fewer Black Africans (male and female) and Coloured males report that they are at risk of HIV infection. In 2002 38.1% of Black African males reported themselves to be at risk of HIV infection and this increased to 54% in 2003/4 and declined to 49% in 2005.

Table 4.6. Percentage of respondents who perceived themselves at risk of HIV infection

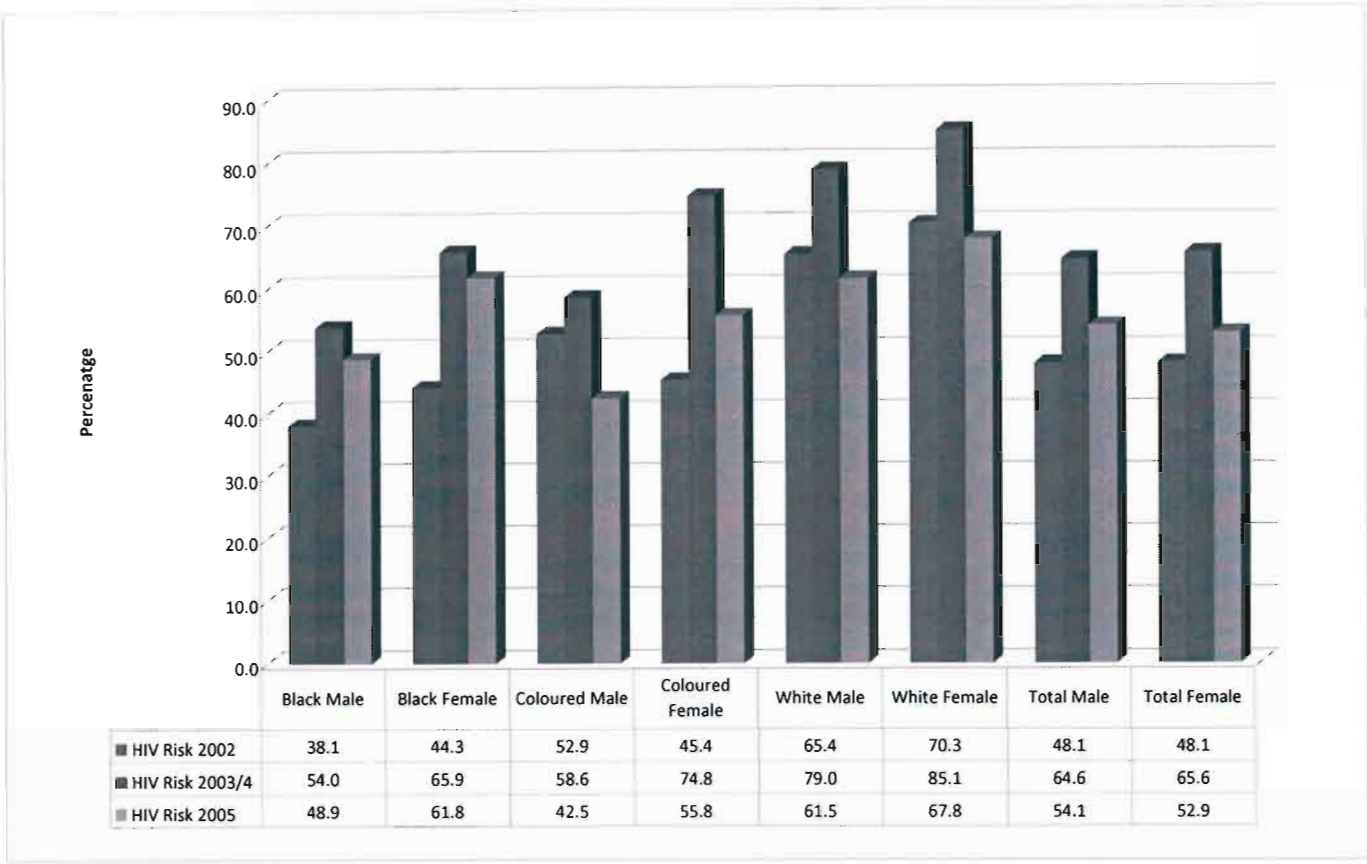
Year	2002	2003/4	2005
Variable	%	%	%
Population group			
Black***	41.5	60.7	55.7
Coloured***	49.1	67.9	48.8
White***	68.0	81.3	64.5
All	48.1	65.1	53.4
Age group			
14-16***	41.3	54.2	37.9
17-19***	49.5	62.6	49.8
20-22*	55.1	73.2	54.2
Level of education			
Primary***	39.3	na	30.0
Lower Secondary***	39.2	na	54.3
Upper Secondary***	45.5	na	50.8
Tertiary***	58.7	na	55.2
SES Index			
Low SES***	45.4	na	63.1
Middle SES***	41.4	na	55.3
High SES***	54.3	na	50.9

***P < 0.1 ** p < 0.05 *** p < 0.01, na=data for 2003/4 not available**

More Black African females than males reported themselves to be at risk of HIV infection, 44.3% in 2002, this increased to 65.9% in 2003/4, and declined to 61.8% in 2005 among Black African females. In 2002, 52.9% of Coloured males reported themselves to be at risk of HIV infection, increasing to 58.7% in 2003/4 and reaching the lowest level compared to all other population groups by declining to 42.5% in 2005. In 2002 45.4% of Coloured females reported themselves at risk of HIV infection, this increased to 74.8% in 2003/4 and then declined to 55.8% in 2005.

Perception of risk of HIV infection varied significantly by age as shown in Table 4.6. In 2002 41.3% of those aged 14-16 perceived themselves to be at risk of infection and this increased to 51.5% in 2003/4 and declined to 37.9% in 2005. For the age group 17-19 the proportion that perceived themselves at risk remains the same for the year 2002 and 2005 (49.5% and 49.8% respectively) and the same applies for the age group 20-22 (44.9% and 45.8% for 2002 and 2005 respectively).

Figure 4.2: HIV risk perception, stratified by gender and population group, CAPS 2002-2005



	Black Male	Black Female	Coloured Male	Coloured Female	White Male	White Female	Total Male	Total Female
HIV Risk 2002	38.1	44.3	52.9	45.4	65.4	70.3	48.1	48.1
HIV Risk 2003/4	54.0	65.9	58.6	74.8	79.0	85.1	64.6	65.6
HIV Risk 2005	48.9	61.8	42.5	55.8	61.5	67.8	54.1	52.9

Table 4.6 also shows perception of risk of HIV infection by level of education. Young adults with higher levels of education were more likely to perceive themselves at risk of HIV infection than young adults with lower levels of education. The percentage of young adults at tertiary level who perceived themselves to be at risk of HIV infection was 58.7% in 2002 and declined slightly to 55.2% in 2005. The percentage of young adults with primary education who perceived themselves at risk of HIV infection also dropped from 39.3% in 2002 to 30% in 2005. The percentage of young adults with secondary education who perceived themselves to be at risk of HIV infection increased from 39.2% in 2002 to 54.3% in 2005 for those with lower secondary education and from 45.5% in 2002 to 50.8% in 2005 for those with higher secondary education.

Table 4.6 also shows that a large percentage of young adults from the high SES level perceived themselves to be at risk of HIV infection; however this was reversed in 2005. The percentage of young adults in the low SES category who perceived themselves to be at risk of HIV infection increased from 45.4% in 2002 to 63.2% in 2005. A similar increase is

experienced by young adults in the middle SES category from 41.4% in 2002 to 55.3% in 2005. For the high SES category the percentage of young adults who perceived themselves to be at risk of HIV infection remained relatively unchanged between 2002 (54.3%) and 2005 (50.9%). A reversal is observed in 2005 where perception of risk of HIV infection for the high SES category decreases to below that reported by young adults in the low and middles SES categories.

4.3 Sexual Behaviour Variables

Ever had sex

Age at first sex is important because it usually signals exposure to the risk of unwanted pregnancy and HIV infection (Edgardh, 2000; Genuis & Genuis, 2004; Gregson *et al.*, 2002; Kaestle *et al.*, 2005; Pettifor *et al.*, 2004). Table 4.7 shows the percentage of respondents who report ever having had sex by population group, gender, age, HIV risk perception and level of education, SES and also, some of the family involvement variables. Generally, fewer than half of young adults had already initiated sex by the time of the first Wave of the study in 2002 (44.2%). About 60% of Black young adults, compared with 31.5% of Coloureds and 29.9% of White young adults, reported that they had already initiated sex and these differences are significant. By 2005 at least 80% of all Black young adults (87.5%) have already had sex compared with 52.9% of Whites and 59.6% of Coloureds. The racial differences are pronounced across the three Waves.

Table 4.7 indicates that only about 10.9% of those aged 14-16 years had already had sex in 2002. The same age group records an increase from 10.9% in 2002 to 18.9% in 2003/4 and 19.5% in 2005. About 42.6% of young adults aged 17-19 had already initiated sex in 2002. This figure increases to 48.8% in 2002 and then declined slightly to 46.2% in 2005. Of those aged 20-22 about 70.2% had already initiated sex in 2002. This figure increases to 74.6% in 2003/4 to 74.6% and then settles at 73% in 2005.

There is no distinct difference between males and females in terms of sexual initiation. In 2002 slightly more males (40.9%) than females (38.1%) had already initiated sex and this is significant at the 5% level. The year 2003/4 reports equal proportions of males and females

reporting ever having had sex, about 51% for both sexes. By 2005, 67.8% of males and 65.4% of females report having already initiated sex.

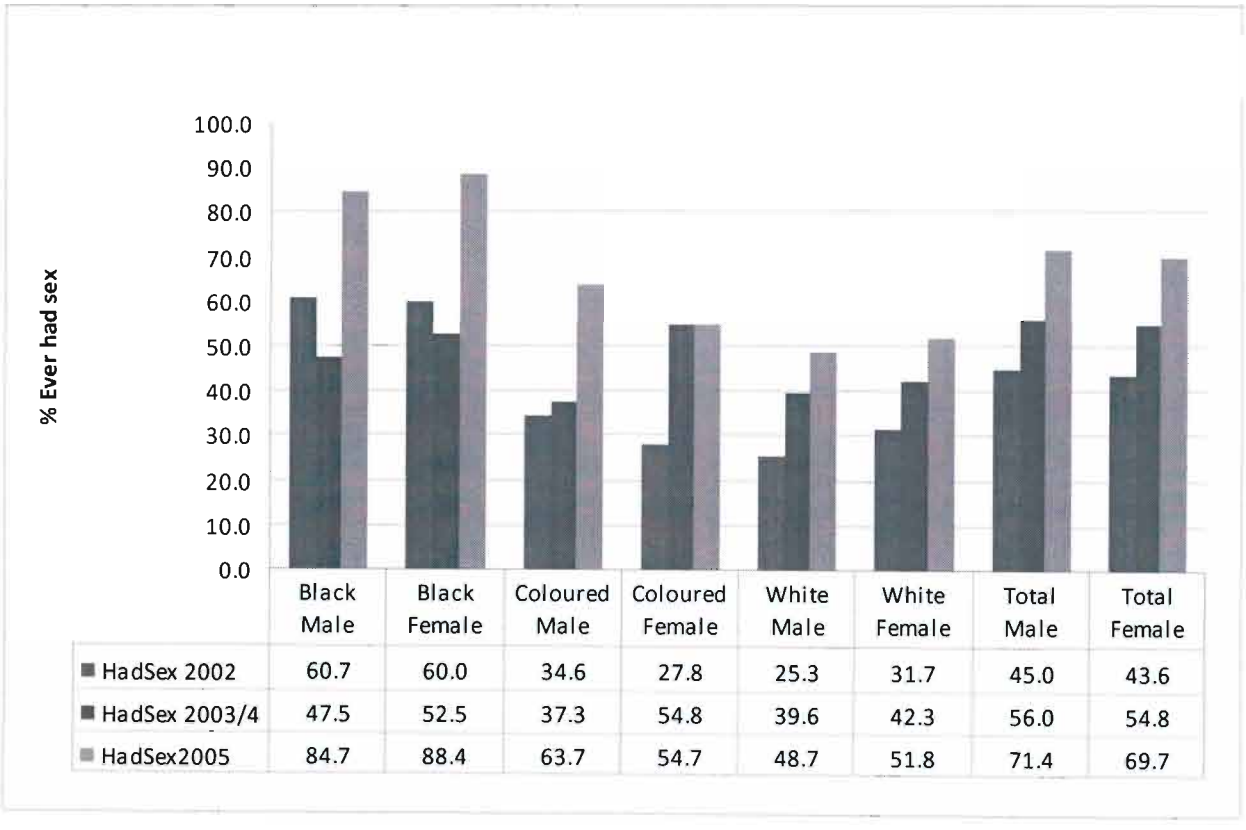
Table 4.7. Ever Had Sex stratified by all variables

Year	2002	2003/4	2005
Variable	%	%	%
Population group* **			
Black	60.1	63.5	87.5
Coloured	31.5	50.0	59.6
White	29.9	46.7	53.0
All	44.2	55.3	70.5
Age group* **			
14-16	10.9	18.9	19.5
17-19	42.6	48.8	46.2
20-22	70.2	74.6	73.0
Gender			
Male	40.9***	51.3	67.8
Female	38.1***	51.7	65.4
Perceived HIV Risk			
Yes	48.4***	60.0***	70.6
Level of education			
Primary	37.6***	61.7	72.2
Lower Secondary	27.3***	47.6	78.2
Upper Secondary	36.0***	49.1	65.5
Tertiary	50.8***	57.6	65.4
SES Index* **			
Low SES	61.9	na	87.3
Middle SES	50.8	na	80.6
High SES	31.0	na	58.7
Time Spent with mother* **			
Never	52.1	na	82.6
Rare	52.3	na	81.4
Sometimes	41.2	na	71.5
Often	38.2	na	63.2
Time spend with father* **			
Never	47.2	na	78.5
Rare	46.0	na	73.1
Sometimes	31.4	na	66.6
Often	35.6	na	55.8
Discuss personal matters with mother* **			
Never	46.2	na	78.0
Rare	49.4	na	71.9
Sometimes	40.3	na	73.3
Often	41.1	na	61.2
Discuss personal matters with father* **			
Never	43.6	na	76.8
Rare	44.2	na	66.2
Sometimes	34.1	na	64.8
Often	38.6	na	54.9

***P < 0.1 ** p < 0.05 *** p < 0.01**

Figure 4.3 shows the results disaggregated by gender and population group. The percentage of Black African males and females reporting ever having had sex between 2002 and 2005 was high. By 2002 60% Black females and 60.7% of Black males reported ever having had sex and this increased to 84.7% for Black males and 88.4% for Black females in 2005. Coloured males (36.6% in 2002 and 63.7% in 2005) report the third highest percentage that had already initiated sex followed closely by Coloured females (27.8% in 2002 and 54.7% in 2005). The percentage that had already initiated sex is the lowest among White males (25.3% in 2002 and 48.6% in 2005) and White females (31.7% in 2002 and 51.8% in 2005).

Figure 4.3: Ever had sex, stratified by gender and population group, CAPS 2002-2005



	Black Male	Black Female	Coloured Male	Coloured Female	White Male	White Female	Total Male	Total Female
HadSex 2002	60.7	60.0	34.6	27.8	25.3	31.7	45.0	43.6
HadSex 2003/4	47.5	52.5	37.3	54.8	39.6	42.3	56.0	54.8
HadSex2005	84.7	88.4	63.7	54.7	48.7	51.8	71.4	69.7

Across all education levels the percentage reporting ever having had sex increased between 2002 and 2005 as indicated by Table 4.7. In 2002 37.6% of those who had primary school education reported ever having had sex and this increased to 61.7% in 2003/4 and then peaked at 72.2% in 2005. For those with lower secondary, 27.3% reported ever having had sex in 2002, 47.6% in 2003/4 and 78.2% in 2005. Most young adults with tertiary education had already initiated sex, 50.8% in 2002, 57.6% in 2003/4 and 65.4% in 2005.

Table 4.7 shows that reporting of ever having had sex is significantly associated with the SES category. In 2002 61.9% of those in the low SES category had already initiated sex at the time of the study, followed by 50.8% of those in the middle category and 31.0% in the high SES category. In 2005, the percentage of young adults reporting ever having had sex was 87.3% for the low SES category, 80.6% for the middle SES category and 58.7% for the high SES category.

Table 4.7 also indicates that sexual initiation differs by family involvement. In 2002, 52.1% of young adults who report never spending time with mother had already initiated sex compared with 38.1% of those who report spending time with mother often. In 2005 the percentage reporting ever having had sex increases to 82.6% among those who report never spending time with their mothers and 63.7% among those who report spending time with mother often. Table 4.7 reveals that in 2002, 47.2% of young adults who report never spending time with a father had already initiated sex compared with 35.6% of those spending time with mother often.

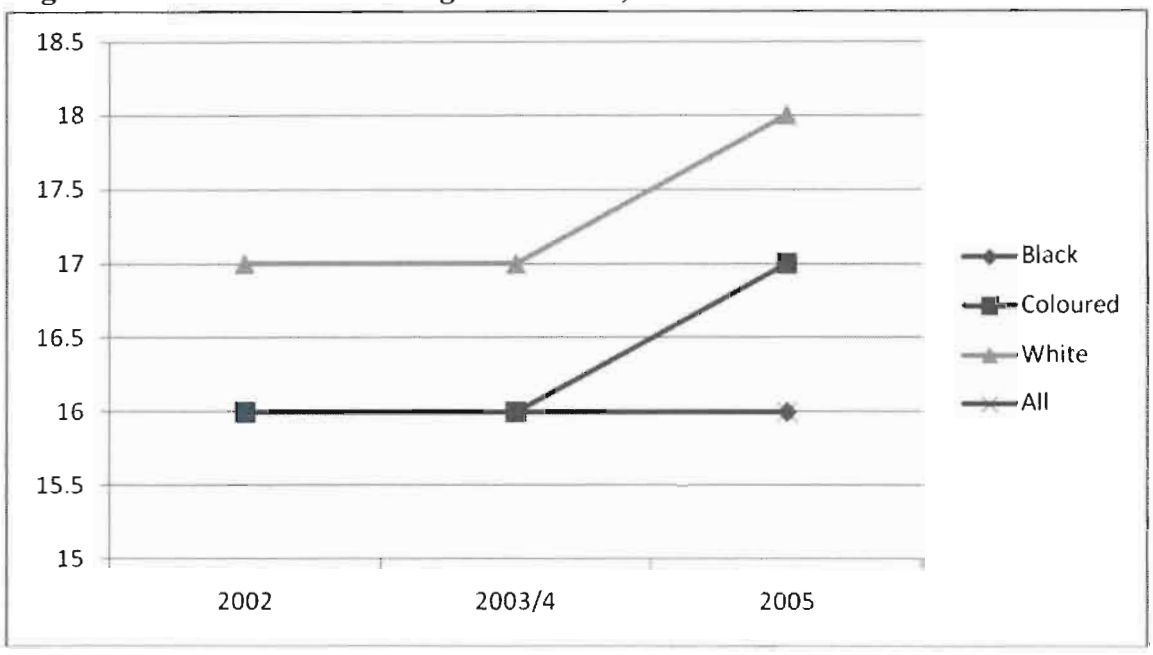
The impact of parent-child communication on sexual initiation is also shown in Table 4.7. In 2002, 46.2% of young adults who report never communicating about personal matters with a mother had already initiated sex, however it does not differ from 41.1% among those who report communicating about personal matters with mother often. In 2005 sexual initiation increases to 78% among those who report never communicating about personal matters with their mothers and 61.2% among those who report communicating about personal matters with their mothers. The same trend is observed for communication about personal matters with a father. In 2002, 43.6% of those who report never spending time with a father had already initiated sex compared with 38.6% who reported spending time with a father often.

Median age at first sex

Figure 4.4 reports changes in the median age at first sex for the period 2002 to 2005. The median age at first sex remained at 16 years of age across all three Waves for Black Africans as shown in Figure 4.4. In 2002 the median age at first sex for Coloured young adults was 16 years and in 2005 it increases to 17 years. The median age at first sex for Whites increased from 17 years in 2002 to 18 years in 2005. Disaggregation of the data into male and female (not shown) reveals that the median age at first sex for male and female is 16 in 2002 and

remains the same across all Waves for males. For females the median age at first sex increases to 17 in 2003 and 2005.

Figure 4.4: Trends in median age at first sex, CAPS 2002-2005



Condom Use at Last Sex

Table 4.8 shows trends in condom use at last sex. As expected condom use at last sex is high among all young adults in the CAPS enumeration area and is significant across all population groups. In 2002, 60.1% of young adults reported that they used a condom at the last sexual encounter. The percentage of young adults reporting condom use at last sexual intercourse increased to 72.6% in 2003/4 and declined slightly to 70.6% in 2005. Condom use at last sex varies by population group. White young adults report the highest level of condom use, 73.8% in 2002, 83.8% in 2003/4 and 88.3% in 2005. In 2002, 62.4% of Black Africans report using a condom at last sex and this increased to 75.5% in 2003/4 and 78.0% in 2005. Condom use at last sex is relatively low among Coloured young adults. In 2002 51.0% report using a condom at last sex and this increases to 64.5% in 2003/4 and then declines to 56.4% in 2005.

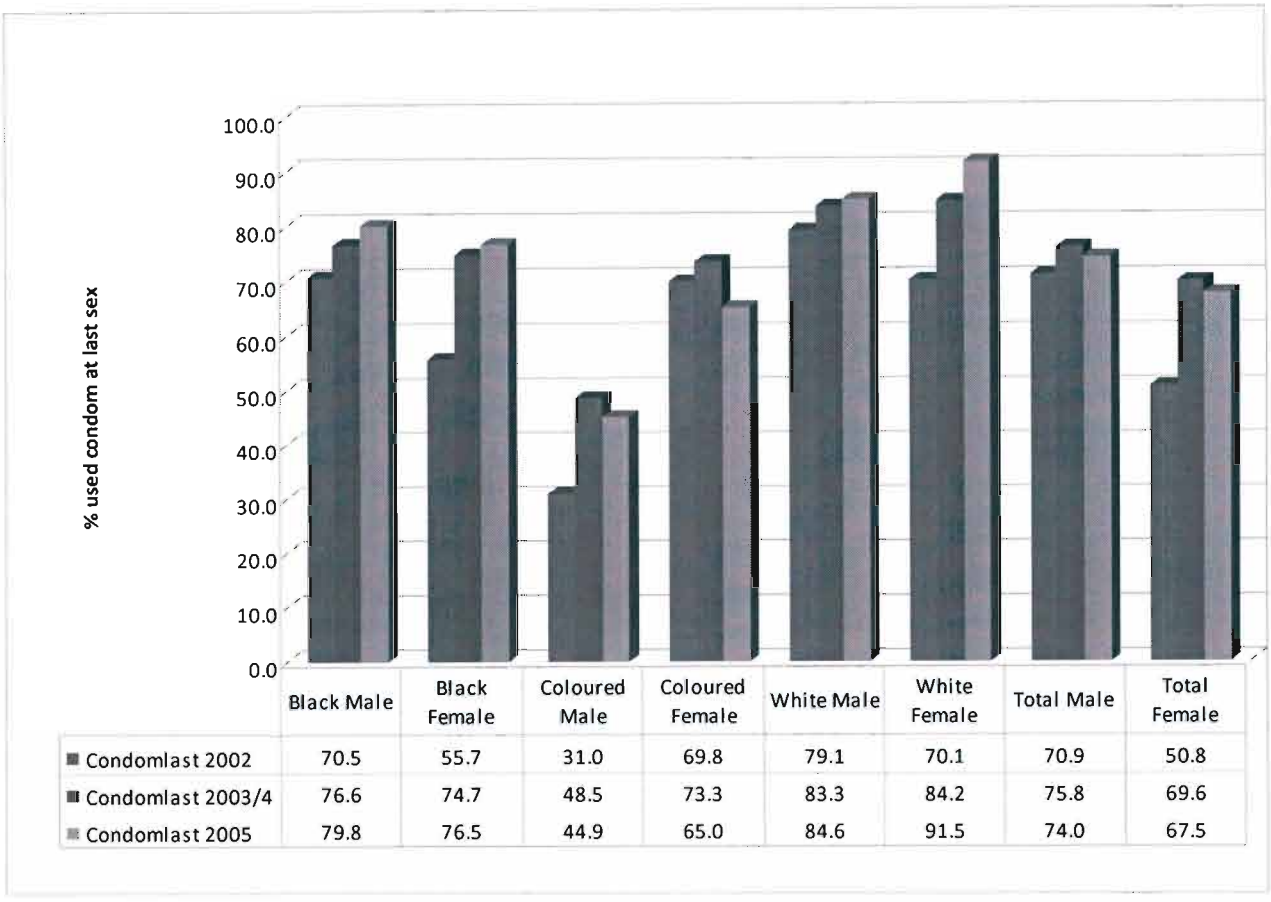
Male respondents reported a higher level of condom use than females. In 2002, 70.9% of male respondents report having used a condom at last sex and this increased to 75.6% in 2003/4 and declined slightly to 74% in 2005. For female respondents the increase was from 50.6% in 2002 to 69.6% in 2003/4 and a slight drop to 67.5% in 2005. The differences in condom use at last sex between male and female are more significant for 2002 and 2005 than for 2003/4.

Table 4.8. Condom Use at Last Sex

Year	2002	2003/4	2005
Variable	%	%	%
Population group			
Black***	62.4	75.5	78.0
Coloured***	51.4	64.5	56.4
White***	73.8	83.8	88.3
All***	60.1	72.6	70.8
Age-group			
14-16	58.2***	73.8	69.2
17-19	65.4***	71.2	75.2
20-22	56.0***	72.3	71.9
N	1866	550	1304
Gender			
Male	70.9***	75.6*	74.0***
Female	50.6***	69.6*	67.5***
Level of Education			
Primary***	69.6	71.4	36.4
Lower Secondary***	55.4	62.3	56.2
HigherSecondary***	56.8	66.9	65.5
Tertiary***	65.4	80.6	77.4
Perceived HIV Risk			
None	61.8	na	59.2
Low	62.3	na	61.5
Medium	60.5	na	60.4
High	52.7	na	56.7
SES Index			
Low SES	51.5***	na	67.16
Middles SES	60.2***	na	72.35
High SES	64.1***	na	70.43
Time Spent with mother			
Never	57.6	na	70.62
Rare	60.4	na	71.57
Sometimes	61.5	na	71.51
Often	61.8	na	69.66
Time spend with father			
Never	59.5	na	70.7
Rare	60.7	na	71.1
Sometimes	62.8	na	71.4
Often	64.4	na	69.5
Discuss personal matters with mother			
Never	68.1	na	69.8
Rare	73.9	na	68.5
Sometimes	71.2	na	71.9
Often	70.1	na	70.2
Discuss personal matters with father			
Never	67.9*	na	70.4
Rare	74.3*	na	67.5
Sometimes	72.2*	na	71.1
Often	70.8*	na	72.9
N	1857		1771

***P < 0.1 ** p < 0.05 *** p < 0.01**

Figure 4.5: Condom use at last sex, stratified by gender and population group, CAPS 2002-2005



	Black Male	Black Female	Coloured Male	Coloured Female	White Male	White Female	Total Male	Total Female
Condomlast 2002	70.5	55.7	31.0	69.8	79.1	70.1	70.9	50.8
Condomlast 2003/4	76.6	74.7	48.5	73.3	83.3	84.2	75.8	69.6
Condomlast 2005	79.8	76.5	44.9	65.0	84.6	91.5	74.0	67.5

A quick look at Figure 4.5 indicates that across all population groups there is a high level of condom use, particularly among Whites. Among White males, condom use increased from 79.1% in 2002 to 84.6% in 2005. A similar trend is observed among White females, with condom use increasing from 70.1% in 2002 to 84.2% in 2003/4 and 91.5% in 2005, the highest compared to all young adults across the three Waves. Black Africans have the second highest reported condom use at last sex. In 2002, 70.5% of Black African males report condom use at last sex and this increased to almost 80% in 2005. Among Black African females condom use at last sex was relatively lower (55.6%), however this group experienced a huge increase to 74.7% in 2003/4 and condom use appeared to be levelling off at 76.5% in 2005. Coloured females register an inconsistent trend. In 2002, 69.7% report condom use at last sex and this increases slightly to 73.3% in 2003/4 and dipped to 69.5% in 2005. Coloured males report the lowest levels of condom use at last sex, 40% in 2002, peaking at 48.5% in 2003/4 and then levelling off at 44.9% in 2005.

Table 4.8 indicates that condom use increased significantly with age in 2002 but was not significant for 2003/4 and 2005. Condom use increased from 58.2% in 2002 to 73.8% in 2003/4 and declined slightly to 69.2% in 2005 for the age group 14-16. For the age group 17-19 condom use at last sex increases from 65.4% in 2002 to 71.2% in 2003 and peaks at 75.2% in 2005. Similarly, for the age group 20-22 condom use at last sex increases from 56% in 2002 to 72.3% in 2003/4 and appears to stall at 71.9% in 2005.

Turning to condom use by level of education, in 2002 condom use at last sex is high among those who have primary education and tertiary education (69.8% and 65.4% respectively). In 2003/5 condom use increases and remains high among those with primary education and tertiary education (71.4% and 80.6% respectively). In 2005 condom use appears to have declined across all levels of education. The decline is sharp for those with primary education (36.4%) but still remains high for those with tertiary education (77.4%).

Table 4.8 also indicates that there is no significant association between perceived HIV risk and condom use at last sex both in 2002 and in 2005. Condom use at last sex is low for young adults with a low SES level both in 2002 and 2005 and only significant in 2002. In 2002 condom use at last sex was 51.5% for young adults in the low SES category and increases to 67.2% in 2005. For the middle SES category, condom use was 60.2% in 2002 and increases to 72.4% in 2005. For the high SES category, condom use was 64.1% in 2002 and increases to 70.4% in 2005.

Table 4.8 indicates that condom use at last sex does not differ significantly by family involvement. In 2002, 57.6% of young adults who report never spending time with their mother had used a condom at last sex compared to 61.8% of those who report spending time with their mother often. In 2005, condom use increases to 70.6% among those who report never spending time with their mothers and 69.7% among those who report spending time with their mother often.

Coming to time spent with a father, Table 4.8 reveals no significant trend. In 2002, 59.5% of young adults who report never spending time with their father had used a condom at last sex compared with 64.4% of those young adults who report spending time often with their mother. This increases to 70.7% in 2005 for those who report never spending time with their

father and 69.5% among those who report spending time often with their father. Parent-child communication and condom use at last sex also do not show a significant association with condom use as shown in Table 4.8.

Two or more sexual partners in the last 12 months

Table 4.9 shows trends in the percentage of young adults reporting two or more sexual partners in the last 12 months. Having two or more sexual partners in the last 12 months differs markedly by population group and gender. In 2002 and 2005 men (50.3% and 30.8% respectively) were significantly more likely than females (30.8% and 8.6% respectively) to report having two or more sexual partners. Also evident is a 19.5% decline in the number of males who report having more than two or more sexual partners in the last 12 months, females achieved a 12.5% decline.

The percentage reporting having two or more sexual partners in the past 12 months is higher among Black Africans and Coloured young adults (36.9% and 31.6% respectively) and lower among White young adults (27.7%) in 2002. All population groups report a reduction in the number of sexual partners from 2002 to 2005. Black African young adults report a reduction of 14.7% in the number reporting two or more sexual partners in the last 12 months. Coloured young adults report a reduction of 16.8% and White young adults a reduction of 13.9%.

Disaggregating the data by gender and population groups (Figure 4.6) shows that having had two or more sexual partners is high among Black African males (52.7%) and Coloured males (49.6%) in 2002, however both groups reported a sizeable decline in 2005 (36.40% for Black African males and 25.8% for Coloured males). Coloured females are least likely to report having had two or more sexual partners in the last 12 months, with only 11.9% reporting having had two or more sexual partners in 2002 and this declined to 4% in 2005.

The percentage reporting two or more sexual partners in the last 12 months does not differ by age group. In 2002, 33.2% of those aged 14-16, 36.4% of those aged 17-19 and 33.6% of those aged 20-22 report having two or more sexual partners in the last 12 months. However, a reduction in the number of sexual partners is observed in 2005 across all age groups with fewer young adults in the older age group (20-22 age group, 18.2%) reporting two or more

sexual partners compared with 21.3% of young adults in the age group 17-19 and 25% in the age group 14-16 reporting two or more sexual partners.

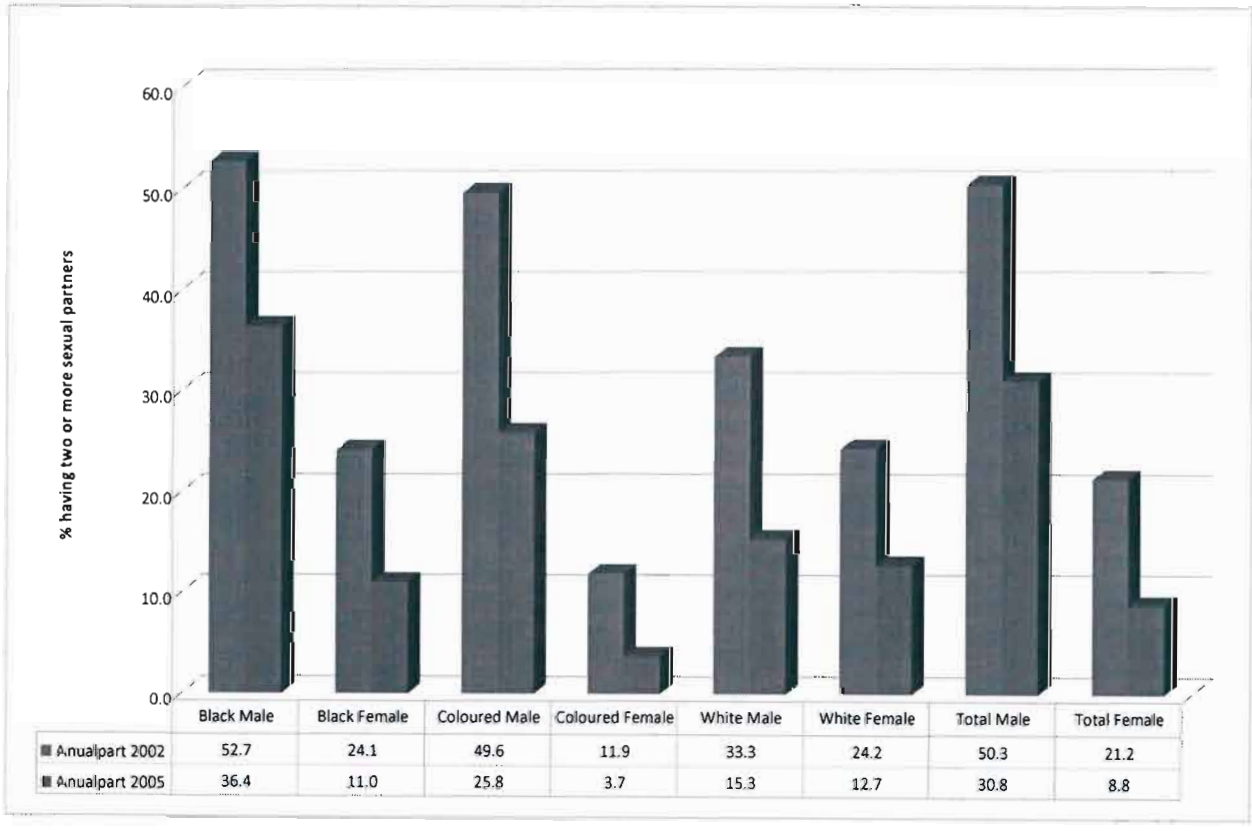
Table 4.9. Two or more sexual partners in the last 12 months in 2002 and 2005

Year	2002	2005
Variable	%	%
Population group		
Black	36.9**	22.2***
Coloured	31.6**	14.8***
White	27.7**	13.8***
All	34.7**	19.0***
Age-group		
14-16(Ref)	33.2	25.0
17-19	36.4	21.3
20-22	33.6	18.2
Gender		
Male***	50.3	30.8
Female***	21.2	8.8
HIV risk perception		
Yes	53.5	63.4
Educational Level		
Primary(Ref)	40.0***	0.0
Lower Secondary	37.2***	20.4
Higher Secondary	38.3***	20.8
Tertiary	29.3***	17.9
SES Index		
Low SES	35.8	20.6
Middle SES	36.6	18.9
High SES (Ref)	31.7	18.4
Time spend with mother		
Never	35.5	22.9
Rare	34.2	20.4
Sometimes	32.6	19.4
Often	34.8	15.4
Time spend with father		
Never	34.3	18.8
Rare	35.6	17.5
Sometimes	34.5	19.4
Often	34.6	19.2
Discuss personal matters with mother		
Never	36.7	23.5
Rare	34.8	18.2
Sometimes	32.6	17.9
Often	32.4	15.5
Discuss personal matters with father		
Never	33.2	18.4
Rare	40.0	16.2
Sometimes	34.9	23.6
Often	31.8	15.1

***P < 0.1 ** p < 0.05 *** p < 0.01**

Having two or more sexual partners in the last 12 months varied by education level. A high education level is accompanied by low reporting of multiple sexual partners. For example, in 2002, 29.3% of those with tertiary education report having two or more sexual partners in the last 12 months compared with 40% of those with primary education, 37.2% with lower secondary and 38.3% with higher secondary education.

Figure 4.6: Two or more sexual partners, stratified by gender and population group, CAPS 2002-2005



	Black Male	Black Female	Coloured Male	Coloured Female	White Male	White Female	Total Male	Total Female
Anualpart 2002	52.7	24.1	49.6	11.9	33.3	24.2	50.3	21.2
Anualpart 2005	36.4	11.0	25.8	3.7	15.3	12.7	30.8	8.8

In 2005 having two or more sexual partners drops across all education levels with none of those with primary education and 17.4% of those with tertiary education reporting two or more sexual partners. A decline is also observed in 2005 among those with lower or higher secondary, with both declining to about 20%.

Having two or more sexual partners was fairly similar across all SES categories in 2002. In 2002, 35.8% of young adults belonging to the low SES category report having two or more sexual partners in the past 12 months and this does not significantly vary from 36.6% reported by those in the middle SES category and 31.7% reported by those in the high SES category. A decline in the percentage reporting two or more sexual partners in the past 12 months is

reported in 2005, 20.6% for the low SES category, 18.9% for the middle SES category and 18.4% for the high SES category. Table 4.9 also shows that having had two or more sexual partners in the past 12 months does not differ significantly by family involvement. The impact of parent-child communication on risky behaviour is also displayed in Table 4.9. No significant impact is observed across all the waves.

4.4 Measures of Association: Logistic Regression

Multiple logistic regression was conducted in order to determine the determinants of sexual behaviour after controlling for all variables. Three models are used. Firstly, in Model 1 the dependent variable is 'ever had sex.' Secondly, in Model 2 the dependent variable is 'condom use at last sex.' Finally, in Model 3 the dependent variable is 'having two or more sexual partners in the last 12 months.'

Model 1: Ever Had Sex

Table 4.10 reports the odd ratios of young adults who report ever having sex in 2002 and 2005. All the predictor variables are used to estimate the model. Logistic regression of the dependent variable ever had sex indicates that almost all predictor variables have a significant association with a young adult reporting ever having had sex. Population group plays a major role in determining sexual activity. Table 4.10 indicates that after controlling for other variables, population group emerges as the strongest predictor of ever having had sex. In 2002 the odds of ever having had sex were significantly greater among Black Africans (2.87) than other population groups. The odds of Coloureds ever having had sex were not very different from those of Whites.

Age is a strong predictor of ever having had sex. In 2002 after controlling for other variables, the odds of ever having had sex was 6.14 times higher for young adults aged 17-19 than those aged 14-16. Similarly the odds of ever having had sex were 19.92 times higher for young adults aged 20-22 than those aged 14-16. In 2005 age still remains a strong and significant predictor of reporting ever having had sex. The odds of ever having had sex were 13.5 times higher for young adults aged 17-19 and 50.25 times higher for young adults aged 20-22 than those aged 14-16. The odds ratio also reveal a gender differential. After controlling for all

predictors, males are 1.32 times most likely to have initiated sex than females in 2002. The odds (1.34) remain relatively unchanged in 2005.

In 2002, after controlling for all predictors, young adults who perceived themselves to be at low HIV risk are 1.38 times more like to have initiated sex than those who report no risk to infection and this remains almost unchanged in 2005 (1.56).

Table 4.10. Ever Had Sex, Odds Ratios and 95% Confidence Intervals.

Year	2002	2005
Variable	Odds Ratio Log likelihood = -1661.4594	Odds Ratio Log likelihood = -812.44387
Population group		
Black	2.87 (2.10-3.93)***	4.87 (3.12-7.60)***
Coloured	0.96 (0.73-1.26)	1.15 (0.81-1.64)
White(Ref)	1.00	1.00
Age group		
14-16(Ref)	1.00	1.00
17-19	6.14 (4.88-7.72)***	12.81 (4.72-34.72)***
20-22	19.92 (14.99-26.47)***	50.11 (18.17-138.2)***
Gender		
Male	1.32 (1.11-1.57)***	1.34 (1.05-1.72)**
Female(Ref)	1.00	1.00
Perceived HIV Risk		
None (Ref)	1.00	1.00
Low	1.39 (1.14-1.69)***	1.56 (1.19-2.04)***
Medium	1.46 (1.09-1.95)**	2.43 (1.57-3.77)***
High	1.38 (0.98-1.94)*	2.44 (1.45-4.11)***
Education Level		
Primary(Ref)	1.00	1.00
Lower Secondary	2.24 (0.94-5.36)*	6.49 (1.03-41.05)**
Higher Secondary	3.29 (1.39-7.77)***	3.57 (0.60-21.26)
Tertiary	2.79 (1.16-6.70)**	2.74 (0.46-16.43)
SES Index		
Low SES	2.35 (1.66-3.30)***	1.25 (0.62-2.52)
Middle SES	1.96 (1.57-2.45)***	1.06 (0.78-1.47)
High SES(ref)	1.00	1.00
Time spent with mother		
Never (ref)	1.00	1.00
Rare	0.96 (0.70-1.32)	2.07 (1.04-4.10)**
Sometimes	1.02 (0.75-1.39)	0.82 (0.49-1.39)
Often	0.87 (0.65-1.16)	0.75 (0.45-1.25)
Time spent with father		
Never (ref)	1.00	1.00
Rare	0.82 (0.64-1.05)	0.77 (0.49-1.20)
Sometimes	0.63 (0.49-0.83)***	0.66 (0.47-0.95)**
Often	0.72 (0.57-0.93)**	0.45 (0.32-0.65)***

***P < 0.1 ** p < 0.05 *** p < 0.01**

In 2002 young adults who perceived themselves to be at medium risk of HIV infection are 1.46 times more likely to have initiated sex than those who report no risk of HIV infection, in

2005 the odds ratio increases to 2.43 among those who perceived themselves to be at no risk of HIV infection. Similarly, in 2002 young adults who perceived themselves to be at high risk of HIV infection are 1.37 times more likely to have initiated sex than those who perceived themselves to be at no risk. In 2005, young adults who perceived themselves to be at high risk of HIV infection are 2.44 times more likely to have initiated sex than those who perceived themselves to be at no risk.

In 2002, after controlling for all predictors, the association between education and sexual initiation indicates that a high level of education is a stronger predictor of ever having had sex. The odds of ever having had sex are 2.24 times higher for young adults with lower secondary, 3.29 times higher for young adults with higher secondary school and 2.79 times higher for young adults with tertiary education than those with primary education. In 2005 young adults with lower secondary education are at elevated odds (6.49, $p<0.1$) of ever having had sex, an increase compared to 2002. Other levels of education remain insignificant in 2005.

After controlling for all variables, coming from a low SES is a strong predictor of ever having had sex in 2002. In 2002 the odds of ever having had sex are 2.35 times higher for the low SES than for the high SES and 1.96 times higher for the middle SES than for the high SES. In 2005 the association is insignificant.

Both in 2002 and 2005 after controlling for all predictors the odds of ever having had sex had no significant association with time spent with a mother. Coming to time spent with a father after controlling for all variables in 2002, the odds of ever having had sex are 0.72 times smaller for young adults who report spending time often with a father than those who report never spending time with a father. In 2005 the role played by a father emerges even stronger. The odds of ever having had sex are 0.45 times smaller for young adults who report spending time often with a father than those who report never spending time with a father.

Model 2: Condom use at last sex

Table 4.11 reports the odds ratio of young adults who report having used a condom at last sex, only variables with a significant relationship with the dependent variable mentioned below.

Table 4.11. Condom Use at Last Sex, Odds Ratios and 95% Confidence Intervals.

Year	2002	2005
Variable	**Odd Ratio** Log likelihood = -782.15033	**Odds Ratio** Log likelihood = -363.89179
Population Group		
Black	**0.94** (0.57-1.55)	**1.34** (0.55-3.26)
Coloured	**0.40** (0.24-0.64)***	**0.30** (0.13-0.68)***
White(Ref)	1.00	1.00
Age group		
14-16(Ref)	1.00	1.00
17-19	1.01 (0.67-1.51)	1.70 (0.26-11.12)
20-22	0.71 (0.47-1.08)	1.24 (0.19-8.09)
Gender		
Male	2.77 (2.16-3.55)***	1.98 (1.35-2.92)***
Female(Ref)	1.00	1.00
HIV Risk Perception		
None(Ref)	1.00	1.00
Low	0.98 (0.75-1.30)	1.03 (0.68-1.60)
Medium	0.85 (0.57-1.27)	0.61 (0.34-1.08)*
High	0.67 (0.42-1.06)*	0.44 (0.24-0.78)***
Education Level		
Primary(Ref)	1.00	1.00
Lower Secondary	0.18 (0.02-1.58)	6.49 (0.11-40.41)**
Higher Secondary	0.19 (0.02-1.65)	3.57 (0.15-50.69)
Tertiary	0.30 (0.04-2.54)	2.74 (0.36-119.98)
SES Index		
Low SES	0.59 (0.38-0.91)***	0.52 (0.22-1.17)
Middle SES	0.71 (0.52-0.98)***	0.93 (0.59-1.46)
High SES(ref)	1.00	1.00
Time spent with mother		
Never (ref)	1.00	1.00
Rare	1.19 (0.79-1.79)	0.98 (0.41-2.31)
Sometimes	1.24 (0.82-1.89)	0.71 (0.36-1.40)
Often	1.43 (0.98-2.13)	0.65 (0.34-1.27)
Time spent with father		
Never (ref)	1.00	1.00
Rare	0.80 (0.58-1.12)	0.88 (0.46-1.66)
Sometimes	0.84 (0.57-1.26)	1.03 (0.62-1.72)
Often	0.88 (0.61-1.27)	0.69 (0.40-1.17)

***P < 0.1 ** p < 0.05 *** p < 0.01**

In 2002 the odds of having used a condom at last sex are 0.4 times smaller for Coloured young adults than for White young adults, after controlling for the other predictors. The relationship remains negative in 2005, the odds of having used condom at last sex are 0.30 smaller for Coloureds than for Whites.

After controlling for all predictors in 2002, the odds of having used a condom are significantly lower for young adults who perceived themselves to be at a high risk of HIV

infection than those who perceive themselves to be at no risk. In 2005 the association is stronger, the odds of having used a condom at last sex are 0.44 times lower for young adults who perceived themselves to be at high risk of infection than those who perceived themselves to be at no risk.

Being female is associated with lower odds of using a condom at last sexual intercourse. In 2002 the odds of having used a condom at last sex are 2.77 times higher for males than females. The same relationship is observed in 2005 with the odds of having used a condom at last sex 1.98 times higher for males than for females. In 2002 having a low SES status is a risk factor. The odds of having used a condom at last sex are 0.59 times lower for young adults in the low SES category compared with those from a high SES category. Similarly the odds of having used a condom at last sex are 0.71 times smaller for young adults from a middle SES category than those from a high SES category. In 2005 the relationship with SES is insignificant.

Model 3: Two or more sexual partners in the last 12 months

Table 4.12 reports the odds ratio of young adults who report having two or more sexual partners in the last 12 months, all predictor variables are used. However, only those having a significant relationship with the dependent variable are mentioned in this section.

In 2002 the odds of having two or more sexual partners are higher for the older age groups. After controlling for all predictors the odds of having had two or more sexual partners in the last 12 months are 1.74 times higher for young adults aged 17-19 and 1.78 times higher for young adults aged 20-22 than those aged 14-16. In 2005 the association between age and having two or more sexual partners is insignificant.

In 2002 after controlling for all variables the odds of having two or more sexual partners are 2.51 times higher for young adults who perceived themselves to be at high HIV risk than those who perceived themselves to be at a low risk of HIV infection. In 2005 it is insignificant. In 2005 the odds of having had two or more sexual partners are 2.37 times higher for young adults who perceived themselves to be at medium risk of HIV infection than those who perceive themselves to be at no risk.

Table 4.12. Two or More Sexual Partners in the Last 12 Months, Odds Ratios and 95% Confidence Intervals.

Year	2002	2005
Variable	**Odds Ratio** Log likelihood = -668.00279	**Odds Ratio** Log likelihood = -331.51314
Population group		
Black	1.26 (0.74-2.14)	1.91 (0.89-4.08)
Coloured	0.77 (0.46-1.30)	0.92 (0.44-1.92)
White(Ref)	1.00	1.00
Age group		
14-16(Ref)	1.00	1.00
17-19	1.74 (1.11-2.73)**	1.00 (0.10-9.84)
20-22	1.78 (1.11-2.84)**	1.06 (0.11-10.61)
Gender		
Male	4.00 (3.04-5.24)***	4.51 (2.95-6.92)***
Female(Ref)	1.00	1.00
HIV Risk Perception		
None(Ref)	1.00	1.00
Low	1.05 (0.78-1.42)	1.05 (0.68-1.65)
Medium	0.95 (0.61-1.49)	2.37 (1.33-4.25)***
High	2.51 (1.52-4.13)***	1.07 (0.53-2.18)
Education Level		
Primary(Ref)	1.00	1.00
Lower Secondary	1.14 (0.27-4.72)	3.70 (1.77-7.73)
Higher Secondary	0.90 (0.22-3.61)	3.63 (2.34-5.63)
Tertiary	0.63 (0.15-2.56)	2.81 (0.46-6.43)
SES Index		
Low SES	1.06 (0.65-1.71)	0.87 (0.34-2.25)
Middle SES	1.16 (0.82-1.64)	1.11 (0.69-1.79)
High SES(ref)	1.00	1.00
Time spent with mother		
Never (ref)	1.00	1.00
Rare	0.84 (0.54-1.30)	1.05 (0.45-2.47)
Sometimes	0.88 (0.56-1.39)	0.74 (0.38-1.45)
Often	1.09 (0.72-1.65)	0.81 (0.41-1.58)
Time spent with father		
Never (ref)	1.00	1.00
Rare	0.95 (0.66-1.38)	1.18 (0.60-2.29)
Sometimes	1.06 (0.68-1.64)	0.88 (0.51-1.50)
Often	0.80 (0.54-1.19)	0.93 (0.53-1.64)

***P < 0.1 ** p < 0.05 *** p < 0.01 variables with no association excluded from the table.**

The odds of males having two or more sexual partners are four times higher than that of females after controlling for all predictors in 2002. In 2005, being male (4.51) remains a strong predictor of having two or more sexual partners in the past 12 months.

4.5 Summary

The findings indicate that there has been a change in sexual behaviour of young adults in the Cape Metropolitan Area between 2002 and 2005. The majority of Black Africans had already initiated sex by the time of the first wave in 2002. The number of young adults who report having used a condom at last sex has increased considerably, except for Coloured young adults. A decline was observed among those who report having two or more sexual partners in the last 12 months. Among those who had not yet initiated sex, the median age at first sex has increased in 2005 to an average of 17 across all population groups. The findings of study indicate that Model 1 has the best fit compared to Model 2 and 3. Logistic regression was not run separately for males and females. Separate models for the sexes would have indicated different effects of key factors on the sexual and reproductive health of the two sexes

CHAPTER FIVE

DISCUSSION AND CONCLUSION

5.1 Introduction

The aim of the study was first and foremost to use panel data to examine trends in sexual behaviour for the period 2002 to 2005 among young adults aged 14-22 in the Cape Town Metropolitan area and finally to determine the predictors of sexual behaviour. The advantage of using panel data in this study is that it allows for the observation of the same individuals over time and this will enable assessment of progress made in curbing risky sexual behaviour among young adults. However a shortfall with particularly the CAPS data set is that the interval between each wave is short, about a year, this might not be sufficient to capture some change within this short period of time. Secondly other methods such as cohort analysis and fixed effects regression methods could also have been used to explore the longitudinal nature of the data set. Only those young adults who are not married and are sexually active were included in the analysis. This chapter discusses the main findings of the study. It also considers differences and similarities with existing studies.

5.2 Sample Characteristics

The population structure of the Cape Town Metropolitan area (when weighted) mirrors that of other middle income countries, with a youthful population and a small percentage of the elderly. In 2002, there are more females (52.7%) than males (47.3%) and in the subsequent two Waves. Just over 60% of the households belong to the high SES category. As expected racial disparities exist, with Black African households reporting a high level of poverty, this is an indication that even after over a decade of democracy high levels of economic inequalities still characterise South Africa's landscape. The descriptive statistics for young adults paints a similar picture as the household sample. The majority of the population in the Cape Town Metropolitan is Coloured and therefore the findings in this study will paint a different picture compared to other South African provinces. Coloured young adults constitute the majority of the population followed by Black Africans and White young adults.

A 27% reduction in the sample size of young adults between 2002 and 2005 is due to attrition. As for level of education the majority of young adults in the Cape Town Metropolitan area are

still continuing with their education and this also places the Western Cape Province as a province with a high socio-economic status compared to the rest of South Africa.

5.3 Family Involvement

A number of studies (Morrow & Richards, 1996; Bakken & Winter, 2002; Mirande, 1968; Gregson *et al.,* 2005; Sharpe *et al.,* 1993) have stressed the importance of family involvement in shaping the sexual behaviour of young adults. All the households used in this study were two parent households and family involvement is measured by the level of communication and contact between parents and their children. In general, the findings reveal that most young people report that they spend more time with and communicate more with their mothers than their fathers. The findings reveal that more White young adults report spending time and communicating about personal matters with their parents, but Coloured young adults and Black African young adults spend less time with their parents (especially fathers) and a high percentage report that they do not communicate with their parents about personal matters.

This is in line with the transition to adulthood research conducted in KwaZulu-Natal Province. The study reported that almost half of the respondents indicated that they are closer to their mothers and only 6% reported the same closeness with their fathers (Rutenberg *et al.*, 2001). Research has indicated that family cohesion is crucial in the transition period, as it provides young adults with assurance and guidance (Morrow & Richards, 1996). Father-child relationship is worse among Black Africans and Coloured females. Generally, the notion of absent fathers is made rife in South Africa by the historical migrant labour system which established a pattern among many Black African and Coloured men, who often lived in urban areas without their spouses and children (Montgomery *et al.*, 2005). This has impacted on family formation in South African households residing in the former Bantustan homelands. Thus the phenomenon of "hidden fathers" is expected to be pronounced in the Black and Coloured communities. Migrant labour and poverty play a major role in breaking parental authority through continual absence of fathers from home. Data presented by Posel and Devey (2006) indicates that in 2002 an estimated 55% of African children living in rural areas had absent fathers. Continual absence from home and distant parent child relationships are still common in many African and Coloured households and these may have an impact on the sexual behaviour of young adults (Peres *et al.*, 2008; Flisher & Aaro, 2003; Morrow & Richards, 1996).

5.4 HIV Risk perception

Studies have indicated that having a high risk perception does not necessarily correlate with reduced risk behaviour such as condom use and having fewer sexual partners (Bachanas *et al.*, 2002; Maharaj, 2006; Slaymaker, 2004). In many cases young adults underestimate their risk of contracting HIV (Pettifor *et al.*, 2004; Eaton *et al.*, 2003). In this study Black African young adults who perceived themselves to be at no risk of HIV infection display risky sexual behaviour, such as having at least two or more sexual partners in the last 12 months. In terms of the relationship between condom use at last sex and HIV risk perception young adults who perceived themselves to be at risk of HIV infection also report a low level of condom use at last sex and this is consistent with the literature that increased reproductive knowledge is not always sufficient for inducing change in behaviour (Rutenberg *et al.*, 2003). Joffe (1999) indicated that this kind of response may be explained by the optimistic bias framework which states that humans tend to respond self-protectively, or are in denial, when asked to assess their risk of being affected by a potential hazard. Slaymaker (2004) states that individuals might be unwilling to act on acquired knowledge due to personal, cultural, geographical and economic barriers. A contrast is that among White young adults the percentage who perceived themselves to be at risk of HIV infection is higher and risky sexual behaviour such as condom use at last sex and having two or more sexual partners in the previous 12 months are lower.

The percentage of young adults who perceived themselves to be at risk of HIV infection is higher in Cape Town compared with KwaZulu-Natal. Results obtained from the transition to adulthood study in KwaZulu-Natal reported that only 11% perceived themselves to be at moderate or greater risk of infection (Rutenberg *et al.*, 2001). The low percentage of those reporting themselves not at risk of HIV infection is still alarming given the extent of the HIV pandemic in South Africa and given that among the Black population only 45% reported using protection at first sex and over half (60%) had already had sex in 2002 during Wave 1 of the study.

Wave 2 and 3 of the study indicates that the percentage of those who report being at risk of infection increased in 2003/4 (65.1%) and declined again in 2005 (53.4%) although still above the 2002 percentage (48.1%). The change in attitude was perhaps due to increasing knowledge about HIV/AIDS between 2002 and 2005. In general, various HIV/AIDS

campaigns had no obvious impact on the Coloured population as evidenced by the perceived risk perception overtime, but had some impact on the White population and especially on the Black African population.

The results also reveal that the age group 14-16 is most at risk compared to the other two age groups, the percentage reporting to be at risk of infection declined consistently across the three Waves and this might lead to risky sexual behaviour in this age group. The results also reveal that education influences perceived HIV risk, the percentage of young adults who perceived themselves to be at risk of infection is high at a tertiary level for both 2002 and 2005. This confirms that education plays a major role in influencing the behaviour of young adults.

5.5 Trends in Sexual Behaviour

This section discusses the trends in sexual behaviour between 2002 and 2005 using the following proxies of sexual behaviour; ever had sex, age at first sex, number of sexual partners in the last 12 months and condom use at last sex. Due to a low response rate in 2003/4 for those who responded to the questions on sexual behaviour, the 2003/4 results will be treated with caution.

The findings from the CAPS dataset raise concerns about sexual initiation, especially among Black African young adults. The findings indicate that the median age at first sex is 16 years. Stratifying the results by population group indicate that Black African young adults initiate sex earlier than the other age groups. The median age at first sex remained at 16 for Black African young adults but increased to 17 and 18 for Coloured and White young adults respectively in 2005. This is consistent with current research, coming from Black communities usually characterized by low SES and lack of parental supervision may lead to early coitus (Edgardh, 2000).

The percentage of young adults reporting ever having had sex increases per Wave. This is expected as this is a longitudinal study and the likelihood of being sexually active increases with age. The findings indicate that in the first Wave of the study more Black African young adults report that they were already sexually active (60%), this increases to almost 90% in

2005 whereas the proportions among White and Coloured young adults are comparable and below 60% across all three Waves. Although an increase in the number of those who had initiated sex by Wave 3 is expected, the increase among Black Africans (87.5%) is higher than in other groups. This agrees with various studies conducted in South Africa which indicate that by the age of 15 a majority of Black African young adults have already initiated sex (Pettifor *et al.*, 2004; Richter, 1996; Shisana & Simbayi, 2002).

The findings reveal that the percentage of young adults who report ever having sex is high among those who report never or rarely spending time with their mother or father both in 2002 and 2005. Similarly when it comes to discussing personal matters with their mother or father a high level of sexual initiation is reported among those who never or rarely discuss personal matters with their mother or father. These results agree with those in the literature (Morrow & Richards, 1996; Peres *et al.*, 2008). As already pointed out, family involvement is low in the Black African community, accompanied by high poverty levels. It is in this kind of environment that a lack parental guidance prevails and as a result this impacts negatively on the sexual behaviour of young adults.

Black African males and females are equally at risk and there is no significant difference between them. The percentage reporting ever having had sex increases with age as expected, those aged 17-19 and 20-22 are most likely to have initiated sex. However, the almost 10% increase in 2005 in those having had sex in the age group 14-16 is alarming at this young age. A tabulation (not shown) of those who ever had sex in each age group by population group indicates that 24.9% of Black African young adults in the age group 14-16 had already had sex compared to 7.2% and 2.6% of Coloured and White young adults respectively for Wave 1 of the study. Therefore more attention has to be paid to Black African young adults in the age group 14-16.

Several studies have indicated that a high SES and education level is a protective factor against early sexual initiation (Bakken & Winter, 2002; Kelly & Blank, 2002; Kaufman *et al.*, 2004; Hargreaves *et al.,* 2008; Mathews, 2005). The findings from the first Wave report the contrary, ever having had sex increases with increasing education levels, however Wave 2 and 3 confirm that a high level of education, especially having tertiary education or being at

tertiary level, is a protective factor. The findings also report a high level of early sexual initiation among those from a low SES and middle SES categories.

Promotion of condom use is a central tenet of many HIV prevention efforts and is a key indicator of progress made in changing sexual behaviour. In a generalized epidemic setting consistent condom use plays a major role in decreasing the incidence of infection with HIV. Of all contraception methods available it appears that young adults in the Cape Metropolitan area largely use the condom as dual protection against both infection and pregnancy. This is a good indicator because previously in South Africa the main method of contraception promoted by both government and family planning services was non-barrier methods (Berer, 2006). Consistent with other studies conducted in South Africa (Maharaj, 2006; Petiffor, 1998) condom use at last sex is high among young adults in the Cape Metropolitan Area, with an average of 60.1% in 2002 and increasing to 70.8% in 2005. However, gender differentials are pronounced with an average of 70.9% for males and 50.8% for females in 2002. This agrees with the proportions reported in the 2003 SADHS, 72% for men age 15-24 and 52% for women of the same age group had used a condom at last sex.

The rise in condom use to almost 70% in 2005 among females might be an indication of the effectiveness of sex education and various youth programmes in the city of Cape Town. According to Mane *et al.* (2001) this might also be an indication of increasing power in women and an ability to negotiate protection against diseases and pregnancy. Condom use at last sex is higher among White young adults followed by Black Africans. The low level of condom use among Coloured young adults, especially among Coloured males, is worrying. Only 31% reported condom use at last sex in 2002 and it increased to 44.9% in 2005. Several studies have indicated that substance abuse is high among Coloured young adults (Parry *et al.*, 2005). Substance abuse has been associated with risky sexual behaviour (Parry *et al.*, 2008)

The present study found that condom use is high at both primary and tertiary level. This indicates the protective role played by education. Condom use at last sex appears to be low among young adults from a low SES status both in 2002 and 2005. But 2005 records an improvement in condom use across all SES levels.

Overall all young adults recorded a decline in the percentage of those having two or more sexual partners between 2002 and 2005. Having two or more sexual partners varies significantly across all population groups. Black African males (52.7%) and Coloured males (24.1%) report high percentages of having had two or more sexual partners in the last 12 months in 2002. However, they both record a significant decline in 2005 (36.4% for Black African males and 25.8% for Coloured males). Other studies have found that peer pressure and perceptions about masculinity results in young men in African communities having multiple sexual partners in order to affirm their masculinity and raise their social status (Blecher *et al.*, 1995; Wood *et al.*, 1997). These results are much higher than those reported in the 2003 SADHS (only 2.8% of men and 2.9% of women aged 15-19 and 9.8% of men and 3.7% of women aged 20-24) but agree with those obtained by Maharaj (2006) in KwaZulu-Natal South Africa. More males than females report having had two or more sexual partners in the last 12 months, this is also in line with other studies (SADH, 2003; Maharaj, 2006).

Young men across all population groups report a high number of sexual partners. Men are most likely to exaggerate when asked to report on the number of sexual partners in the past 12 months and women are most likely to under-report. The consistent trend across all three Waves however indicates that being male is indeed a risk factor of having multiple sexual partners. Having two or more sexual partners decreased with increasing education level in 2002. Again, this confirms the protective factor that education has on sexual behaviour.

5.6 Determinants of Sexual Behaviour

Studies have indicated that socio-economic factors, demographic factors and individual and family factors play a major role in shaping the sexual behaviour of young adults (Cassidy, 2006; Kaufman *et al.*, 2004; Kirby, 1999; Maharaj & Munthree, 2007; Maharaj, 2006; Pettifor *et al.*, 2004; Wellings, 2006). This section discusses only those predictors which were found to be significant. For this study, three models were developed.

Model 1 (ever had sex) of the logistic regression reports a good fit (Log likelihood = -1661.4594 for 2002 and Log likelihood = -812.44387 for 2005) and is highly significant (p=0.00). Model 1 comes out as the most significant and reliable in terms of predicting sexual behaviour compared to Model 2 and 3. This is an indication that most of the predictors such

as schooling, family involvement and socio-economic level are crucial and have long term impact if introduced early before sexual initiation (Coley & Chase-Lansdale, 1998; McGrath *et al.*, 2009). After having initiated sex a pattern is established, which defines the sexual behaviour of young adults.

Model 1 confirms that being Black African is a risk factor across all Waves compared to other groups. This agrees with other South African studies (Kaufman *et al.*, 2004; Maharaj & Cleland, 2008). It should be noted that being Black also coincides with having a low SES level and low parental involvement. The results from the logistic regression show that after controlling for all variables, males are more likely to have had sex compared to females. Logistic regression also indicates that in 2002 level of education was associated with ever having had sex with increased odds at higher education. This is contrary to many studies that show that education has a protective factor. This might also be an indication that in South Africa, more particularly in Cape Town, being in school is not a protective factor. Many South African studies report a high level of sexual activity among young adults in school (Cleland &, 2008; Eaton, Flisher & Aaro, 2002; Pettifor *et al.*, 2004; Tillotson & Maharaj, 2001).

The findings also reveal that coming from a lower SES category is a risk factor that leads to early sexual initiation, this is in line with research conducted elsewhere (Kelly & Parker, 2000; Mathews, 2005; Brook *et al.*, 2006). Coming from a poor neighbourhood is associated with lack of parental supervision and low levels of education which are both protective factors. While spending time with a mother is insignificant, having spent more time with a father emerges as a protective factor both in 2002 and 2005. This indicates the role that fathers play in influencing the sexual behaviour of their children.

For Model 3 (two or more sexual partners in the last 12 months) only HIV risk perception, age group and gender have a significant association with having two or more sexual partners in the last 12 months, holding all else constant. The fit of the model is good with a chi-squared probability of p=0.00 and the model accounts for 10% of the variability, making Model 1 the best fit. Reporting a high risk perception of infection is positively associated with having two or more sexual partners in the last 12 months. This confirms findings from other studies that a high risk of perception does not always induce change in sexual behaviour. As

expected and in line with other studies (Marston & King, 2006; Hargreaves *et al.,* 2008), being male is a risk factor that lead to having two or more sexual partners across all Waves.

Holding all else constant, the likelihood of reporting having two or more sexual partners in last 12 months is high for those aged 17-19 and those aged 20-22 compared to the age group 14-16. This indicates that as young adults get older, the greater the likelihood of having two or more sexual partners. This is a bit worrying given that the measure used was not lifetime number of sexual partners but number of sexual partners in the last 12 months and hence this indicates risky sexual behaviour among those aged 17-22.

Model 2 is the weakest model compared to Model 1 and 3. Although it has a chi-square probability of 0.0, it only accounts for 7% of the variability. The logistic regression confirms that both in 2002 and 2005 males were more likely to use a condom at last sexual encounter than females. This might be due to the gender-based power differentials; women have less power to negotiate sex. The sexual behaviour of females is sometimes controlled by men and often men and women do not agree on the use of contraception either to prevent pregnancy or risk of infection (Mane *et al.*, 2001). A major finding is that, in terms of condom use at last sex, being Coloured is a risk factor. The descriptive statics also indicated that condom use was low among Coloured young adults particularly males. As discussed before, this might be due to the high level of substance abuse in the Coloured community.

As in Model 3, having a high reported HIV risk perception is associated with decreased odds of having used a condom at last sex both in 2002 and even highly significant in 2005. In 2002 low SES and middle SES are risk factors associated with not having used a condom at last sex.

5.7 Conclusion and Recommendations

Risky sexual behaviour as indicated by the findings varies according to population group. The majority of Black African young adults are at risk compared to other population groups. Young Black African adults, especially males, are most like to start having sex earlier and to report having two or more sexual partners in the 12 months prior to the study. The results also indicated that Coloured males are least likely to use condoms. The results have also indicated

that poverty, distant family relations and low levels of education are prevalent in the Black African and Coloured population. This is an indication that any intervention programme that aims to change sexual behaviour should be able to meet the needs faced by different population groups and age groups, and they should be conducted overtime in order to have a visible impact (Harrison, 2008b).

Recently family planning services and HIV prevention programmes have been integrated to advocate for the use of condoms and for dual protection particularly among young adults and the results of this analysis indicate this has been a success as evidenced by increasing condom use, especially among females. However, there is still a need to re-introduce the ABC (Abstain, Be faithful and use a Condom) message early in primary school and before sexual initiation as the findings indicate that by the age of 14 young adults, especially Black young adults had already initiated sex. A study from the United States indicates that abstinence programmes are effective among youth who have not yet initiated sex (Coley & Chase-Lansdale, 1998; Manlove *et al.*, 2004). Generally, the results indicate that a majority of young adults from White households abstain from sex until later in life. This seems to have positive outcomes as evidenced by the number of sexual partners, a high level of condom use and a lower teenage fertility (not shown in this study) among White young adults. Delaying sexual initiation - without neglecting condom use and being faithful - will induce a radical decline in the prevalence of teenage pregnancies and a reduction in risky sexual behaviours such as multiple sexual partnerships and low condom usage among the Black African and Coloured communities.

Condom use at last sex has increased significantly across all population groups between 2002 and 2005 but the percentage among Coloured males is still low across all three Waves and calls for more attention from sexual and reproductive health service providers. Most national HIV/AIDS campaigns are targeted towards the Black African population, while neglecting Coloured young adults who constitute the majority of the population in the Western Cape. Coloured males in Cape Town need specially designed intervention strategies. Interventions programmes that integrate both substance abuse and HIV prevention will be particularly relevant for Coloured young adults and this must be introduced in order to break the link between substance abuse and risky sexual behaviour.

Community mobilisation has always played a major role in enlightening generations of people. For example, programmes like Soul City, Heartlines and Hopeville have sought to change the perception that young men have about masculinity. A survey conducted in South Africa in 2005 indicated that young adults were aware of HIV prevention programmes such as Soul City, Soul Buddyz, Tshatsha and Takalani Sesame and over 70% of the respondents aged 14 and above thought these programmes were a useful source of information (Shisana *et al.,* 2005). More programmes must be tailored in this manner and this will challenge young people across all age groups and population groups to be sexually responsible.

The family involvement variables indicate that having a close relationship with both parents is complementary and plays a major role in initiating sex. However, young adults from poor neighbourhoods and from Black African and Coloured communities lack this kind of family connectedness. Multifaceted intervention strategies that also include parents of young adults and economic development in poor communities are required in order to deal with this intersection of risky sexual behaviour with low family involvement and low socio-economic status.

As already alluded to, protective factors such as family involvement, schooling, positive peer influence and self-esteem should be cultivated early in life as these are very significant in determining sexual onset. Children's programmes such as Soul Buddyz must be given a platform to educate and inform children aged less than 13 about HIV/AIDS and sexual behaviour. This programmes should also be also be able to build self-esteem and self-confidence among those aged less than 13 as this become crucial after puberty.

In conclusion interventions that seek to foster behaviour change should be appropriate for that particular target group. In other words "whatever programme interventions are crafted should be appropriate to the cultural and socio-economic context of the audience." (Crothers, 2001: 19).

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