KNOWLEDGE OF SAFE SEX PRACTICES AND HIV TRANSMISSION, PROPENSITY FOR RISK TAKING, AND ALCOHOL/DRUG USE IN THE AETIOLOGY OF UNPROTECTED SEX.

Malcolm Robert Simpson

Supervisor: Michelle Crowley

Submitted in partial fulfilment of the requirements for the degree of Master of Arts in Clinical Psychology, Rhodes University.

Grahamstown,
South Africa.
October, 1996.

ACKNOWLEDGEMENTS

I would like to acknowledge, and express my sincere thanks to those who helped make this dissertation possible:

Ms Michelle Crowley for her encouragement, direction and continual motivation while supervising this study;

Ms Nicola Copeland for proof reading the final draft;

Everyone who took part in the survey, without whose effort this dissertation would not have been possible.

I would also like to express my sincere gratitude to my parents, the Centre for Science Development, and Rhodes University for their financial assistance.[1]

---

[1]The financial assistance of the Centre for Science Development (HSRC, South Africa) towards this research is hereby acknowledged. Opinions expressed and conclusions arrived at, are those of the author and are not necessarily to be attributed to the Centre for Science Development.

ABSTRACT

Second year psychology students (N=176) from Rhodes University were surveyed using an anonymous questionnaire to obtain information on sexual behaviour and knowledge of the acquired immunodeficiency syndrome (AIDS) among young people. The following information was obtained: Knowledge of safe sex practices and HIV transmission was high although a number of misconceptions were noted. Only fifty six percent of students viewed oral sex with a condom as safe and thirty one percent do not consider mutual masturbation with a condom safe. Thirteen percent and twenty five percent respectively identified insects and saliva as being routes of HIV transmission. Magazines (96%), informal discussions with friends (95%), public pamphlets (86%) and public television (79%) were preferred sources of information. The students' knowledge did not appear to significantly affect sexual behaviour. Eighty percent of respondents were intimately involved with another person during the past twelve months, and only fifteen percent always made use of a latex barrier when being sexually intimate. Despite high rates of alcohol and/or drug consumption (80% of students use such substances), and the belief by the majority of respondents that alcohol and/or drugs facilitate higher risk behaviours, no support for the alcohol/risky sex hypothesis was found. Students were found to score highly on proneness to psychological and behavioural risk taking, and no significant relationship between this and unprotected sex was found. It can be concluded that educational programmes need to focus on what constitutes safe sexual practices in order to equip young adults with the knowledge they need to make informed choices regarding the relative risks of various sexual activities.

TABLE OF CONTENTS

		Page
	ABSTRACT	i
	TABLE OF CONTENTS	ii
	LIST OF TABLES	iii
	LIST OF FIGURES	iv
1.	INTRODUCTION	1
2.	LITERATURE REVIEW	3
3.	METHODOLOGY	26
4.	RESULTS	34
5.	DISCUSSION	66
6.	CONCLUSION	80
7.	REFERENCES	82
	APPENDIX 1: QUESTIONNAIRE FOR ASSESSING KNOWLEDGE AND PRACTICE OF SAFE SEX AMONG RHODES UNIVERSITY STUDENTS	

LIST OF TABLES **Page**

Table 1. Respondents differentiated according to their knowledge-of-safe-sex-practice scores. . . . 43
Table 2. Cross tabulation of age vs. knowledge of safe sex practices. . . . 43
Table 3. Cross tabulation of gender vs. knowledge of safe sex practices. . . . 43
Table 4. Cross tabulation of race group vs. knowledge of safe sex practices 43
Table 5. Cross tabulation of degree vs. knowledge of safe sex practices. . . . 44
Table 6. Cross tabulation of religion vs. knowledge of safe sex practices. . . . 44
Table 7. Cross tabulation of religious devoutness vs. knowledge of safe sex practices. 44
Table 8. Cross tabulation of involvement in an intimate relationship vs knowledge of safe sex practices. . . . 44
Table 9. Cross tabulation of number of sexual partners vs knowledge of safe sex practices. . . . 44
Table 10. Cross tabulation of knowing someone who is living with HIV/AIDS vs knowledge of safe sex practices. . . . 44
Table 11. Cross tabulation of respondents' knowledge of AIDS and HIV transmission scores vs frequency of latex barrier use during sexual intimacy. . . . 44
Table 12. Respondents differentiated according to their knowledge-of-HIV/AIDS-transmission scores. . . . 46
Table 13. Cross tabulation of age vs knowledge of AIDS and HIV transmission scores. . . . 47
Table 14. Cross tabulation of race group vs. knowledge of AIDS and HIV transmission scores. . . . 47
Table 15. Cross tabulation of gender vs. knowledge of AIDS and HIV transmission. . 47
Table 16. Cross tabulation of degree vs. knowledge of AIDS and HIV transmission. . 47
Table 17. Cross tabulation of religion vs. knowledge of AIDS and HIV transmission. . 47
Table 18. Cross tabulation of religious devoutness vs. knowledge of AIDS and HIV transmission. . . . 48
Table 19. Cross tabulation of involvement in an intimate relationship vs knowledge of AIDS and HIV transmission. . . . 48
Table 20. Cross tabulation of number of sexual partners vs knowledge of AIDS and HIV transmission. . . . 48
Table 21. Cross tabulation of knowing someone who is living with HIV/AIDS vs knowledge of AIDS and HIV transmission. . . . 48
Table 22. Cross tabulation of knowing someone who is living with HIV/ AIDS vs frequency of latex barrier use during sexual intimacy. . . . 48
Table 23. Respondents' rating of their risk of HIV infection. . . . 53
Table 24. Cross tabulation of respondents' subjective rating of risk of HIV infection vs frequency of latex barrier use during sexual intimacy. . . . 53
Table 25. Cross tabulation of respondents' age vs subjective rating of risk of HIV infection. . . . 53
Table 26. Cross tabulation of respondents' gender vs subjective rating of risk of HIV infection. . . . 53
Table 27. Cross tabulation of knowing someone who is living with HIV/AIDS vs subjective rating of risk of HIV infection. . . . 54

Table 28. Cross tabulation of prior HIV testing vs respondents' frequency of latex barrier use during sexual intimacy. 54

Table 29. Cross tabulation of subjective rating of risk of HIV infection vs prior HIV testing. 54

Table 30. Cross tabulation of age vs frequency of latex barrier use during sexual intimacy. 55

Table 31. Cross tabulation of gender vs frequency of latex barrier use during sexual intimacy. 55

Table 32. Cross tabulation of respondents' current relational status vs frequency of latex barrier use during sexual intimacy. 55

Table 33. Cross tabulation of respondents' knowledge of safe sex practice scores vs frequency of latex barrier use during sexual intimacy. 55

Table 34. Cross tabulation of number of sexual partners vs frequency of latex barrier use during sexual intimacy. 55

Table 35. Cross tabulation of use of alcohol and/or drugs vs frequency of latex barrier use during sexual intimacy. 60

Table 36. Cross tabulation of respondents' unsafe sex practices while using alcohol and/or drugs vs frequency of latex barrier use during sexual intimacy. 60

Table 37. Cross tabulation of respondents' subjective rating of HIV infection vs consumption of alcohol and/or drugs. 60

Table 38. Cross tabulation of respondents' number of sexual partners vs consumption of alcohol and/or drugs 60

Table 39. Cross tabulation of religious devoutness vs alcohol and/or drug consumption. 61

Table 40. Cross tabulation of alcohol and/or drug consumption vs knowledge of AIDS and HIV transmission scores. 61

Table 41. Cross tabulation of age vs consumption of alcohol and/or drugs. 61

Table 42. Cross tabulation of gender vs consumption of alcohol and/or drugs. 61

Table 43. Cross tabulation of involvement in an intimate relationship vs consumption of alcohol and/or drugs. 62

Table 44. Cross tabulation of knowledge of safe sex practice score vs consumption of alcohol and/or drugs. 62

Table 45. Respondents' tendency to enjoy behavioural risks. 65

LIST OF FIGURES **Page**

Figure 1. Respondents differentiated on the basis of age 34
Figure 2. Respondents differentiated on the basis of gender. 35
Figure 3. Respondents differentiated on the basis of race. 35
Figure 4. Respondents differentiated on the basis of first language 36
Figure 5. Respondents differentiated on the basis of degree. 37
Figure 6. Religious denomination of respondents. 37
Figure 7. Religious commitment of respondents. 38
Figure 8. Respondents' sexual orientation. 39
Figure 9. Current relational status of respondents. 39
Figure 10. Frequency of respondents intimately involved with another person during the past twelve months. 40
Figure 11. Number of sexual partners. 40
Figure 12. Sources of information about safe sex practices. 41
Figure 13. Frequency of latex barrier use during sexual intimacy 52
Figure 14. Respondents who have had an HIV test. 52
Figure 15. Alcohol and/or drug use among respondents. 58
Figure 16. Respondents using alcohol and/or drugs who believe they generally engage in higher risk behaviours while under the influence of these substances. 58
Figure 17. Frequency of respondents who, as a result of having used alcohol and/or drugs, report that they have engaged in sexual behaviours they would not have engaged in while sober. 59
Figure 18. Direction of behavioural change in terms of risky sexual practices reported by respondents who have engaged in sexual behaviours they would not have engaged in while sober. 59
Figure 19. Respondents' tendency to take psychological risks. 63
Figure 20. Respondents' tendency to take self-improvement risks. 63
Figure 21. Respondents' tendency to take commitment risks. 64
Figure 22. Respondents' tendency to take self-disclosure risks. 64

CHAPTER ONE

INTRODUCTION

Between October 1980 and May 1981 Dr Michael Gottleib and his colleagues at three different hospitals in Los Angeles were intrigued by a cluster of symptoms common to five males aged between 29 and 36. All five men were diagnosed as suffering from a highly unusual form of pneumonia called Pneumocystis carinii pneumonia. This disease had previously only been diagnosed in people who's immune systems were severely compromised. In addition, they were also infected with a virus called cytomegalovirus which is similarly common in immunosuppressed patients. All five were also infected with thrush which is again characteristic of immunosuppressed individuals. Testing on three of the five patients, (two died) revealed marked disturbances in the functional capabilities of their immune systems. Furthermore all five of these patients were sexually active homosexuals but did not know each other and there did not appear to be a common sexual contact.

These observations were reported in the Morbidity and Mortality Weekly Report of the Centres for Disease Control (CDC) on 5 June 1981. A month later the issue carried a similar report of 20 homosexual men in New York with a very uncommon tumour called Kaposi's sarcoma. This observation was particularly interesting since only three cases of Kaposi's sarcoma had been diagnosed in men under the age of 50 between 1961 and 1979 in New York hospitals. At the same time six cases of Kaposi's sarcoma were reported in young men in

California. As with the original five Pneumocystis carinii pneumonia patients, the Kaposi sarcoma patients also showed evidence of infections such as cytomegalovirus, thrush and Pneumocystis carinii pneumonia.

> Thus it was at the beginning of the 1980's that the relatively unremarkable few cases of homosexual male patients with unusual infections and tumours heralded an epidemic of one of the most devastating of all diseases of humankind and one which would have, perhaps, the most profound effect on the practice of medicine of any single disease. Because the disease was obviously transmissible from person to person and because of it's striking effect of the suppression to the immune system of patients, it became known as the acquired immunodeficiency syndrome, or AIDS (Schoub, 1994 p. 3).

No other disease has ever received the attention given to AIDS and billions have been spent on research in an attempt to understand and combat this disorder. Not only has it presented unprecedented challenges to the medical profession towards the end of the twentieth century, but it has also had profound effects on the professions of social workers, psychologists, legal experts, theologians, and politicians. This study attempted to gain some insight into the knowledge and behaviours of a group of second year students at Rhodes university. Hypotheses included that knowledge regarding HIV transmission and safe sex practices were not adequate; that levels of knowledge about AIDS, HIV and safe sex practices were positively correlated with safe-sex-practice behaviour; that unsafe sexual practices increased with the consumption of drugs and alcohol; and that no significant relationship existed between proneness to risk taking and unprotected sex. It was also hoped that some of the obstacles to the adoption of safer sex practices would be identified.

CHAPTER TWO

LITERATURE REVIEW

INTRODUCTION

Most research concerning AIDS is carried out by universities around the world. These tertiary institutions with their large student bodies provide readily accessible samples for study. As a result there is an ever increasing body of literature concerning AIDS and HIV research amongst young adults and adolescents. Despite this few studies have been carried out in South Africa and little is known about the levels of knowledge regarding safe sex practices and HIV transmission in this country. Furthermore, while adolescents and young adults are seen as a high risk group primarily because of their levels of promiscuity and alcohol and drug use very few studies have examined the propensity for risk taking in general as a possible factor in the aetiology of unprotected sex. Moreover, while alcohol and drug use are commonly assumed to increase the likelihood of unprotected sex many studies have failed to find any support for this assumption.

RESEARCH AMONG ADOLESCENTS AND YOUNG ADULTS

Almost since the beginning of the AIDS epidemic education has been recommended as the best line of defence against the spread of HIV (Norman, 1986). The effects of this education

appear to have been variable. In some instances - as with high risk groups or in areas considered epicentres of the epidemic - it appears to have been more successful than in other groups or areas considered to be at lower risk (Calabrese, Harris, Easley & Proffit, 1986; Bochow, 1990).

Young, sexually active students are at risk because of their sexual (and perhaps drug) practices. This is a population group who feel entitled to their sexual freedom and who do not ascribe to the moralistic attitudes of their parents and politicians. It is therefore essential that educational policies take into account current levels of knowledge and assess the extent to which this is influencing behaviour, if at all. It has long been known that this group has shown an increase in the prevalence of premarital intercourse (Clayton & Bokemeier, 1980) and that this continues for an extended period, since marriage is postponed until the completion of one's education (Baldwin & Baldwin, 1988).

Baldwin and Baldwin (1988) found that having accurate knowledge about HIV transmission did not necessarily lead students to engage in safer sexual practices. In their study they found that the average age for beginning penetrative intercourse was seventeen and the average number of partners per year was two. They argue that this is a large number given that increasing numbers of students now spend five years at college before graduating, and then go on with several more years of sexual activity before marriage. It is not clear whether they believe sexual activity stops after marriage, but indications are that many will continue to engage in extramarital intercourse (Bolton, 1992). Baldwin and Baldwin (1988) estimate that a person could easily accumulate 15 to 20 partners prior to marriage and believe that figures may well be higher than this. Unfortunately their definition of safe sex practice appears to be

heavily weighted in terms of numbers of sexual partners, rather than specific safe sex techniques and is therefore somewhat problematic (c.f. Bolton 1992). Despite this, their finding that only 13 percent of students always used condoms while engaging in vaginal intercourse, is all the more sobering. This study without doubt illustrates the misconceptions students (and researchers) have regarding safe sex practices.

Traditionally HIV research and prevention strategies have adopted an approach where the focus has been on high risk groups. In the developed world these have included homosexual men, intravenous drug users, and/or the recipients of contaminated blood products. While this pattern may be different in the developing world (Schurink & Schurink, 1990; Schoub, 1994), it has become apparent that throughout the world increasing numbers of young people are being diagnosed as HIV positive (Boldero, Moore & Rosenthal, 1992; Keller, 1993).

In addition, statistics in the USA suggest that many people contract the human immunodeficiency virus that causes AIDS while they are still teenagers. Thus, while only two percent of AIDS victims are diagnosed in their teens, twenty one percent of AIDS victims are diagnosed in their twenties (Centres for Disease Control, 1987 cited in Tolsma, 1988). Given the average four-or five-year incubation period before the onset of AIDS many of the latter will have been infected as teenagers. It is during these years therefore that many people may be engaging in risky behaviours, and possibly develop practices that will continue into adulthood (White, Phillips, Clifford, Davies, Elliott, & Pitts, 1989).

According to the Citizens Commission on AIDS for New York City and Northern New Jersey (1991), woman and adolescents represent the fastest-growing category of new HIV infections.

In addition, this commission highlighted the limited impact education targeted towards these groups had, and suggest guidelines for future AIDS prevention and education. While these may not be the only groups in which prevention and education strategies need to be revised, (c.f. Odets, 1993), they are populations which are at increasing risk (Baldwin & Baldwin, 1988; MacDonald et al. 1990). The rates of sexually transmitted diseases amongst teenagers is another important indicator of the vulnerability of young people to HIV infection (Skurnick, Johnson, Ouinones, Foster, & Louria, 1991). In addition White et al. (1989) believe that adolescents may be particularly vulnerable since most will not be familiar with the diversity of sexual experience.

Although adolescents and young adults are beginning to be recognised as a high risk group (Abdool Karim, Abdool Karim, Preston-Whyte, & Sankar, 1992; MacDonald et al. 1990), there is concern that the level of knowledge regarding AIDS and HIV transmission, and knowledge of preventative strategies in this group is not what it is in other risk groups (DiClemente, Zorn, & Temoshok, 1986; DiClemente, Boyer, & Morales, 1988; Helgerson, Petersen, and the AIDS Education Study Group, 1988). Becker and Joseph report that knowledge levels amongst this group are "incomplete at best" (1988, p. 404). While it is apparent that levels of knowledge have certainly improved since the time of Becker and Joseph's writing (1988), there are still "serious knowledge gaps" (MacDonald et al. 1990), and marked spacial differences in knowledge levels. White et al. (1989) report that AIDS awareness in Britain has developed much more slowly than in the United States. Madhok, McCallum, McEwan, and Bhopal, (1993) found numerous misconceptions regarding safe sex practices in a sample of 1388 college students in the United Kingdom, as did DiClemente,

Forrest, Mickler and Principal Site Investigators (1990) amongst a sample of 1127 American students.

These locational differences in knowledge regarding HIV infection and AIDS are particularly evident when looking at adolescents and young adults in South Africa. In examining the role of South African schools in the prevention of AIDS, Cilliers (in Van Niekerk, 1991) repored on research that indicated the general lack of AIDS knowledge amongst school children in South Africa.

Given that Africa has been most severely affected by the AIDS pandemic (Mann, 1987), it is ominous that we appear to encounter the lowest levels of AIDS related knowledge here. Although there is a myriad of reasons which account for this, some baseline data for South African populations are now fortunately beginning to emerge (Friedland et al. 1991; Mathews, Kuhn, Metcalf, Joubert, & Cameron, 1990). Here too research indicates a great deal of variability in levels of knowledge regarding AIDS/HIV transmission among adolescents and young adults.

Since the vast majority of HIV infections are sexually transmitted, the promotion of safer sexual practices is likely to reduce transmission rates. Education is thus an important strategy in limiting the spread of the epidemic (WHO, 1989). In this regard it is essential that populations within South Africa are assessed regarding their knowledge of AIDS/HIV. Some idea of the sexual practices of South African populations will also provide useful data in planning for AIDS prevention.

It is only recently that such studies have been published and the results are by no means uniform. Friedland et al. (1991) noted relatively high levels of knowledge amongst students in university residences, but with a number of misconceptions regarding transmission. Mathews et al. (1990) found that knowledge about AIDS in township school students in Cape Town was poor and superficial. They found this particularly disturbing and cite examples of typical questions asked by these students. These questions themselves illustrate the inadequacy of the students' knowledge, and examples include "Can you get it [AIDS] if a person sneezes?; Can you see a person who has AIDS?; Are spots on the face a symptom?" etc. In both studies three quarters of the subjects in the samples were or had been sexually active. While these figures are similar to those elicited in other studies (DiIorio, Parsons, Lehr & Adame, 1992; Flisher, Roberts, & Blignaut, 1992; MacDonald et al. 1990; Strunin & Hingson, 1987), Mathews et al. (1990), stress the need for more information on sexual behaviour amongst adolescents in South African.

Despite the lack of research regarding HIV knowledge, AIDS prevention and sexual behaviour in South Africa, Skurnick et al. (1990, p. 21) believe that even where this research is readily available there is still an "ongoing need for information on adolescents' understanding of these topics". Fisher and Misovich (1990, p. 323) give a number of reasons why providing accurate, up-to-date information on the prevalence of AIDS risk behaviours in selected populations is essential. Such data could partially explain differences between population subgroups in HIV infection and AIDS incidence, and could help explain longitudinal changes in the rates of new infections within and between populations. Accurate data on the frequency of AIDS-risk behaviours provides an early indicator of future AIDS prevalence. Mathematical models of the spread of HIV infection within a population require accurate data on a wide

range of sexual behaviours if they are to be of any use. At present such data is not available in South Africa (Friedland et al. 1991).

Another reason why providing accurate, up to date information on the prevalence of AIDS risk behaviours in selected populations is essential, is that data on the incidence of AIDS-risk behaviours in various populations may suggest the extent to which behaviour change interventions are necessary or successful. In addition, data on the incidence and dynamics of certain AIDS-risk behaviours will ultimately contribute to studies of population growth, to research on contraceptive behaviour, and to studies of sexually transmitted disease communication.

Despite the wide range in knowledge scores among South African scholars, students and young adults, it appears that there are some similarities in the misconceptions, distortions of fact, and rationalizations that adolescents employ all over the world. Siegel and Gibson (1988) describe six sets of barriers to the modification of sexual behaviour in heterosexuals at risk to infection by the human immunodeficiency virus, all of which are common to adolescents. These include: perceptions of low vulnerability; confusion regarding the degree of threat to heterosexuals; misperception of the efficacy of adaptive behaviours; beliefs regarding condoms and their use; the interpersonal nature of sexual activity necessitating the negotiation of safe(r) sex practices; and, the stigma of AIDS.

Of these, Crawford, Turtle and Kippax (1990), believe there are two of particular relevance to young heterosexuals where confusion may have understandably arisen. The first is concerned with the crude division of partners into "regular" and "casual", with the accompanying

assumption that "regular partners" are safe. They report on a study of 97 woman living in Canberra where 58 percent believed that having sex with someone who is not having sex with someone else was the safe sex option **most likely** to protect them (emphasis added), thus ignoring their partner's sexual or intravenous drug using history. The second is that "because AIDS is known to have originated amongst certain subgroups of people, by default there may have occurred the suggestion that heterosexuals, in general, will always be at lower risk" (p. 125). Crawford et al. (1990) express concern that even as the incidence of HIV increases among the general population, this may not be enough to induce realistic consideration of self-protection by individual adolescents.

Related to this is the fact that many adolescents fail to protect themselves as a result of the stigmatisation of certain groups prior to and associated with the advent of AIDS. This is particularly true for gay and bisexual men and intravenous drug users, who are seen as being different from "ordinary" people. As a result people with these prejudices respond to AIDS primarily in terms of its association with these groups and see AIDS as only affecting those with idiosyncratic behaviours (Becker & Joseph, 1988; Herek & Glunt, 1988). Bruce, Shrum, Trefethen and Slovik, report that "the stigma attached to HIV infection is so overwhelming that students are unwilling to categorise themselves as at risk, even though they know the kinds of behaviour that put them at risk" (1990, p. 232). They add that maintaining intolerant or hostile feelings about AIDS or those associated with it, may be a way of distancing oneself from susceptibility to infection. With such a scenario, unless the prevailing social representations of AIDS are changed many young people will continue to regard themselves as invulnerable (Crawford et al. 1990).

Perceptions of invulnerability are common amongst adolescents despite high levels of knowledge and AIDS awareness (Crawford et al. 1990; Friedland et al. 1991; Rosenthal & Shepherd, 1993; Strunin & Hingson, 1987; Valdeserri, 1989; Watney, 1987; White et al. 1989). Even when the real risks of HIV infection are exaggerated by adolescents, the tendency to ignore personal susceptibility persists (Skurnick et al. 1991). Fisher and Misovich observed that students perceive that "there is an increasing risk of incurring AIDS as one moves from the self, to the family, to friends, to other students at the university, and to society in general" (1990 p. 335). In other words students believe that persons further removed from themselves are at greater risk. Such beliefs (ie. that it will happen to someone else), are especially dangerous since they suggest that some people are invulnerable while others are not, and this may result in a lack of prevention since it is only others that need to concern themselves with such threats.

It has also been suggested (Baldwin & Baldwin, 1988) that engaging in unsafe sexual practices may be a function of ones' proclivity for risk taking in general, something which appears common amongst adolescents. The Oxford dictionary defines the word risk as "exposure to the chance of injury or loss; chance of bad consequences". Viewed from this broad perspective it is obvious that there are many kinds of risks. Ilardo (1992) divides risks into essentially two categories. He calls risks that "shape you as a person and give direction to your life" (p. 2), psychological risks, which include self-improvement, commitment and self-disclosure risks. Others which he calls "non-productive or empty" risks have a great deal in common with psychological risks but they do not shape ones' identity, affect one's sense of meaning, purpose and focus in life, or stimulate growth and psychological maturation. In addition, Ilardo highlights how "we have long tended to see risk-taking as good in itself,

regardless of the type of risk" (p. 10). While it is not clear whether a relationship exists between risk taking behaviour and unsafe sexual practices, it is equally unclear as to the type of risks adolescents may be engaging in. The interpersonal nature of sexual behaviour makes it difficult to discern whether such risks are primarily risks of self-disclosure and commitment, or of a thrill-seeking, high-stakes nature, such as those that imply invulnerability, immortality and death defying bravado.

Other common rationalisations in the face of unsafe sexual behaviours include adherence to romantic notions about the long-term and monogamous nature of serial relationships (Rosenthal & Shepherd, 1993). While such strategies may be of some value in areas where HIV infection rates are low (Becker & Joseph, 1988), they become problematic when seroprevalence rises and then at best only serve to slow down the spread of the disease (Bolton, 1992). Also common amongst adolescents is the belief in the stereotype of an AIDS victim and the view that HIV sufferers can be detected (Keller, 1993; Mathews et al. 1990). In contrast to beliefs of invulnerability is the observation that some students exhibit a sense of fatalism which reduces the likelihood of prevention (Moore & Rosenthal, 1991).

These rationalisations are indicative of serious gaps in the adequacy of the knowledge about AIDS and HIV transmission that adolescents possess. While studies of young adults and adolescents have for the most part revealed a good general knowledge about AIDS, several researchers warn against such serious misconceptions (Becker & Joseph, 1988; MacDonald et al. 1990). Keller (1993) noted that young adults' representations of HIV is too general to guide selection of specific protective behaviours. This confusion regarding the efficacy of various preventative behaviours was also highlighted by MacDonald et al. (1990). Crawford

et al. 1990), also call for more explicit advice for young people regarding safe sex practices. In South Africa the situation appears somewhat worse in that knowledge levels are reported to be much lower (Mathews et al. 1990; Cilliers, 1991), and behavioural practices much riskier (Flisher et al. 1992; St Leger, 1996). This is perhaps because of the lack of adequate education in schools where sex education has historically not been offered. In addition, the particularly conservative and authoritarian culture within South Africa where historically anything sexual was immediately censored, has profoundly inhibited any dialogue around this topic.

Several authors report that where behavioural change has occurred among adolescents and young adults it has generally been in the direction of less safe sex (Rosenthal & Shepherd, 1993). Fisher and Misovich report "that as the AIDS epidemic has progressed, college students have not significantly changed their patterns of relationships, and have become more likely to be sexually active, and to engage in some other risk behaviours" (1990 p. 336). They add that several risky practices are more common than they were several years ago, one of which is that the average number of sexual partners has increased.

THE MYTH OF PROMISCUITY

Since the beginning of the AIDS epidemic promiscuity has been considered a primary risk factor. Early studies repeatedly revealed significant statistical correlations between number of sexual partners and HIV infection and AIDS (Marmor et al. 1982; Turner, Miller, & Moses, 1989). Even the first scientific publication about AIDS alluded to promiscuity in that the five

men suffering from the unusual disease of pneumocystis pneumonia were also reported to be "sexually active homosexuals".

Early theories regarding the aetiology of AIDS tended to focus on promiscuity as the primary cause. The high incidence of STD's (because of "promiscuity") in gay men and the associated stresses on the immune system were thought to result in the eventual collapse of the immune system. In addition, the use of recreational drugs like amyl nitrate - used to prolong erection and heighten sexual excitement - which is a strong suppressor of the immune system, were thought to further stress an already overloaded immune system, and progressively destroy it. This was referred to as the "immune overload" theory. Another version of this theory was the impact of semen deposited through the practice of rectal intercourse. It was argued that because of the immunosuppressive properties of semen, the frequent deposition of semen by multiple partners in the rectum resulted in the clinical picture which later became known as AIDS. This was further supported by studies of homosexuals which established that individuals who regularly or exclusively acted as passive partners for intercourse were at considerably more risk of developing AIDS (Schoub, 1994; Bolton, 1992).

While such theories were suitable for "explaining" AIDS in homosexual men, they were certainly called into question when employed to cover other "risk groups". It thus began to emerge that promiscuity per se is not as central in the aetiology of AIDS as was initially thought. In fact the issue of promiscuity has proved to be a lot more complex and debates around this topic abound.

Bolton (1992) outlines how in the first decade of AIDS almost all sectors, including the gay community itself had accepted promiscuity as a valid risk factor in the contraction of HIV. Already it has been shown how readily the scientific community accepted this in the early stages of the disease. The official policy of the U.S. Government in the 1980's was one of chastity and condoms were only (reluctantly) recommended for those who would not abstain. Even AIDS-related research into sexuality was scrapped for fear that such research would encourage promiscuity. The church and religious organisations saw AIDS as a chance to reverse the sexual revolution which occurred in the 60's and 70's. AIDS was seen as evidence of God's wrath due to humanity's immorality (ie. homosexuality and promiscuity). Even media coverage in the first decade - particularly early on - focused largely on promiscuity as a cause of AIDS. Homosexual individuals who contracted AIDS were often portrayed as being especially promiscuous and therefore somehow deserving of the disease, while in the case of others perceived as being "innocent victims" no mention was made of [their] promiscuity. Advertising too, was affected as adverts for condoms were delayed or refused since some believed that promotion of condoms may be seen as an endorsement of promiscuity. In addition, sectors of the gay community itself spoke out against promiscuity and suggested that this was a cause of AIDS (Shilts, 1987).

In reality it appears that all this moralizing regarding promiscuous behaviour in America is more an ideal than a fact. Various studies (Blumstein & Schwartz, 1983; Sack, Keller & Hinkle, 1984; Rubinson & De Rubertis, 1991) indicate that promiscuity is a fact of life, and while this may be embarrassing because it conflicts with current ideals, it is undeniable. The CDC has indicated that at least 23 million Americans have more than one sexual partner during a given year (Moran, Janes, Peterman, & Stone, 1990). Thus, if safe sex practices are

not being followed (ie. making use of latex barriers), over 23 million Americans are exposed to promiscuity as a current risk factor for becoming infected with HIV. It therefore seems that while mutually faithful sexual relationships were being promoted (for whatever reasons), Americans are certainly not listening to this message.

Since the very beginning of the AIDS epidemic, AIDS prevention strategies gave primacy to the anti-promiscuity message (Reiss & Leik, 1989). While this may have been good advice before the virus had been identified, Bolton (1992) argues that it is no longer the case, and suggests that perhaps this message is even dangerous. He asserts that the partner reduction messages have been orchestrated and maintained by sex-negative forces in American culture intent on turning back the clock in an attempt to undo the sexual revolution. The only real and valid way of controlling the spread of the virus is to teach safe sex practices irrespective of the number of sexual partners.

In the early stages of the disease attempts to reduce the number of sexual partners proved disastrous for some. Gay friends formed tight knit groups of "fuck-buddies" where members where not allowed to have sexual contacts outside of the circle. Where one member was infected some of these groups were entirely wiped out. It very quickly became apparent that fewer partners offer no protection if one of those partners is infected and safe sex practices are not followed. Statistical equations show (Handsfield, 1988) that unless partner reductions are dropped to one or less the risks are not significantly reduced. A corollary of this move to reduce the number of sexual partners was the slogan "Know your partner". Aside from the disastrous consequences which occurred in the tight knit "fuck-buddy" groups where all members "knew" each other intimately, it is well known that people tend to lie about their

sexual histories (Anonymous, 1988 and 1991 in Bolton 1992; Cochran & Mays, 1990; Huggins Elman, Baker, Forrester & Lyter, 1991).

Another problem with the anti-promiscuity campaign is that it failed to take the nature of gay culture into account. Gay culture was about promiscuity and therefore this message failed to adequately address the cultural milieu of the target population who adhered to the slogan "promiscuity created community", and may even have been interpreted as an attack on homosexuality and gay liberation (Bolton, 1992, p. 38). Promiscuity as a behaviour was therefore likely to be followed and thus the anti-promiscuity drive was a poor intervention strategy particularly when other (more effective) methods were/are available. In addition Emmons, Joseph, Kessler, Wortman, Montgomery, and Ostrow, (1986) found that people can more readily control their risky behaviour than they could limit having encounters with multiple partners.

This lesson is particularly important for heterosexual teenage and unmarried young adults since, here again, these groups feel strongly that they have a right to be sexual. Surveys of young Americans indicate that the large majority approve of premarital intercourse (Rubinson & De Rubertis, 1991). It is important that prevention strategies are not rejected outright as a result of their moralistic flavour, and that they are kept simple. A two-pronged approach of getting people to have fewer partners and having them reduce their involvement in high risk behaviours may be complicating the message. In addition, any emphasis on (fallacious) probabilistic thinking rather than on safe sex is dangerous in that it contributes to the growing incidence of HIV (Bolton, 1992).

Lessons learned from the spread of the disease in the gay community must be applied in current and future intervention strategies if they are to be of any value. Despite the fact that for many years some have recognised the necessity to stress safe sex rather than partner reduction, monogamy is still advised for populations where the prevalence of HIV is low, ie. heterosexuals (Martin, 1986), and particularly for adolescents (Citizens Commission on AIDS for New York City and Northern New Jersey, C. Levine, 1991). This seems to suggest that partner reduction is still seen as valid, while research indicates it is not. Such advice will result in a repeat of the mistakes made in attempting to stop the spread of AIDS in the gay male community.

Reiss and Leik (1989) provide mathematical models which show almost without exception that safe sex practices are more effective in reducing the risk of HIV infection than is a reduction in the number of partners. They add that "we believe it is time to stop giving voice to restrictive sexual attitudes about multiple partners and start protecting young people by giving them a more realistic view of the risks they are taking, and how those risks can be better managed" (p. 433).

Freudenberg (1990) has noted that of all the groups studied, young adults have made the least changes in response to AIDS, and that "very few adolescents, whether high-school students, dropouts, or college students, are protecting themselves against HIV" (p. 592). MacDonald et al. (1990) noted that in their survey of over 5500 students "most have rejected both abstinence and long term, mutual monogamy as acceptable choices. This leaves consistent condom use with spermicide as the only major means to reduce the risk of HIV and STD transmission" (p. 3158). However they add that consistent condom use is uncommon and knowledge regarding

its protective value is poor. Fisher and Misovich (1990) have found that as the AIDS epidemic has progressed college students have become more sexually active and are engaging in activities that increase their risk of exposure to HIV rather than the reverse. Several other authors also conclude that adolescents and young adults are not modifying their sexual behaviours in response to AIDS, (Citizens Commission on AIDS for New York City and Northern New Jersey, C. Levine, 1991; Baldwin, Whiteley & Baldwin, 1990; De Buono, Zinner, Daamen & McCormack, 1990), particularly in terms of reducing partner numbers. It is therefore essential that more specific (and safer) methods of protecting oneself are taught to adolescents.

Although it seems the anti-promiscuity message is largely a result of the coalition between conservative politicians and religious traditionalists it is important to stress that there are some real risks concerning promiscuity in the AIDS era.

Each time one enters into a sexual relationship with a new partner safe sex limits have to be renegotiated, something not required with a steady partner. This may be particularly difficult for heterosexual couples since they may not be as accustomed to expressing their sexual preferences to prospective partners in advance. For adolescents this may be still more difficult since they are only beginning to explore their sexuality. In addition each new encounter brings with it the inherent difficulties associated with negotiations, and the very real risks that, in order to please and perhaps ensnare a potential long term partner, one compromises one's normal safety limits.

In cases where both partners are HIV-positive and therefore perhaps tempted to dispense with safe sex practices, promiscuity poses other dangers. The risks of contracting STD's may be high and these would seriously tax an already stressed immune system, perhaps further depleting T-cells. In addition, the immunosuppressive qualities of semen may have detrimental effects on the immune system, further compromising the health of these individuals. Odets (1993) however strongly argues against this "speculation without a single study to support it" (p. 15), and believes this kind of advice, which is primarily aimed at homosexual men, reflects the homophobic attitudes of our "educators".

THE ALCOHOL/RISKY SEX DEBATE

At present a number of propositions regarding AIDS and HIV transmission have for the most part been accepted as true. These include; that its dominant mode of transmission is sexual; that not all forms of sexual behaviour are equally risky; that knowledge regarding HIV transmission appears not to be sufficient to induce people to eliminate risky sexual practices; that rapid behavioural change is possible as has occurred in some high risk communities; and that despite high levels of information regarding transmission and changes in community sexual norms, some people still continue to engage in high-risk practices (Bolton, Vincke, Mak & Dennehy, 1992).

Researchers have been trying to establish why it is that despite high levels of knowledge regarding HIV transmission large numbers of people continue to engage in high risk behaviours (Fisher et al. 1990; Waddell, 1992). A number of authors have proposed that alcohol in particular is related to sexual risk-taking behaviour and the proposition that alcohol

increases risk-taking has now been accepted by significantly large numbers of people (Bolton et al. 1992; Clapper & Lipsitt, 1991).

At present a large body of literature exists on the influence of alcohol on sexual risk-taking, and although the mechanisms of how alcohol increases the likelihood of risky sexual behaviour are poorly understood, many studies show evidence for a relationship between the two (Stall, McKusick, Wiley, Coates & Ostrow, 1986; Clapper & Lipsitt, 1991).

A problem arises in that other studies - perhaps the majority - show no evidence of a relationship between alcohol consumption and risky sexual practices (Siegel, Mesagno, Chen & Christ, 1989; Leigh, 1990). Given the centrality and the support of the alcohol/risky sex hypothesis in AIDS education, Bolton et al. (1992) attempted to make sense of this contradictory data by carrying out an additional study. This was considered necessary because of their observation that "most studies have come from only a few research centres with study cohorts drawn from a narrow range of populations" (p. 186).

In addition a review of studies on this topic by Bolton et al. (1992) revealed limited support for the alcohol/risky sex hypothesis. They found clear cut support for the hypothesis "in only three of the sixteen studies reviewed. Partial or ambiguous support is found in another six studies. Seven studies failed to find evidence to support the hypothesis" (p. 189). It is important to note that only two of these studies reviewed focus on adolescent populations and less than half examine heterosexual population samples. Thus most of the available data is based on studies done on adult homosexual samples, as is the case in this study done by Bolton et al. (1992), where the sample group consists of 379 gay or bisexual Flemish men.

This study too can be added to the list of studies that fail to find any significant relationship between alcohol consumption and risky sex practices since they conclude that

> ... the patterning of statistical results found in our data do not support the hypothesis of a relationship between alcohol use and risky sex. To the extent that any of our tests yielded confirmatory findings, it seems that the relationships were weak, usually curvilinear, and generally derived from data on relatively uncommon sexual behaviours, not from the highest risk practices. The net effect of alcohol consumption among these men was not an increase in sexual risk taking (p. 212).

In an attempt to account for another failure in establishing a relationship between alcohol and risky sexual behaviour, a number of possible explanations are offered. These range from methodological problems in early studies, to the recognition that other factors may have been operating to bring about what appeared to be a causal relationship between alcohol consumption and risky sexual practices.

Despite these explanations offered by Bolton (1992), it is worth noting that perhaps homosexual samples are in general more prone to risk behaviour since they have publicly demonstrated their willingness to reject what society accepts as normal. Such samples have chosen a way of life that flies in the face of many "normal" conventions, for example those of marriage and child raising, etc. and thus their reasons for and motivations around the use of alcohol may also be different.

Most interesting however are questions as to **why** so much attention has been payed to alcohol as a co-factor, and why it is so readily accepted as a significant cause of risky behaviour. Several reasons are postulated by Bolton et al. (1992). These include that such an approach fits neatly into the anti-pleasure ethos of the 1980's which condemned all forms of mind-altering experiences, and argued that the solution to many social problems was to simply say no; that alcohol was a major target of scientists interested in risk; that financial support for risk research could be readily obtained from granting agencies concerned with drug abuse; and that addictionology had become an aggressively expanding field which has had a significant impact on HIV prevention research, to list but a few.

Despite the finding by Bolton et al. (1992) that (yet again) no evidence was found to support a relationship between unsafe sexual practices and alcohol consumption in a group of adult gay men, there may yet be such a relationship in adolescent populations. Of the studies reviewed by Bolton et al. (1992) only two focused on adolescents and young adults and both these studies showed support for the alcohol/risky sex hypothesis. Fisher and Misovich (1990) found that large proportions of college students' sexual activities were more often than not associated with drinking alcohol. This proportion was larger for females than males. In addition they found that the use of alcohol correlated positively with "several indices of AIDS risk" (p. 329). These included numbers of sexual partners, numbers of "casual" sexual partners, reduced likelihood of an intimate relationship, and when one existed an increased likelihood of sex outside of the relationship. Ross (1990) documents similar findings amongst homosexual men.

In response to these findings that alcohol appears to be implicated in a great deal of AIDS-risk behaviours Fisher and Misovich (1990) have recommended that safer-sex intervention programmes "discuss drinking as an AIDS-risk factor, and that campus alcohol awareness programmes discuss AIDS risk as a consequence of excessive drinking" (p. 330). Keller (1993) has also stressed the importance of continued emphasis on the links between alcohol consumption and unsafe sex among young adults.

CONCLUSION

It is apparent that while a number of studies have focused on young adults and adolescents, most have done so simply because such samples are the most readily accessible to academics and researchers alike. Few have acknowledged the sexual practices of this group and therefore the very real risks that exist within this segment of the population. Early (American) studies reveal that levels of knowledge regarding AIDS and HIV transmission, and knowledge of preventative strategies in this group is not what it is in other risk groups. In South Africa even less has been done to gather data from this segment of the population and educators assume similar profiles here as have been established in the USA. Emerging local data however suggests that such assumptions are not necessarily correct and there is a need for additional research concerning local levels of knowledge regarding HIV transmission and preventative strategies. Adolescents and young adults are also recognised as being less risk averse than the general population, and despite suggestions that this may play a role in the failure of this group to protect themselves against HIV infection, little has been done to explore any such relationship.

Several researchers have made recommendations that drinking be discussed as an AIDS-risk factor and that this should become an issue discussed in campus alcohol awareness programmes where AIDS risk may be a consequence of excessive drinking. Such recommendations highlight the alcohol/risky sex hypothesis which now appears to be accepted as an established fact by many people. Reviews of research examining the alcohol/risky sex hypothesis reveal, at best, conflicting reports, but for the most part research has failed to find evidence to support the hypothesis. Most studies however have focused on homosexual populations and very few have examined adolescent or young adult populations. Those that have looked at adolescents have, however, tended to show evidence to support this hypothesis. Should such a hypothesis prove not to be true - even among adolescent populations - it is essential that this information be effectively communicated to ensure that people become aware of the fact that they may be utilising such beliefs as a way of rationalizing their risky behaviour.

CHAPTER THREE

METHODOLOGY

> Mark Twain once said, 'Always do right. This will gratify some people and astonish the rest.' Doing the right thing is what the public expects of scientists who conduct research to improve the quality of life. AIDS researchers are faced with a unique challenge in uncovering the mysteries of AIDS transmission and gathering data on the private behaviour of individuals that contribute to its spread. Researchers are responsible for knowing the possible negative effects of their research procedures and for balancing the need for research information with the protection of the participant's rights. Many issues of distrust and stigmatization affect AIDS research programmes and set the stage for difficult data gathering ventures (Stevenson, De Moya & Boruch, 1993, p. 19).

Historically HIV/AIDS research has been especially difficult because of the social stigma and taboos concerning the behaviours and populations that are the focus of that research effort. Aside from the methodological difficulties of sensitive questions and largely unfamiliar populations (drug users, homosexuals, etc.), politicians have also severely hampered efforts to gain valuable data on the sexual practices of various populations. Several large surveys in the USA were shelved for fears that such surveys would encourage the very behaviour believed to be risky in terms of HIV infection (Bolton, 1992).

Ethical concerns, particularly when dealing with sensitive research topics, have also provided their own limitations. Traditionally the dictum of *primum non nocere* (or "above else, do no harm") together with respect for individual autonomy and privacy have provided their own difficulties for researchers. In an attempt to overcome such problems it was stressed that no identifying details be provided by students and they were informed that only aggregated data would be analysed and presented and not individual responses.

In addition when doing survey research in the behavioural sciences it is often apparent that certain of the participants' hold beliefs that may be detrimental to their well being. This is particularly pertinent in AIDS research where knowledge and behaviours regarding HIV transmission may be poor. In addition the very act of asking certain questions may alter participants attitudes and behaviours. It is therefore important to make every effort to ensure that any misconceptions that exist or may have arisen are cleared up, and that the researchers make an effort to provide educational inputs, particularly when the consequences of infection with HIV are so severe. "Ethics demand that a survey of such sensitive content be followed by a presentation of correct information, both by educators and physicians, to dispel any misconceptions that may have arisen from the survey" (Skurnick et al. 1991, pp. 29-30). Such recommendations were adhered to in this study.

In a similar vein, Fullilove and Fullilove (1993) stress how important it is to "give back" to the community in which the research has taken place in order to ensure that community resources are not diminished by the process of research. This is particularly important in communities that are already stressed by the disease and related problems. They make a number of suggestions as to how this can be done which range from providing financial support to the

community, providing knowledge, and even perhaps involving community members as coauthors. Data from this study together with the experience gained during it's collection will be used to improve upon courses presented to students in the future. Data will also be included in course material in future years in an attempt to make the course more personally meaningful to students.

A further concern unique to HIV/AIDS research is the need to balance scientific rigour with urgency in AIDS research. Reviews of many studies done in response to the AIDS pandemic have illuminated the difficulties in validating and interpreting the results of those studies (Ostrow et al. 1993). While there is ample justification for all the resources that have been utilised in understanding this disease, it is "less certain just how to modify and expedite the conduct of scientific research so it responds to the urgent needs of the AIDS crises without sacrificing the scientific rigor necessary to ensure the validity and applicability of the resulting research outcomes" (Ostrow et al. 1993, p. 2).

Many behavioural studies regarding AIDS have utilized only quantitative methods in their design (Baldwin & Baldwin, 1988; MacDonald et al. 1990; Shrum, Turner & Bruce, 1989). One way of improving the quality of AIDS research is to utilize both quantitative and qualitative methods in a design, and in so doing enhance the data that are collected. This is particularly important in the context of AIDS behavioural research because many of the behaviours that are of concern are very private. In addition, Zeller feels that "the value of combining these approaches into a single coherent research strategy is that the liabilities of one approach are, to a large extent, the assets of the other (1993, p. 96).

Another problem with much of the AIDS research is the type of sampling strategy utilised. Ideally a fully randomized probability sampling strategy should be adopted because it guards against the potential biases that may seriously distort the findings from convenience and other forms of nonprobability sampling (Kalton, 1993). There are however problems with probability sampling, the major one being financial. It is a costly exercise ensuring that all those that fall into the defined population have an equal, nonzero probability of being selected for the sample. As a result of these difficulties convenience samples are most often used despite the fact that these have obvious problems in terms of external validity and generability of the results.

Perhaps a final difficulty that requires mention are the problems associated with self report measures. This is particularly pertinent in surveys of sexual behaviour since there are strong cultural taboos around direct observation of people's sexual activities. There are also a number of reasons to suspect inconsistencies between subjects' actual sexual behaviour and those reported. "Privacy needs, embarrassment, and fear of reprisals may motivate people to conceal their true sexual behaviour, while others may find it self-enhancing to embellish on their actual sexual experiences. However, even respondents who are highly motivated to provide truthful responses may have distorted memories of how often they have actually performed specific sexual behaviours" (Catania et al. 1993, p. 135).

SUBJECTS

The subjects were 176 second year psychology students who were required to participate in a social psychology practical. While the practical course was compulsory for all students, the

questionnaire was not. Students were however urged to complete the questionnaire and were given time during class to do so. A large part of the practical focused on AIDS education but all questionnaires were presented before any information about AIDS/HIV was given to the students. Participation in the research was anonymous as subjects were instructed not to write their names on the questionnaires. In addition assurances were given that all data would be treated as strictly confidential. After completing the questionnaire students were given safe sex information and were encouraged to discuss obstacles to safe sex practices. Before leaving, each student was given some literature in the form of a pamphlet regarding AIDS. Subjects were also invited to approach either of the researchers in confidence should they wish to discuss their interest in, fear of/or anxiety about HIV infection and safe sex practices. The study was thus part of a safe-sex education programme.

QUESTIONNAIRE

The self-administered questionnaires took approximately 45 minutes to complete. It consisted primarily of structured questions, but open ended questions were also utilized in order to gain appropriate qualitative data. Subjects were also given ample space to qualify any answers they might wish to. A pilot study was carried out on 6 subjects in order to pre-test the questionnaire. In response to feedback from these subjects some modifications to the questionnaire were made.

The questionnaire consisted of several sections, not all of which were intended for use in this study. The sections included: biographical details; knowledge of safe sex practices; knowledge of HIV transmission; sources of knowledged of safe sex practices; current sexual

practices; beliefs about friends sexual practices; images of people living with HIV/AIDS; and risk taking behaviours.

Biographical questions provided specific information about the subjects eg. age, sex, race group, degree for which registered, sexual orientation etc. Knowledge of safe sex practices was measured by asking subjects to rate a series of sexual behaviours along a continuum from safe to unsafe, where 1 meant safe and 3 meant unsafe. Subjects were awarded 3 marks if they were correct in their estimation of safety, 2 marks if they were not completely wrong, and 1 mark if clearly unsafe behaviours were labelled as safe or vice versa. Scores were then calculated as a percentage of the total.

Knowledge of HIV transmission was measured by asking respondents to indicate whether a number of statements were true, false or not known. Correct answers were awarded 3 marks and incorrect ones 1 mark. Those for which answers were uncertain, eg. **All** blood donations are tested for HIV, were awarded 2 marks if this uncertainty was reflected by the respondents rather than simply indicating that this statement was false. Final scores were again calculated as a percentage of the total. All the statements used in this questionnaire were based on similar questions used in other studies (DiClemente et al. 1988; Schurink & Schurink, 1990).

A list of twenty communication sources were provided and respondents were asked to indicate from which of these sources they had gained their knowledge regarding safe sex practices. They were also requested to provide details of any other sources that may not have been included in the list. Similarly, subjects were asked to indicate, on a list, which sexual practices they had engaged in during the past twelve months, and these were again scored in order to

arrive at a safe sex practice score. Unsafe sexual practices such as unprotected intercourse were given 3 points and safe ones 1 point. Practices which could be risky, such as rubbing bodies when naked were scored 2 points.

Propensity for psychological risk taking was measured using Ilardo's (1992) protocol and was scored as outlined in his manual. In addition subjects were asked to indicate how enjoyable they would find various high risk activities in order to get some idea of their propensity for behavioural or physical risk taking. These activities were rated on a four point continuum from highly enjoyable to not at all enjoyable.

HYPOTHESES

The following hypotheses were explored:

H_1. Levels of knowledge about AIDS/HIV transmission are positively correlated with safe-sex-practise behaviour.

H_0 Levels of knowledge about AIDS/HIV transmission are not positively correlated with safe-sex-practise behaviour.

H_2. The incidence of unprotected sex increases with the consumption of alcohol and/or drugs.

H_0 The incidence of unprotected sex does not increases with the consumption of alcohol and/or drugs.

H_3. No significant relationship exists between proneness to risk taking and the incidence of unprotected sex.

H_o A significant relationship does exist between proneness to risk taking and the incidence of unprotected sex.

In addition to the above hypotheses knowledge regarding AIDS and HIV transmission and knowledge regarding safe sex practices is explored. Few South African studies have been reported in the literature and little is known regarding the levels of knowledge about safe sex practices and HIV transmission in this country. Based on research that has been done (Friedland et al. 1991; Mathews et al. 1990) it was believed that knowledge levels would not be of the same high standard as reported in foreign studies.

CHAPTER FOUR

RESULTS

All subjects in this study were second year psychology students at Rhodes University. The average age of respondents was 20, but ages ranged from 18 to 33 (Figure 1). Eighty three percent of subjects were between 18 and 22 years of age. The majority of the subjects were white female (Figure 2) students, although black students were represented by 20 percent of the sample(Figure 3). Other race groups were poorly represented. Eighty one percent of the sample were English speaking, with the next largest portion (9%) being Xhosa speaking (Figure 4).

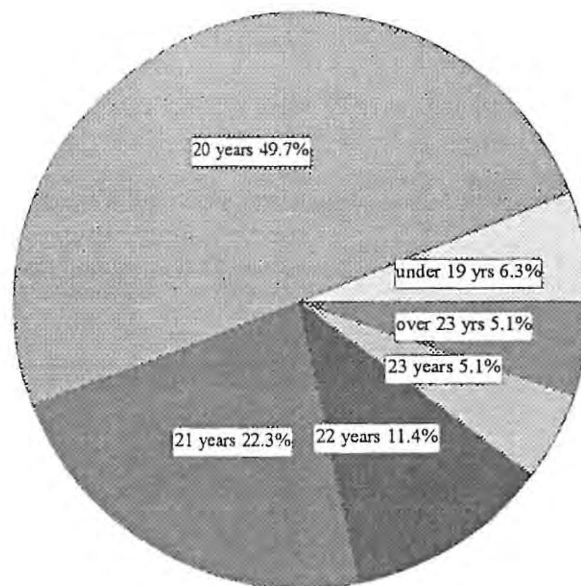


Figure 1 Respondents differentiated on the basis of age.

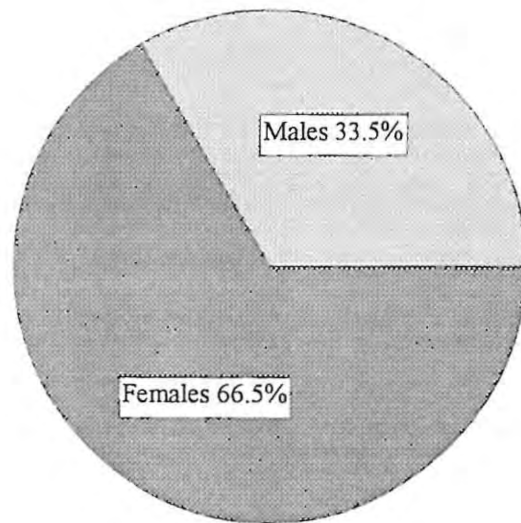


Figure 2 Respondents differentiated on the basis of gender

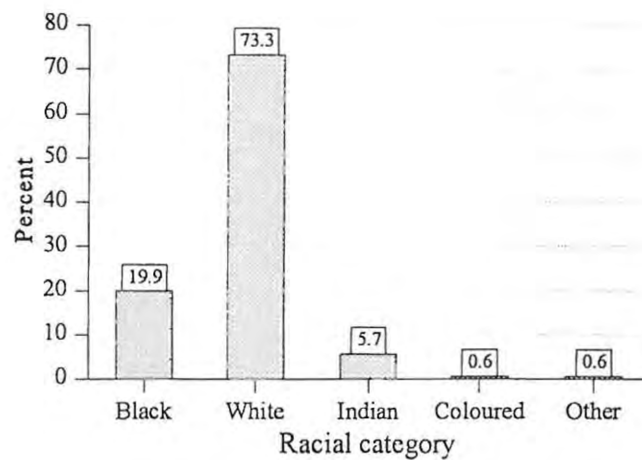


Figure 3 Respondents differentiated on the basis of race.

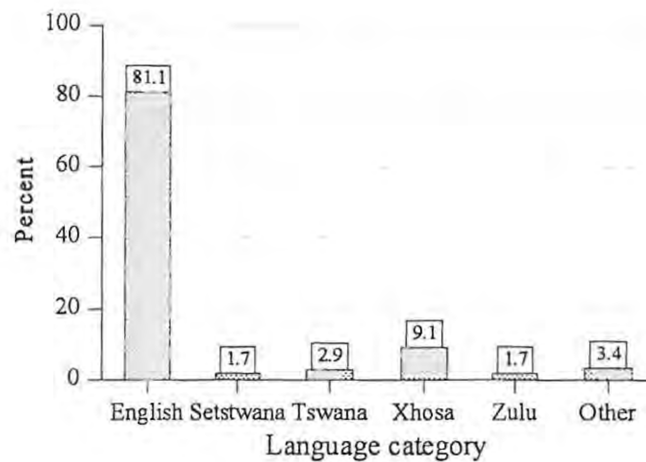


Figure 4 Respondents differentiated on the basis of first language.

While most degrees offered at Rhodes University were represented, almost half of the sample were registered for a Bachelor of Arts degree. Twenty percent were registered for a Bachelor of Social Science, and twelve percent for B. Journ and B. HMS respectively, and eleven percent for a B. Com (Figure 5). Thirty percent of the sample labelled their religious denomination as Christian, while seventeen and sixteen percent described their religious faith as Catholic and Anglican respectively. Those identifying themselves as "Christian" were kept as a separate catagory since it was predominantly this group that showed the highest level of religious commitment. Twelve percent claimed to be atheist (Figure 6). Half of the sample practise their faith at least weekly, while thirty percent claim to do so daily (Figure 7).

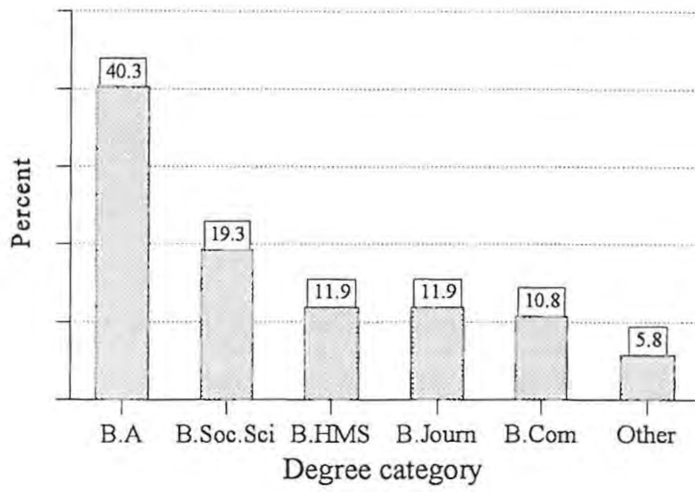


Figure 5 Respondents differentiated on the basis of degree.

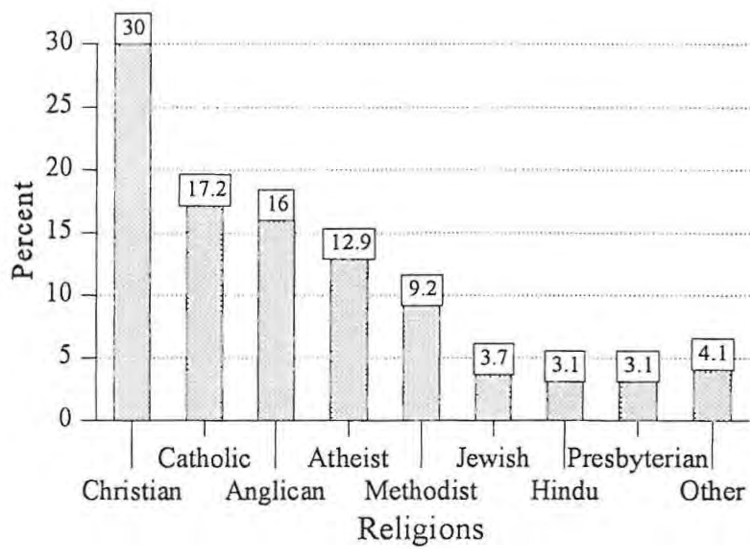


Figure 6 Religious denomination of respondents.

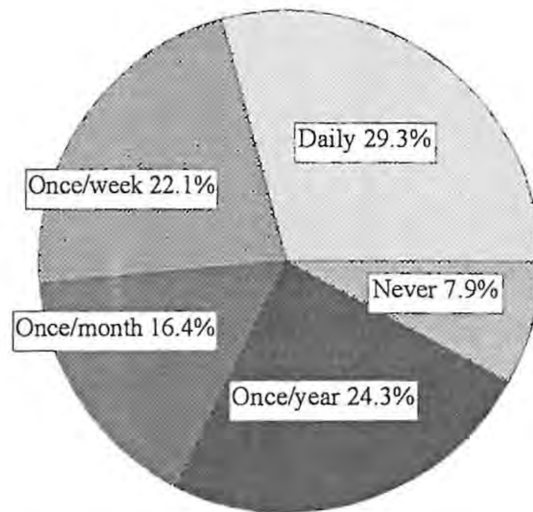


Figure 7 Religious commitment of respondents.*

*Thirty six subjects failed to respond to this question. The percentages above therefore reflect percentages of the subjects who responded to this question.

Ninety four percent of the sample reported that they were heterosexual, while three percent reported a homosexual and bisexual orientation respectively (Figure 8). Four percent of the sample were married; 7 percent reported that they were living together; the rest were single (Figure 9). The majority (81%) of the sample reported being intimately involved with another person during the past twelve months (Figure 10). Of the eighty one percent claiming to be intimately involved with another within the past year, 77 percent reported being sexually intimate with at least one partner. Thirty five percent of those reporting sexual intimacy with another person, report being so with more than one partner within the past year (Figure 11).

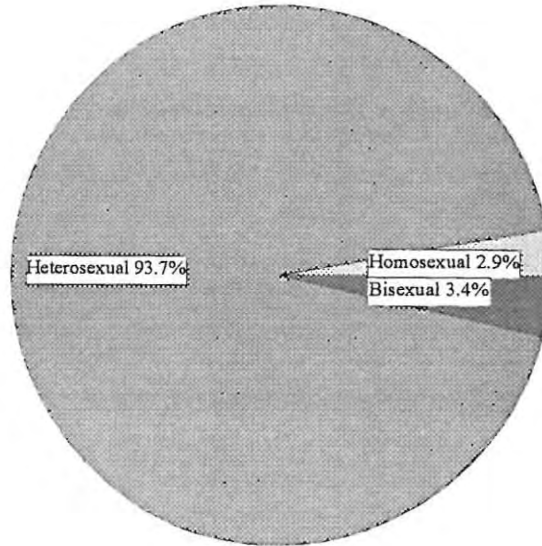


Figure 8 Respondents' sexual orientation.

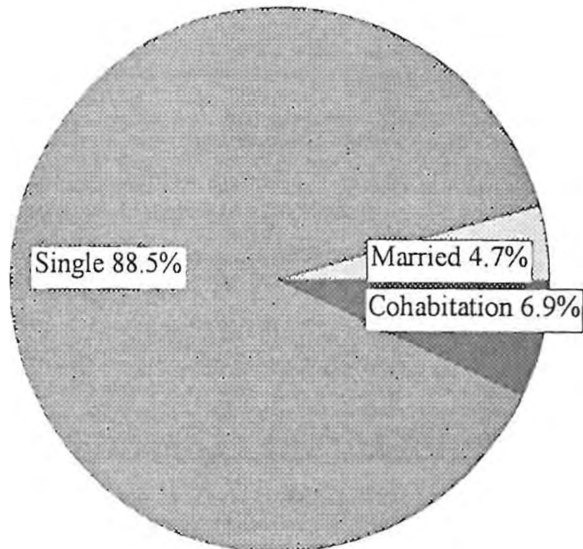


Figure 9 Current relational status of respondents.

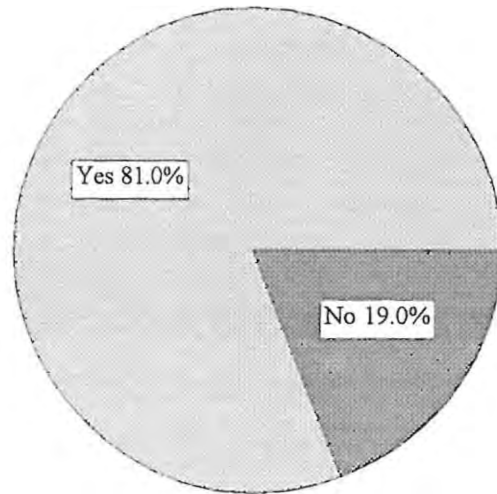


Figure 10 Frequency of respondents intimately involved with another person during the past 12 months.

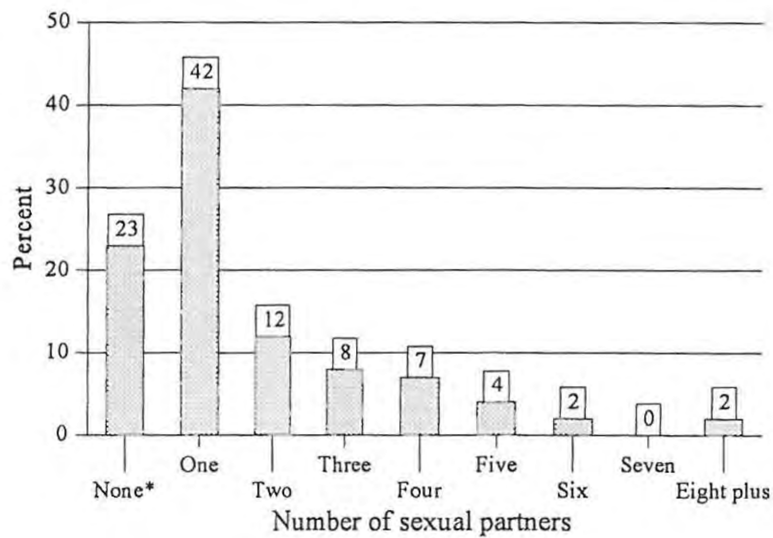


Figure 11 Number of sexual partners.

*These subjects claim to be in an "intimate" relationship, but that it is not "sexually intimate".

Sources of information

The two most commonly mentioned sources of information about safe sex practices were those of magazines and informal discussions with friends. Other media sources most commonly mentioned were pamphlets available to the general public, public television, films, and public radio. No one particular source of information was significantly associated with higher scores for knowledge of safe sex practices.

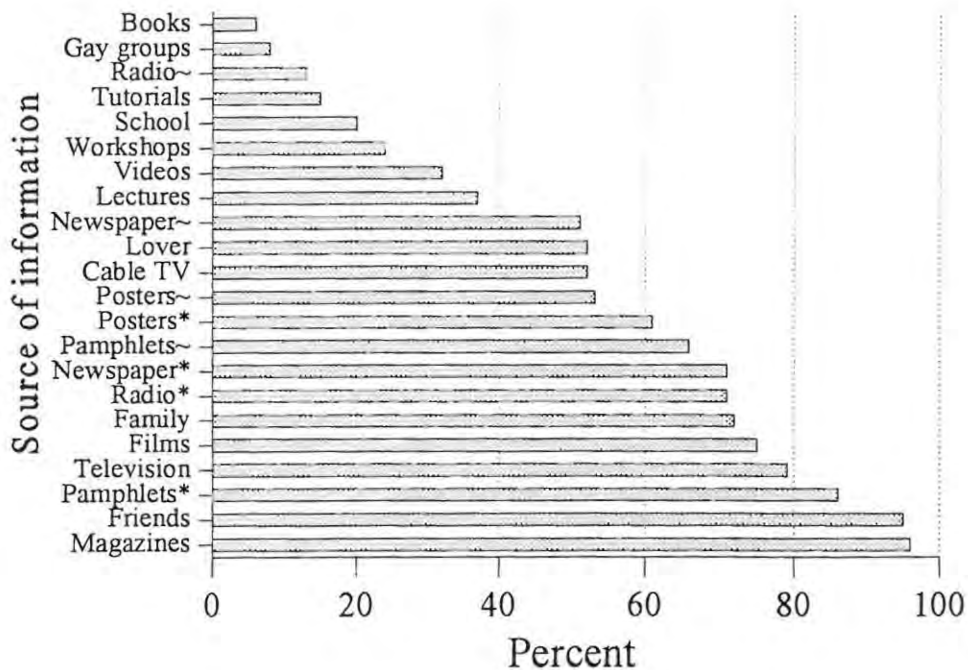


Figure 12 Sources of information about safe sex practices

* Public

~ Campus

Knowledge of safe sex practices

Over eighty percent of respondents scored 80 percent and above when questioned about their knowledge regarding safe sex practices. Less than one percent of subjects scored below 75 percent which clearly indicates that knowledge regarding safe sex practices is high (Table 1). No significant associations were found to exist between knowledge of safe sex practices and any of the following variables: age; gender; race group; degree for which registered; religion; religious devoutness; involvement in an intimate relationship; number of sexual partners; knowing someone who is living with HIV/AIDS; and frequency of latex barrier use during sexual intimacy (Tables 2 to 11).

Although some misconceptions about safe sex practices were found to exist these are few and tend to be held by a small minority of respondents. These include the belief by twenty three percent of subjects that mutual masturbation is unsafe. While there may be some risk associated with this behaviour, it is considered safe (Taylor & Lourea, 1992). Even mutual masturbation with a condom was not considered safe by 31 percent of respondents. Subjects also showed some confusion regarding the safety of naked hugging and rubbing, with 8 percent and 21 percent of respondents respectively, describing this behaviour as unsafe. Only 23 percent of respondents considered the use of sex toy as safe, but the question did not distinguish between personal or shared sex toys and may therefore reflect differing assumptions rather than any confusion in knowledge. Although penis-vagina and penis-anal penetration with a condom/latex barrier are considered "probably safe" by Taylor and Lourea (1992), these behaviours were considered unsafe by 7 percent and 19 percent of respondents respectively. In contrast to this though, and perhaps the most notable, is that almost half

(48%) of subjects see oral sex without a condom as unsafe, and only 56 percent see this practise as being safe **with** a condom. Subjects also showed some confusion regarding the risks associated with behaviour that results in contact with urine and faecal matter, perhaps reflecting the uncertainty amongst experts regarding the infectiousness of these waste products (Schoub, 1994, Taylor & Lourea, 1992).

Table 1 Respondents' knowledge-of-safe-sex-practice scores.

Scores expressed as a percentage	Percent of subjects
75% plus	6.6%
77% plus	10.6%
80% plus	18.5%
83% plus	20.5%
85% plus	24.5%
88% plus	12.6%
91% plus	6.6%

Table 2 Cross tabulation of age vs. knowledge of safe sex practices.

Chi-square	**Degrees of Freedom**	**Significance**
10.690	12	0.5557

Table 3 Cross tabulation of gender vs. knowledge of safe sex practices.

Chi-Square	**Degrees of Freedom**	**Significance**
7.285	6	0.2953

Table 4 Cross tabulation of race group vs. knowledge of safe sex practices

Chi-Square	**Degrees of Freedom**	**Significance**
17.558	12	0.1298

Table 5 Cross tabulation of degree vs. knowledge of safe sex practices.

Chi-Square	Degrees of Freedom	Significance
33.772	30	0.29

Table 6 Cross tabulation of religion vs. knowledge of safe sex practices.

Chi-Square	Degrees of Freedom	Significance
27.325	36	0.8504

Table 7 Cross tabulation of religious devoutness vs. knowledge of safe sex practices.

Chi-Square	Degrees of Freedom	Significance
34.990	24	0.0686

Table 8 Cross tabulation of involvement in an intimate relationship vs knowledge of safe sex practices.

Chi-Square	Degrees of Freedom	Significance
7.247	6	0.2986

Table 9 Cross tabulation of number of sexual partners vs knowledge of safe sex practices.

Chi-Square	Degrees of Freedom	Significance
11.127	12	0.5181

Table 10 Cross tabulation of knowing someone who is living with HIV/AIDS vs knowledge of safe sex practices.

Chi-Square	Degrees of Freedom	Significance
8.027	12	0.783

Table 11 Cross tabulation of respondents knowledge of AIDS and HIV transmission scores vs frequency of latex barrier use during sexual intimacy.

Chi-Square	Degrees of Freedom	Significance
22.326	21	0.3809

Knowledge of HIV and AIDS transmission

In general knowledge concerning HIV and AIDS transmission was better than that for safe sex practices, with ninety six percent of respondents scoring above 80 percent (Table 12). It is again apparent however, as with many other studies of young adults or adolescents (White et al. 1989; DiClemente et al. 1990), that many misconceptions do exist, in particular with regard to more specific details of HIV transmission. Thirteen percent and twenty five percent of respondents indicated that HIV could be transmitted by insects and saliva respectively. Although the HI Virus has been found in saliva, the quantities are too small for it to be of any real threat and thus saliva is not considered a route of transmission (Schoub, 1994). In addition a further thirty percent indicated they were "unsure" as to whether HIV can be contracted from domestic animals or not. Subjects were also uncertain as to whether babies are able to contract the virus through breast feeding, with nineteen percent indicating that HIV cannot be contracted in this way, and forty percent indicating they were uncertain. To the statement "If your blood tests positive for HIV you will die of AIDS", the majority of respondents (55%) indicated that this was false.

In terms of lubricants used with latex barriers, 16 percent of respondents felt that oil based lubricants like Vaseline are safe, and an additional 37 percent indicated they were not sure. Water based lubricants like K-Y Jelly were considered unsafe by 15 percent of respondents and a further 35 percent indicated they were uncertain as to how safe these kinds of lubricants are.

Significant associations were found to exist between age of respondents and their knowledge of AIDS and HIV transmission scores (x^2=19.34; d.f.=10; $p<0.05$), with older respondents attaining better marks (Table 13). Similarly a significant association was found between the respondent's race group and their knowledge of AIDS and HIV transmission scores (x^2=36.67; d.f.=10; $p<0.01$), with white subjects attaining significantly higher marks (Table 14). No significant associations were found to exist between knowledge of AIDS and HIV transmission scores and the following variables: gender; degree for which registered; religion; religious devoutness; involvement in an intimate relationship; number of sexual partners; knowing someone who is living with HIV/AIDS; and frequency of latex barrier use during sexual intimacy (Tables 15 to 22).

Table 12 Respondents' knowledge-of-HIV/AIDS-transmission scores.

Scores expressed as a percentage	Percent of subjects
78% plus	4.5%
81% plus	3.2%
84% plus	12.2%
87% plus	17.3%
90% plus	24.4%
93% plus	20.5%
96% plus	14.1%
99% plus	3.8%

Table 13 Cross tabulation of age vs. knowledge of AIDS and HIV transmission scores.		
Chi-Square	**Degrees of Freedom**	**Significance**
19.340	10	0.0362

This data was analyzed using Chi-Square. There was a significant association between the respondent's age and their Knowledge of AIDS and HIV Transmission score (x^2=19.34; d.f.=10; $p<0.05$), with older respondents attaining better scores.

Table 14 Cross tabulation of race group vs. knowledge of AIDS and HIV transmission scores.		
Chi-Square	**Degrees of Freedom**	**Significance**
36.661	10	0.0001

This data was analyzed using Chi-Square. There was a significant association between the respondent's race group and their Knowledge of AIDS and HIV Transmission score (x^2=36.661; d.f.=10; $p<0.01$), with white subjects attaining significantly higher scores.

Table 15 Cross tabulation of gender vs. knowledge of AIDS and HIV transmission.		
Chi-Square	**Degrees of Freedom**	**Significance**
9.662	5	0.0854

Table 16 Cross tabulation of degree vs. knowledge of AIDS and HIV transmission.		
Chi-Square	**Degrees of Freedom**	**Significance**
25.651	25	0.4264

Table 17 Cross tabulation of religion vs. knowledge of AIDS and HIV transmission.		
Chi-Square	**Degrees of Freedom**	**Significance**
25.737	30	0.6885

Table 18 Cross tabulation of religious devoutness vs. knowledge of AIDS and HIV transmission.		
Chi-Square	**Degrees of Freedom**	**Significance**
16.355	20	0.6943

Table 19 Cross tabulation of involvement in an intimate relationship vs knowledge of AIDS and HIV transmission.		
Chi-Square	**Degrees of Freedom**	**Significance**
0.730	5	0.9813

Table 20 Cross tabulation of number of sexual partners vs knowledge of AIDS and HIV Transmission.		
Chi-Square	**Degrees of Freedom**	**Significance**
6.645	10	0.7585

Table 21 Cross tabulation of knowing someone who is living with HIV/AIDS vs knowledge of AIDS and HIV transmission.		
Chi-Square	**Degrees of Freedom**	**Significance**
17.833	14	0.2145

Table 22 Cross tabulation of knowing someone who is living with HIV/AIDS vs frequency of latex barrier use during sexual intimacy.		
Chi-Square	**Degrees of Freedom**	**Significance**
4.101	6	0.663

Practice of safe sex

In this study 81 percent of respondents reported that they had been intimately involved with another person during the past twelve months, but only 77 percent had been sexually intimate.

Of this 77 percent, 35 percent have had multiple sexual partners, with eight percent reporting five or more sexual partners during the past year (Figure 10 and Figure 11).

In examining the use of a latex barriers when being physically intimate with a sexual partner, only 15 percent of the sample reported always using such barriers. Twenty five percent of respondents reported never having used a latex barrier and a further 36 percent use them only sometimes (Figure 13). Thus 61 percent of the sample are more often than not neglecting to use a latex barrier during sex. Despite this, 80 percent of respondents rate their risk of HIV infection as being very low. Only ten percent of respondents recognise that their sexual behaviours may be placing them above the midway mark on a risk continuum (Table 23). It was found, however, that higher subjective ratings of risk of HIV infection were significantly associated (x^2=28.65; d.f.=6; $p<0.01$) with frequency of latex barrier use, with those believing they are at a higher risk for contracting HIV using latex barriers more often (Table 24). Subjective ratings of risk of HIV infection were not significantly associated with age (Table 25), gender (Table 26), or knowing someone who is living with HIV/AIDS (Table 27).

Responding to a multiple response question, almost 15 percent of those subjects not using latex barriers reported not doing so because they felt it was not necessary in a long term monogamous relationship. A further 11 percent reported that they believed their partner was uninfected even though they were not in a long term relationship or had necessarily discussed their respective sexual histories. It is clear then that almost 30 percent of those not using latex barriers are doing so because they believe their partners are not currently, or likely to be in the future, infected with the HI Virus. Nine percent indicated that they do not use latex barriers because they are either using the pill or some other form of contraception.

Other reasons given by respondents for not using latex barriers included that they are not always available (10%), they are less intimate or pleasurable (10%), and they kill the mood or passion (7%). Relatively small numbers of respondents (approximately 3%) cited embarrassment to use or purchase these, that their partner did not allow their use, being drunk, and that they are too time consuming. Eight percent indicated that they did not use latex barriers in their sexual relations because they were not engaging in intercourse.

Only 19 percent of the sample reported having had an HIV test (Figure 14). The majority (8%) of these reported doing so because they were or are concerned about their HIV status. Five percent reported doing so for the purposes of donating blood; four percent for medical reasons such as having had an operation; and two percent for insurance purposes. Other responses included reasons such as emigrating, job interviews and having been raped (This question was a multi-response question and therefore subjects could give more than one reason).

Also found was a significant association (x^2=17.08; d.f.=9; $p<0.05$) between frequency of latex barrier use and prior HIV testing, with those that had previously had a HIV test being more likely to use a latex barrier during sexual intimacy (Table 24). In addition a significant association (x^2=10.99; d.f.=2; $p<0.01$) was found between subjective rating of risk of HIV infection and previous HIV testing, with those having previously been tested recording a significantly higher subjective rating of risk of HIV infection (Table 25).

Furthermore, no associations were found between frequency of latex barrier use and any of the following variables: knowledge of AIDS and HIV transmission scores; age; gender; current

relational status; knowledge of safe sex practice scores; and number of sexual partners (Table 11 and Tables 26 to 30). In addition to the marked general lack of latex protection, eight percent of respondents indicated that they had engaged in sexual behaviours that result in bleeding, and eight percent of subjects have engaged in anal intercourse without the use of a latex barrier. These behaviours are considered some of the most risky sexual practices in terms of HIV transmission, and indicate the poor correlation between knowledge of safe sex practices and HIV transmission and actual sexual behaviours.

A multiple response question asking what subjects understood by the concept "safe sex" resulted in the following responses: the majority of respondents provided answers that indicate they have a good idea of what is being alluded to, but there are some areas of concern. Forty three percent stated that safe sex specifically implied the use of latex barriers in all sexual contacts. Twenty four percent indicated that it was sexual behaviour that does not spread disease, but gave no indication of how this is done. A further 20 percent of respondents suggested that it implied using contraceptives, but failed to mention what kind of contraception. Fifteen percent interpreted safe sex as remaining monogamous or not being promiscuous. Eleven percent believed "safe sex" meant abstinence. Careful partner selection was listed by six percent of the sample as an explanation for "safe sex". Other responses included preventing pregnancy (4%), being aware of sexual diseases, and one person believed it implied having only an AIDS test.

RHODES UNIVERSITY LIBRARY

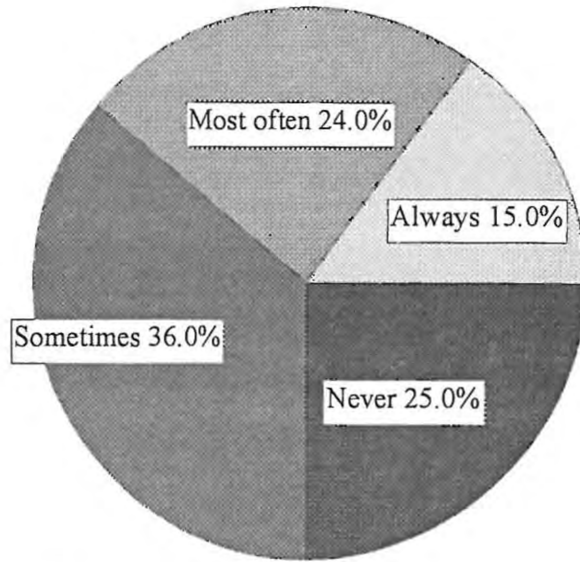


Figure 13 Frequency of latex barrier use during sexual intimacy.

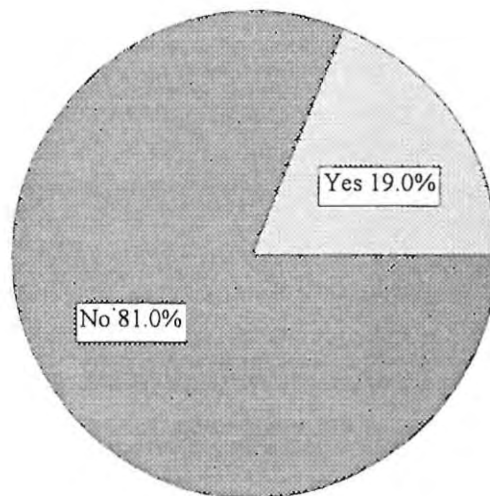


Figure 14 Respondents who have had an HIV test.

Table 23 Respondents' rating of their risk of HIV infection.		
Extremely low:	1	58%
	2	22%
	3	9%
	4	8%
	5	1%
Extremely high:	6	1%

Table 24 Cross tabulation of respondents' subjective rating of risk of HIV infection vs frequency of latex barrier use during sexual intimacy.

Chi-Square	Degrees of Freedom	Significance
28.654	6	0.0001

This data was analysed using Chi-Square. There was a significant association between the respondents' frequency of latex barrier use during sexual intimacy and their subjective rating of their risk of HIV infection (x^2=28.654; d.f.=6; p<0.01), with those that believe they are at a lower risk of infection, using latex barriers less often.

Table 25 Cross tabulation of respondents' age vs subjective rating of risk of HIV infection.

Chi-Square	Degrees of Freedom	Significance
9.352	6	0.1547

Table 26 Cross tabulation of respondents' gender vs subjective rating of risk of HIV infection.

Chi-Square	Degrees of Freedom	Significance
5.644	2	0.0595

Table 27 Cross tabulation of knowing someone who is living with HIV/AIDS vs subjective rating of risk of HIV infection.		
Chi-Square	**Degrees of Freedom**	**Significance**
1.586	4	0.8114

Table 28 Cross tabulation of prior HIV testing vs respondents' frequency of latex barrier use during sexual intimacy.		
Chi-Square	**Degrees of Freedom**	**Significance**
8.644	3	0.034

This data was analysed using Chi-Square. There was a significant association between the respondents' frequency of latex barrier use and prior HIV testing (x^2=8.644; d.f.=3; $p<0.05$), with those that have had an HIV test being more likely to use a latex barrier during sexual intimacy.

Table 29 Cross tabulation of subjective rating of risk of HIV infection vs prior HIV testing.		
Chi-Square	**Degrees of Freedom**	**Significance**
10.988	2	0.0041

This data was analysed using Chi-Square. There was a significant association between the respondents' subjective rating of risk of HIV infection and whether they had previously sought HIV testing (x^2=10.988; d.f.=2; $p<0.01$), with those reporting a higher subjective rating of risk being more likely to have previously been tested.

Table 30 Cross tabulation of age vs frequency of latex barrier use during sexual intimacy.

Chi-Square	Degrees of Freedom	Significance
8.888	9	0.4477

Table 31 Cross tabulation of gender vs frequency of latex barrier use during sexual intimacy.

Chi-Square	Degrees of Freedom	Significance
4.094	3	0.2515

Table 32 Cross tabulation of respondents' current relational status vs frequency of latex barrier use during sexual intimacy.

Chi-Square	Degrees of Freedom	Significance
10.781	9	0.2910

Table 33 Cross tabulation of respondents' knowledge of safe sex practice scores vs frequency of latex barrier use during sexual intimacy.

Chi-Square	Degrees of Freedom	Significance
26.151	18	0.0963

Table 34 Cross tabulation of number of sexual partners vs frequency of latex barrier use during sexual intimacy.

Chi-Square	Degrees of Freedom	Significance
15.301	9	0.083

Alcohol, drugs and the practice of safe sex.

Almost 80 percent of the sample indicated that they use alcohol and/or drugs(Figure 15), and 64 percent of these respondents indicated that, in general, they believe they engage in higher risk behaviours when under the influence of alcohol and/or drugs(Figure 16). Thus it seems

the majority of respondents are reporting that they engage in higher risk behaviour when under the influence of drugs or alcohol.

However, in response to a more specific question, half of those using alcohol and/or drugs, indicated that they had **not** engaged in any sexual behaviours that they would not have done so while sober or straight(Figure 17). This seems to indicate that while the majority of those using such substances **believe** that they are more likely to engage in higher risk behaviours, half of the subjects would engage in these kinds of sexual behaviours regardless of their mental state (drunk or sober).

Of those who indicated that they had engaged in sexual behaviours that they would not have engaged in had they been sober (51%), 76 percent reported that they were more likely to engage in unsafe sex practices while using alcohol and/or other substances. Almost 20 percent indicated that alcohol and/or drugs made no difference with regard to unsafe sex practices and the remainder indicated that they were less likely to engage in unsafe sex practices while using such substances (Figure 18). At first glance it appears that the majority of this sample are engaging in less-safe sexual practices while under the influence of such substances, but in reality this 76 percent reflects only 39 percent of the number of respondents who use alcohol and/or drugs, or in other words 31 percent of the total sample.

In addition no significant relationship was found to exist between the consumption of alcohol and/or drugs and the use of latex barriers (Table 35). Furthermore, no significant difference was found to exist between those who indicated that they were more likely to engage in unsafe sex practices while using alcohol and/or drugs, and those who indicated that these substances

had little or the opposite effect, in terms of making use of latex barriers during sexual activity (Table 36). It was also found that the use of alcohol and/or drugs was not significantly related to the ratings respondents gave themselves in terms of their perceived risk of HIV infection (Table 37). It was however found that respondents using alcohol and/or drugs have significantly more sexual partners (x^2=8.9; d.f.=3; p<0.05) than those who do not use such substances (Table 38). As might be expected the more religiously devout respondents were found to consume significantly less (x^2=23.6; d.f.=4; p<0.01) alcohol and/or drugs (Table 39). It was also found that there was a significant association (x^2=16.2; d.f.=7; p<0.05) between the respondents' knowledge of HIV/AIDS transmission scores and their consumption of alcohol and/or drugs, with those that consume more of these substances getting higher knowledge of AIDS/HIV transmission scores (Table 40). No significant associations were found between drug and/or alcohol consumption and the following variables: age; gender; involvement in an intimate relationship; and knowledge of safe sex practice scores (Tables 41 to 44).

When questioned (multiple response question) why respondents believe they engage in higher risk behaviour while under the influence of drugs/alcohol, 41 percent attributed this to reduced inhibitions, increased recklessness and impaired judgement. Of those who responded that alcohol/drugs do not result in higher risk behaviours, ten percent reported that they did not drink enough to lose control. Seven percent stated that they still had a responsibility to protect themselves and therefore did not engage in higher risk behaviours, and five percent believed that they would have done it all anyway regardless of their mental state. One percent attributed their friends with the responsibility for preventing them from engaging in higher risk

behaviours. Approximately two percent of those either engaging in, or not engaging in higher risk behaviours while using alcohol/drugs did not answer the question appropriately.

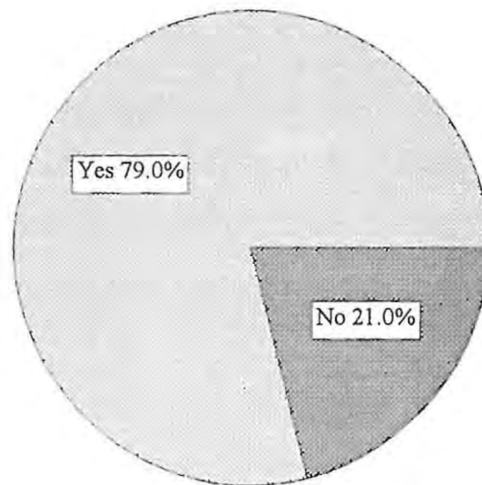


Figure 15 Alcohol and/or drug use among respondents.

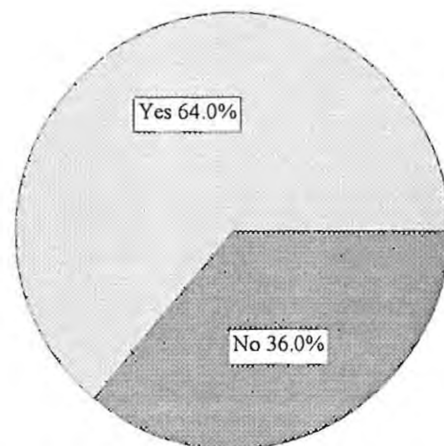


Figure 16 Respondents using alcohol and/or drugs who believe they generally engage in higher risk behaviours while under the influence of these substances.

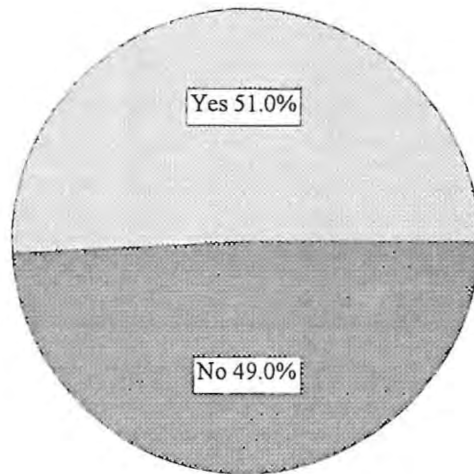


Figure 17 Frequency of respondents who, as a result of having used alcohol and/or drugs, report that they have engaged in sexual behaviours they would not have engaged in while sober.

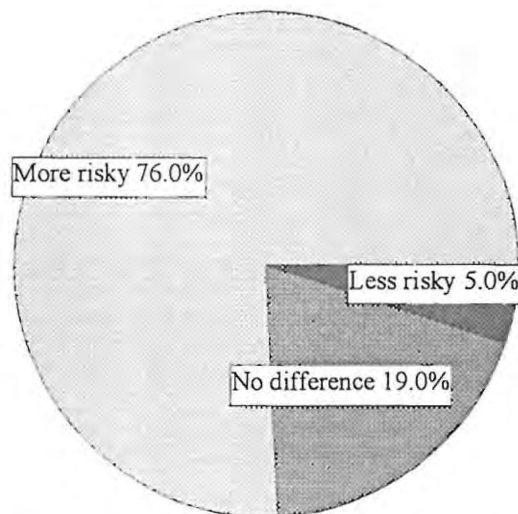


Figure 18 Direction of behavioural change in terms of risky sexual practices reported by respondents who have engaged in sexual behaviours they would not have engaged in while sober.

Table 35 Cross tabulation of use of alcohol and/or drugs vs frequency of latex barrier use during sexual intimacy.		
Chi-Square	**Degrees of Freedom**	**Significance**
7.55	3	0.0563

Table 36 Cross tabulation of respondents' unsafe sex practices while using alcohol and/or drugs vs frequency of latex barrier use during sexual intimacy.		
Chi-Square	**Degrees of Freedom**	**Significance**
8.658	6	0.1937

Table 37 Cross tabulation of respondents' subjective rating of HIV infection vs consumption of alcohol and/or drugs.		
Chi-Square	**Degrees of Freedom**	**Significance**
2.712	2	0.2577

Table 38 Cross tabulation of respondents' number of sexual partners vs consumption of alcohol and/or drugs.		
Chi-Square	**Degrees of Freedom**	**Significance**
8.933	3	0.0302

This data was analysed using Chi-Square. There was a significant association between the respondents' number of sexual partners and their consumption of alcohol and/or drugs (x^2=8.933; d.f.=3; $p<0.05$), with those using alcohol and/or drugs having more sexual partners.

Table 39 Cross tabulation of religious devoutness vs alcohol and/or drug consumption.		
Chi-Square	**Degrees of Freedom**	**Significance**
23.616	4	0.0001

This data was analysed using Chi-Square. There was a significant association between the respondents' degree of religious devoutness and their alcohol and/or drug consumption (x^2=23.616; d.f.=4; p<0.01), with the more devout respondents consuming significantly less alcohol and/or drugs.

Table 40 Cross tabulation of alcohol and/or drug consumption vs knowledge of AIDS and HIV transmission scores.		
Chi-Square	**Degrees of Freedom**	**Significance**
16.236	7	0.023

This data was analysed using Chi-Square. There was a significant association between the respondents' knowledge of AIDS/HIV transmission score and their consumption of alcohol and/or drugs (x^2=16.236; d.f.=7; p<0.05), with those that consume alcohol and/or drugs getting higher knowledge of AIDS/HIV transmission scores.

Table 41 Cross tabulation of age vs consumption of alcohol and/or drugs.		
Chi-Square	**Degrees of Freedom**	**Significance**
0.585	3	0.8998

Table 42 Cross tabulation of gender vs consumption of alcohol and/or drugs.		
Chi-Square	**Degrees of Freedom**	**Significance**
2.993	1	0.0836

Table 43 Cross tabulation of involvement in an intimate relationship vs consumption of alcohol and/or drugs.

Chi-Square	Degrees of Freedom	Significance
1.128	3	0.7704

Table 44 Cross Tabulation of knowledge of safe sex practice score vs consumption of alcohol and/or drugs.

Chi-Square	Degrees of Freedom	Significance
5.142	6	0.5258

Risk taking and unprotected sex.

The vast majority of respondents are either moderately inclined (66%) or strongly inclined (23%) to take psychological risks in general (Figure 19). This trend was also reflected in the self-improvement (Figure 20), commitment (Figure 21), and self-disclosure (Figure 22) risk categories with only 11 percent, 14 percent, and 28 percent respectively, of respondents indicating that they tend to avoid such risks. The tendency for respondents to enjoy various behavioural risks is also clear, as most subjects have indicated that they either "highly enjoy" or "enjoy" engaging in the risky activities listed in the questionnaire (Table 45).

In addition it was found that no significant relationship existed between any of the psychological risk scales and unprotected sex, or between any of the behavioural risk items and unprotected sex.

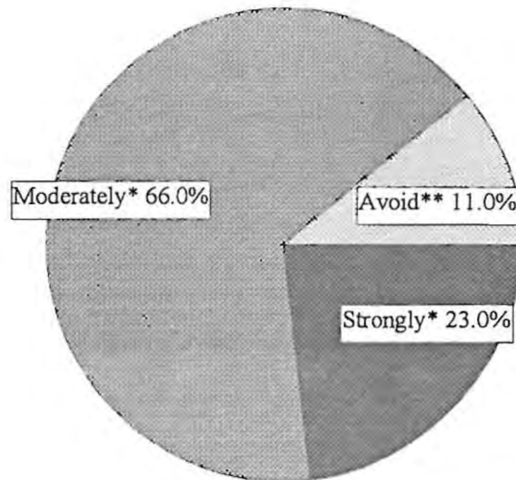


Figure 19 Respondents' tendency to take psychological risks.

*... inclined to take such risks.

** Tend to avoid such risks.

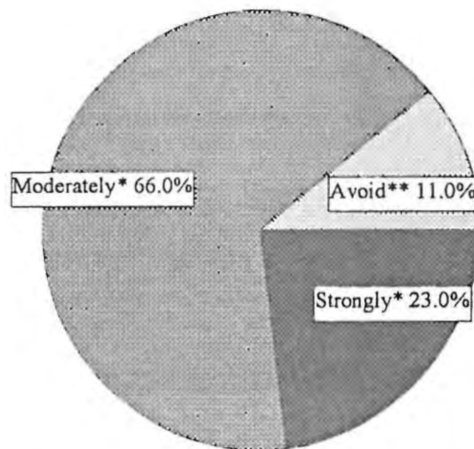


Figure 20 Respondents' tendency to take self-improvement risks.

*... inclined to take such risks.

** Tend to avoid such risks.

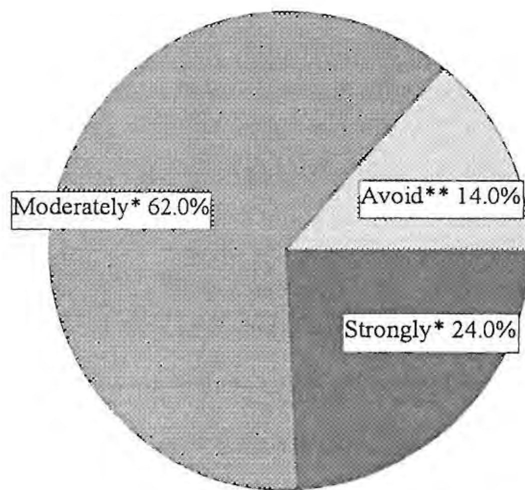


Figure 21 Respondents' tendency to take commitment risks.

*... inclined to take such risks.

** Tend to avoid such risks.

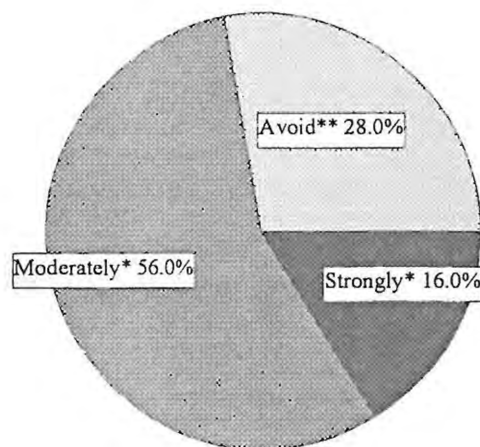


Figure 22 Respondents' tendency to take self-disclosure risks.

*... inclined to take such risks.

** Tend to avoid such risks.

Table 45 Respondents' tendency to enjoy behavioural risks				
Risky behaviour:	Highly Enjoyable	Enjoyable	Not Enjoyable	Very Unpleasant
Contact sports*	39%	27%	15%	19%
Parachuting	32%	17%	22%	29%
Living on the edge*	20%	35%	29%	16%
Bungi jumping	31%	16%	12%	41%
Gambling*	17%	23%	31%	29%
Driving fast*	29%	35%	17%	19%
Stock exchange investing	19%	10%	21%	50%
Driving without seat belt*	9%	11%	23%	57%
Breaking the law*	4%	20%	21%	55%
Scuba diving	57%	13%	12%	18%
Taking chances*	24%	38%	29%	9%
* Over 70% of respondents have engaged in these activities				

CHAPTER FIVE

DISCUSSION

Although a small number of respondents reported sexual orientations other than heterosexual, the figures obtained in this study are very similar to those of other research using students as subjects, both in South Africa and abroad (Friedland et al. 1991; Keller, 1993; MacDonald et al. 1990). The small number of subjects identified as homosexual and/or bisexual make behavioural comparisons between these respective groups and heterosexuals particularly tenuous in almost all studies except those with very large sample numbers. For this reason the findings of most studies, including this one, concerning adolescents and/or young adults apply primarily to heterosexuals.

Perhaps one of the reasons for low percentages of homosexual and/or bisexual respondents in studies of adolescents and young adults is that, as young people, many may not yet have resolved conflicts concerning their sexual identities. The fact though that sexual concerns are common to almost all young people may mean that the degree of sexual experimentation is comparable regardless of sexual orientation, and thus sexual behaviour patterns among young people may be similar regardless of sexual orientation.

Sources of information

Informal discussions with friends and family both ranked among the first six most commonly mentioned sources, and this suggests that young adults are sufficiently concerned about AIDS and its prevention to be discussing it with their friends and family. It also seems to indicate that few difficulties are experienced in talking about this subject. The fact however, that little over half of the respondents indicated that they had discussed safe sex practices with their lovers suggests that young adults are not talking about safe sex practices to who it would be most appropriate.

A variety of reasons may account for this, but perhaps it illustrates the different ways in which concerns regarding HIV infection and sexual interactions are dealt with. Concerns regarding HIV infection are largely cognitive, with perhaps an emotional component only in certain specific situations, whereas sexual interactions are largely instinctually driven, primarily emotional and rarely purely cognitive. It would seem thus that in situations where discussions regarding safe sex practices subvert sexual and emotional needs through the introduction of cognitive processes, as might happen with casual sexual partners, persons avoid entering into this kind of dialogue.

Unfortunately school as a source of information ranked among the lowest five sources mentioned by respondents. This clearly indicates that not enough is being done in schools to educate young people about AIDS.

Knowledge of safe sex practices

While knowledge-of-safe-sex-practice scores reflect excellent knowledge, some misconceptions do exist. Where these exist they tend to reflect an exaggeration of the risks associated with various sexual behaviours which are generally considered safe, rather than specific erroneous beliefs or an absence of factual knowledge. While these errors may not be considered serious by many, particularly staunch moralists, they may result in unsafe sex practices in that young adults are not informed as to what is safe and therefore lack the knowledge required for making informed choices. The most obvious example of this concerns the practice of oral sex, where most respondents indicated that this was a risky practice when in fact a risk probability of about three-ten-thousandths of 1 percent has been calculated based on a 1992 New York State Department of Health Study (Odets, 1993). Thus it seems this practice is a lot less risky than is generally believed by those surveyed in this study.

In addition, having engaged in safe sexual behaviours considered to be "unsafe" by adolescents or young adults, they may then feel there is little reason to refrain from engaging in any additional behaviours which are indeed unsafe. Bolton (1992) elaborates on the risks associated with a lack of specific knowledge regarding the differing risks of various sexual behaviours in terms of HIV infection, and highlights the need for large scale honest and detailed education for adolescents, without the moralizing, if they are to understand that there are valid alternatives, besides abstinence, to unsafe sexual practices. Despite these misconceptions knowledge of safe sex practices is excellent and is certainly as high, if not higher than that found in studies carried out in the USA, UK or Australia.

Knowledge of HIV and AIDS transmission

Despite the fact that some misconceptions exist regarding both HIV transmission and safe sex practices, knowledge is generally excellent, and perhaps better than that reflected in other studies using similar samples. In the light of this it is apparent that knowledge levels are at least as high as those reported in studies carried out overseas, and in many cases somewhat higher. There are however indications that any information presented to adolescents and young adults needs to more specific and informative regarding the relative risks of certain specific sexual behaviours, particularly with regard to what is safe. Without this knowledge young adults are unable to make informed choices with regard to the risks they want to or are prepared to take, since it appears that almost all sexual behaviour is viewed as dangerous by large sections of this sample. The fact that half of the sample were unaware that K-Y jelly is in fact a safe lubricant while Vaseline is not, indicates the seriousness of some of the "holes" in terms of knowledge regarding what is safe.

It is also clear that adolescents and young adults do not personalise the very real risk of HIV infection and this is perhaps most evident in the response by over half of the sample that they did not believe they would die should their blood test positive for HIV infection. Although the possibility exists that those testing positive for HIV will not die of AIDS, the vast majority of sufferers have done so, and it is therefore generally accepted that this statement is true. Moreover, although recent popular publications have publicised data concerning individuals who have not died, are immune, or even capable of eliminating the virus from their bodies (Thompson, 1996), such popular publications were not in print at the time at which this data was collected and are therefore not likely to be responsible for this kind of thinking. This high

percentage of respondents not acknowledging the very high likelihood of death once having contracted the virus, may reflect a denial of the real risks, or perhaps a wish not to personalise the danger (Fisher & Misovich, 1990). In addition it may also illustrate the feeling of immortality that young people tend to experience.

Practice of safe sex

Although it has already been argued that promiscuity, or the lack thereof, is in and of itself not a valid safe sex practice, a brief mention of it will be made for the sake of comparison. In a study done by Friedland et al. (1991) at the University of Witwatersrand 71 percent of male and 54 percent of female students were found to have been sexually active; with 16 percent having had more than one sexual partner in the last six months. DiClemente et al. (1990) found that 93 percent of their sample of college students in the USA had been sexually active in the past year; and of these, 43 percent have had multiple sexual partners "with a substantial proportion (9%) reporting five or more sexual partners during the year" (p. 207). Crawford et al. (1990) found that 63 percent and 57 percent of Australian students at Macquarie University and the University of Sidney respectively have engaged in sexual intercourse. Although no mention is made of the numbers of sexual partners, these total percentages are somewhat lower than other studies, including this one. They do however stress that only condom use is regarded as effective in preventing infection, and perhaps this is the reason for omitting any mention of numbers of sexual partners.

From this it is apparent that the number of sexually active respondents is higher than that found at the University of Witwatersrand, as is the number of respondents reporting sexual

intimacy with multiple partners. These figures are also higher than those recorded at two Australian Universities, but slightly lower than those recorded at an American college. It is therefore apparent that this sample is as sexually active, if not more so, with as many sexual partners as has been found in samples of college students studied around the world.

It is primarily as a result of the high numbers of sexual partners that adolescents and young people are reputed to have that has resulted in their classification as a high risk group. In this regard then, and in terms of past educational policies in South Africa and in the United States (Cilliers, 1991; Bolton, 1992), this sample would not be considered to be behaving responsibly in terms of protecting themselves from the sexual transmission of HIV. It may therefore be tempting at this point to conclude that despite excellent levels of knowledge regarding safe sex practices and HIV transmission, this knowledge is not positively correlated with, or influencing safe-sex-behaviour in a positive way since there is clear evidence of high levels of promiscuity. To do so, though, would be premature, given that numbers of sexual partners has been shown to be a poor measure of safe sex practice.

Figure 13 illustrates the rates of latex barrier use when being physically intimate with a sexual partner and it is clear that the large majority of subjects are more often than not neglecting to use a latex barrier during sexual intimacy. Although most studies of adolescents and young adults show low rates of condom use, these figures tend to be lower than those reported in studies done primarily in the USA (MacDonald et al. 1990; Skurnick et al. 1991). South African studies however in general, as with this one, tend to reveal consistently lower rates of condom or latex barrier use (Friedland et al. 1991; Mathews et al. 1990). This may be because South Africans are less comfortable talking about things sexual, and may therefore

have difficulties negotiating the use of latex barriers. The lack of communication regarding AIDS, HIV and safe sex practices between lovers in comparison to family and friends has already been noted. The particularly conservative, authoritarian, and paternalistic culture within South Africa where historically anything sexual was immediately censored or shielded, especially from woman, may have facilitated dialogical difficulties between the sexes. The relative lack of sexual experience, and very normal levels of uncertainty or insecurity around sexual relations would only exaggerate these communicative difficulties amongst young adults and adolescents.

Qualitative data indicates that the most common reason for not using a latex barrier is that respondents believe their partners are not infected with the HI Virus. This includes persons in long term relationships who feel that latex barriers are not necessary because they "know" their partners, and those who are not in a long term relationship but are still certain that their sexual partners are not infected. This is particularly concerning since it is impossible to simply "know" the serum status of ones' partner without formal testing, and very few respondents have in fact been tested. Almost ten percent do not use latex barriers because they are on the pill or use some other form of contraception, and this is also of concern if it reflects the misconception that such methods are effective in preventing the spread of HIV. Given the high levels of knowledge regarding HIV transmission however, it is more likely that these persons are also either in a long term relationship and therefore "know" their partner (serum status and all), or simply "know" their casual partners are not carriers of the HI Virus. Rosenthal and Shepherd (1993, p 53-54) identify the belief that infected people can be detected and avoided as one of a wide range of invalid strategies that adolescents use to rationalise irregular (or non-) use of condoms.

This finding is particularly concerning when, as has been argued in this report, latex barriers are considered the only effective means of preventing the sexual transmission of HIV. Only 15 percent of the sexually active respondents are always making use of a latex barrier during sex. This clearly illustrates that neither high levels of knowledge regarding safe sex practices nor of HIV transmission are positively correlated with safe-sex-practice behaviours.

Due to various anti-smoking campaigns it is now well known that scare tactics tend not to result in long term behavioural change, and the same appears to be true regarding AIDS education. It does however appear that some subjective feeling of risk may be involved, and perhaps be necessary in motivating young adults to use latex barriers since a significant association was found between subjective rating of risk of HIV infection and frequency of latex barrier use, with those of higher subjective ratings of risk utilising latex barriers more frequently. Perhaps it is those who have personalised the risk of HIV infection that give themselves both a slightly higher subjective rating of risk, and tend to use latex barriers more frequently. In addition, a significant association was found between frequency of latex barrier use and HIV testing, with those having previously had and HIV test using latex barriers more regularly. The majority of those having had an HIV test report doing so because they were or are concerned about their HIV status, here again perhaps because they have to some extent personalised the risks of HIV infection. In both instances though those who are more aware of their risk of HIV infection and/or are concerned about their HIV status, appear to more readily make use of latex barriers during sexual intimacy. Perhaps then, sensitising adolescents to the personal risks of contracting HIV is one way of increasing latex barrier use.

The relationship between individuals' personal sense of risk of HIV infection and latex barrier use may not be quite as simple as it appears, since it was also found that knowing someone who is living with HIV or AIDS - which one may expect might elevate ones subjective rating of risk - was not significantly correlated with frequency of latex barrier use. Perhaps more research is needed to examine if in fact it is personalization of risk that is involved in the adoption of latex barriers as a preventative measure against HIV infection. Additional information about the person-known-to-be-living-with-HIV/AIDS would also be very useful since it may then be possible to access how similar or dissimilar this person is perceived to be in relation to each respondent. It may be that such persons are perceived as being very different and therefore part of an "outgroup", and "nothing like me". Such stereotyping would circumvent any cognitive dissonance that might arise, thus enabling persons to acknowledge that acquaintances and friends can become infected with the HI Virus without necessarily accepting that they may be equally at risk for infection.

In responding to a multiple response question regarding their understanding of "safe sex", only forty three percent specifically stated that it implied the use of latex barriers to prevent the exchange of bodily fluids. However most of the more scanty responses did indicate some understanding of the concept of safe sex, and many of these "incomplete explanations" may reflect attempts to be brief, rather than insufficient knowledge. Of concern however are the number of responses that reflect a range of strategies young people tend to use to rationalise their risky sexual behaviour. These include "adherence to romantic notions about the long-term and monogamous nature of serial relationships", and the belief that infected people can be detected (Rosenthal & Shepherd, 1993, p 54).

Abstinence as a safe sex practice is listed by over ten percent of the sample, and as such is an effective safe sex measure, provided one is able to remain abstinent! Some however have argued how "abstinence" as a safe sex measure may in fact be futile and perhaps even increasing the potential for unprotected sex when such attempts fail, since all measures of protection are therefore likely to be abandoned (Bolton, 1992). In addition, it is unlikely that anyone who is attempting to remain abstinent will have ready access to latex barriers should they suddenly decide to end their commitment to celibacy.

With the large majority of sexually active subjects in this sample neglecting to make regular use of a latex barrier, and the significant minority of subjects engaging in particularly high risk behaviours, it is not possible to accept the hypothesis that high levels of knowledge about AIDS, HIV and safe sex practices are positively correlated with safe-sex-practice behaviour. As such it is rejected in favour of the null hypothesis.

Alcohol, drugs and the practice of safe sex

The majority of those using alcohol and/or drugs believe that they are more likely to engage in higher risk behaviours while under the influence of such substances, but only half are engaging in behaviours they would not have while sober or straight, and even then not all of these respondents indicate that they are more likely to engage in unsafe sex practices. It appears that although the belief that alcohol and drugs will result in unprotected sex is present, actual occurrences of such behaviour do not support this. Perhaps then, it is not so much the nature of one's behaviour while under the influence of such substances that inform the assumption

that alcohol and drugs lead to riskier sexual behaviour, but the nature of one's beliefs about alcohol and drugs and their assumed effect on sexual behaviours.

This tends to be supported by the lack of significant associations between alcohol and/or drug consumption and the use of latex barriers, and the absence of significant differences between those who report being more likely to engage in unsafe sexual practices while using alcohol and/or drugs versus those who report being less likely to engage in or no different in terms of unsafe sexual practices. Alcohol was also not significantly associated with subjective ratings of risk of HIV infection.

The consumption of alcohol and/or drugs was significantly associated with increasing numbers of sexual partners but this is not indicative of unsafe sexual practices since it has been argued that promiscuity , or the lack thereof, is not a valid safe sex practice. In addition, it was found that those consuming more alcohol and/or drugs scored significantly higher on scores for knowledge of HIV/AIDS transmission. Perhaps those who consume more alcohol tend to be more sociable and as a result have more opportunities for a greater number of sexual partners. Their greater sociability may also have resulted in better knowledge of AIDS/HIV transmission since it has been noted that informal discussions with friends was one of the two most frequently mentioned sources of information regarding safe sex practices.

It is significant that those who do not believe alcohol and/or drugs increases their likelihood of higher risk behaviours supply reasons that support a continued ability to take responsibility, rather than an inability to do so, or even perhaps an inability to engage in sexual behaviour

while intoxicated, . It may be that people are using such substances to facilitate their engaging in higher risk behaviours in order to feel less responsible and therefore more free.

While the majority of the respondents appear to believe that alcohol and drugs lead to riskier sexual behaviour, this study has not supported such a premise. As indicated by other authors (Bolton, 1992; Odets, 1993) such beliefs may be based in folk lore, and people may be drinking or using drugs in order to engage in [(un)safe] sexual behaviour, rather than engaging in such sexual behaviours as a result of substance (ab)use. In response to these findings the hypothesis that unsafe sexual practices increase with the consumption of alcohol and drugs must be rejected in favour of the null hypothesis.

These myths need to be corrected according to Bolton (1992) since they may reinforce the folk theory of a linkage between sex and alcohol; and in doing so, "emphasizing that alcohol may be positively dangerous, increasing rather than reducing the likelihood of risky sex by giving people an excuse for engaging in behaviour that they otherwise might not have" (p. 215). Given the apparent belief amongst respondents that alcohol and drugs increase the risk of unsafe sex, without any concrete indications of such a relationship, it appears there is a necessity to correct this thinking rather than allowing it to turn into a self-fulfilling prophecy.

Risk taking and unprotected sex

On the basis of Baldwin and Baldwin (1988) finding that the use of seat belts while driving was a consistent predictor of cautious sexual behaviour, it was hypothesised that no significant relationship exists between proneness to risk taking and unprotected sex. The lack of

literature on proneness to risk taking suggests that it has not yet been considered a predictor of unprotected sex, and thus an attempt was made to understand the nature of such a relationship should it exist. Several items in the questionnaire focus on the respondents psychological and behavioural risk profiles.

Results illustrate that respondents are strongly inclined to take risks, both physical and psychological, but no significant relationships were found to exist between any of the psychological or behavioural risk items and unprotected sex. Thus any relationship that may exist between these variables is extremely tenuous and the hypothesis that no significant relationship exists between proneness to risk taking and the incidence of unprotected sex has to be accepted. It is however worth noting that the sample appears to be especially prone towards risk taking, perhaps as would be expected amongst a group of young adults, and thus while no relationship has emerged in this study, it may yet be established with a more sensitive instrument. In addition, because rates of unprotected sex are very high, most people are engaging in unprotected sex regardless of their risk profiles.

It is however important to note that although respondents appear particularly inclined to take both psychological and physical risks this may also be a reflection of the tendency for society to hold risk takers in high esteem. Subjects may be responding in a way that reflects not so much how they **are** in terms of their risk taking behaviour, but rather as they would like to be seen, both by themselves and by others. The tendency for subjects to respond to questionnaires in socially acceptable or favoured ways is well known (Taylor & Bogdan, 1984). The fact that there is a tendency to dislike those pursuits that are socially frowned

upon, such as gambling; or against the law, such as not wearing seat belts while driving or purposefully breaking the law, perhaps adds some weight to this premise.

Problems experienced in this study

In the course of writing up this study several difficulties with the questionnaire emerged which were not apparent after having conducted the pilot study. It was problematical that drugs and alcohol had not been separated in this study since different substances would obviously have differing effects, and perhaps certain drugs do play a pivotal role in unprotected sex. Despite the fact that drugs have been included, there is little to suggest unprotected sex increases with the consumption of alcohol and/or drugs. It was for the most part assumed, based on data gathered by Auld (1993), that a small minority of subjects are utilising substances other than alcohol.

There were several questions that were misread by some of the participants and this may have been related to the rather lengthy nature of the questionnaire since these errors tended to occur in the latter sections. The partially ambiguous nature of some of the terminology in the questionnaire was noted, but this was only an issue in questions 25 and 26 where the terms "intimate" and "sexually intimate" were not necessarily interpreted as being different by many of the respondents.

CHAPTER SIX

CONCLUSION

Clearly the level of knowledge regarding safe sex practices and HIV transmission among students is high. It is however evident that students are not certain of the relative risks of various sexual practices and in particular they appear to lack an awareness of sexual practices currently considered safe. It is therefore imperative that educational programmes equip students with the knowledge of the relative risks of alternative sexual practices. Despite these high levels of knowledge regarding safe sex practices and HIV transmission students continue to engage in sexual practices which are considered risky, perhaps partly because they are unaware of safer alternatives, other than abstinence. It is however also apparent that young adults fail to personalise the threat of AIDS, and continue to hold erroneous beliefs or rationalisations which excuse their unsafe sexual behaviours. These, too, need to be vigorously challenged if young people are to begin behaving in ways that reduce their risk of HIV infection.

There is also no evidence to support the alcohol/risky sex hypothesis despite the fact that the majority of respondents believe that they are more likely to engage in high risk behaviours while under the influence of alcohol and/or drugs. It appears, as has been suggested by other authors, that young adults may be drugging/drinking to engage in (unsafe) sex, rather than engaging in (unsafe) sex because they have been drugging/drinking. It is however somewhat

confounding that drugs and alcohol are combined in this study, and an examination of drugs alone would provide valuable data which has - as far as the author is aware - not yet been studied.

The risk taking profiles of respondents is particularly high, for both psychological and behavioural risks, as are the rates of unprotected sex, and no significant relationship was found to exist between these two variables. It was surmised that should such a relationship exist a more refined or sensitive questionnaire may need to be developed to discriminate between differing populations.

A large proportion of the respondents found the questionnaire particularly thought provoking as many expressed their feelings of vulnerability , nervousness and ignorance regarding HIV and AIDS. By far the most common additional comment provided by the subjects centred on the theme that not enough is being done to educated people about AIDS. It is hoped that this research, together with the accompanying lecture provided valuable inputs for those participating in the study.

CHAPTER SEVEN

REFERENCES

Abdool Karim, S. S., Abdool Karim, Q., Preston-Whyte, E., & Sankar, N. (1992). Reasons for lack of condom use among high school students. *South African Medical Journal,* 82(2), 107-110.

Auld, S. M. (1993). *Attitudes towards, and usage of, cannabis and alcohol amongst a cross section of Rhodes University undergraduates, in 1993.* Unpublished Honours thesis, Rhodes University, Grahamstown.

Baldwin, J. D., & Baldwin, J. I. (1988). Factors affecting AIDS-related sexual risk-taking behaviour among college students. *The Journal of Sex Research,* 25(2), 181-196.

Baldwin, J. I., Whiteley, S., & Baldwin, J. D. (1990). Changing AIDS and fertility related behaviour: The effectiveness of sex education. *The Journal of Sex Research,* 27(2), 245-262.

Becker, M. H. & Joseph, J. G. (1988). AIDS and behavioural change to reduce risk: A review. *American Journal of Public Health,* 78(4), 394-410.

Blumstein, P. & Schwartz, P. (1983). *American Couples: Money, Work, Sex.* New York: William Morrow.

Bochow, M. (1990). AIDS and gay men: Individual strategies and collective coping. A follow-up study of gay men in the Federal Republic of Germany. *European Sociological Review,* 6(2), 181-188.

Boldero, J., Moore, S., & Rosenthal, D. (1992). Intention, context, and safe sex: Australian adolescents' responses to AIDS. *Journal of Applied Social Psychology,* 22(17),1374-1396.

Bolton, R. (1992). AIDS and promiscuity: Muddles in the models of HIV prevention. In R. Bolton & M. Singer (Eds.), *Rethinking AIDS Prevention* (pp. 7-85). USA: Gordon and Breach Science Publishers.

Bolton, R., Vincke, J., Mak, R., & Dennehy, E. (1992). Alcohol and risky sex: In search of an elusive connection. In R. Bolton & M. Singer (Eds.), *Rethinking AIDS Prevention* (pp. 185-225). USA: Gordon and Breach Science Publishers.

Bruce, K. E., Shrum, J. C., Trefethen, C., & Slovik, L. F. (1990). Students' attitudes about AIDS, homosexuality, and condoms. *AIDS Education and Prevention,* 2(3), 220-234.

Catania, J. A., Turner, H., Pierce, R. C., Golden, E., Stocking, C., Binson, D., & Mast, K. (1993). Response bias in surveys of AIDS related sexual behaviour. In D. G. Ostrow and R. C. Kessler (Eds.), *Methodological issues in AIDS behavioural research* (pp. 133-162). New York: Plenum Publishing Corporation.

Cilliers, C. (1991). The role of South African schools in the prevention of AIDS. In A. Van Niekerk (Ed.), *Aids in Context: A South African Perspective* (pp. 75-90). Cape Town: Lux Verbi.

Citizens Commission on AIDS for New York City and Northern New Jersey. Carol Levine, Executive Director. (1991). AIDS prevention and education: Reframing the message. *AIDS Education and Prevention,* 3(2), 147-163.

Clapper, R. L., & Lipsitt, L. P. (1991). A retrospective study of risk-taking and alcohol-mediated unprotected intercourse. *Journal of Substance Abuse,* 3(1), 91-96.

Clayton, R. R., & Bokemeier, J. L. (1980). Premarital sex in the seventies. *Journal of Marriage and the Family,* 42(4), 34-50.

Cochran, S. D., & Mays, V. M. (1990). Sex, lies, and HIV. *New England Journal of Medicine,* 322(11), 774-775.

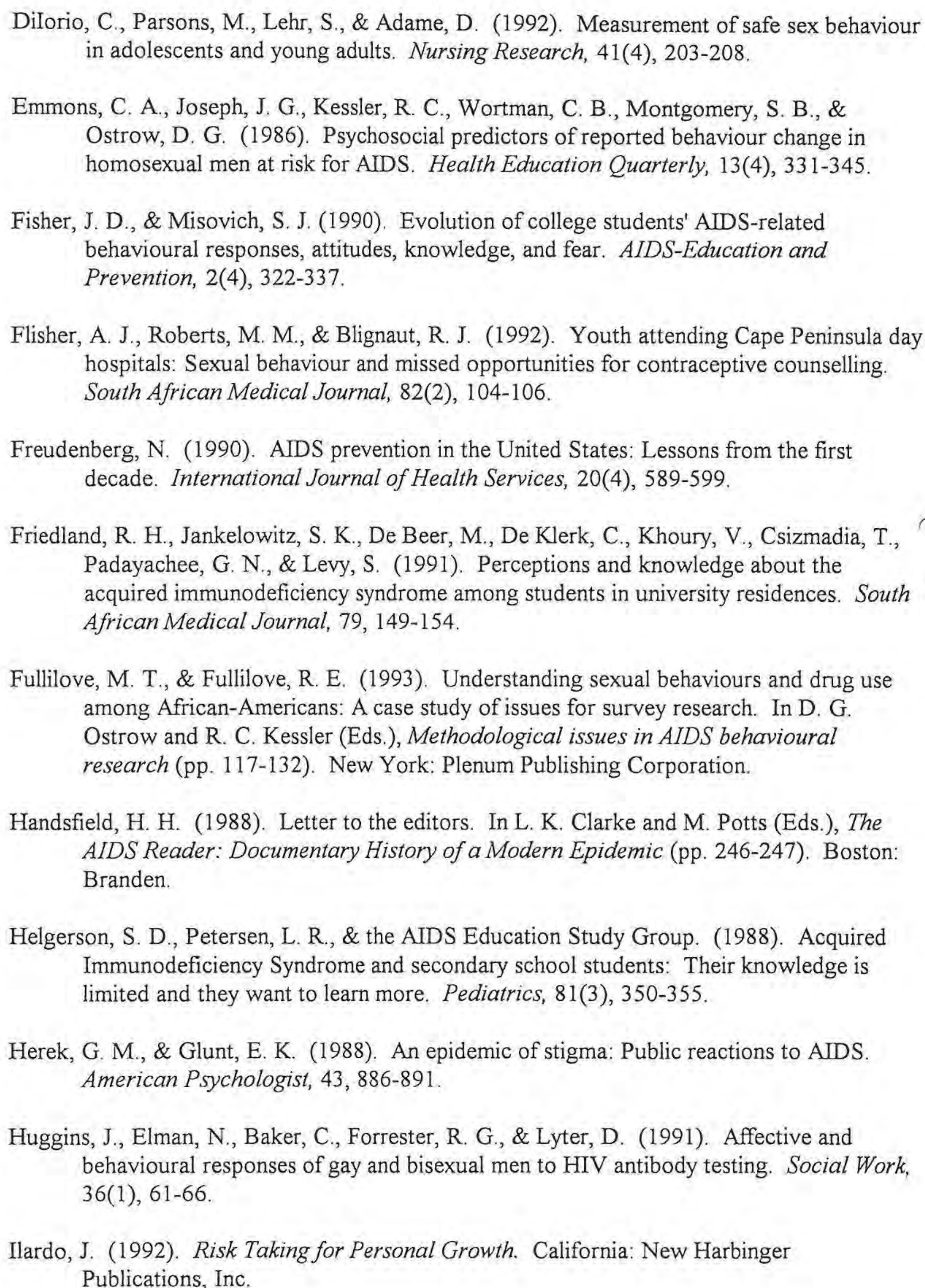
Crawford, J., Turtle, A., & Kippax, S. (1990). Student favoured strategies for AID avoidance. *Australian Journal of Psychology,* 42(2), 123-137.

De Buono, B. A., Zinner, S. H., Daamen, M., & McCormack, W. M. (1990). Sexual behaviour of college woman in 1975, 1986, and 1989. *New England Journal of Medicine,* 322, 821-825.

DiClemente, R. J., Forrest, K. A., Mickler, S., & Principal Site Investigators. (1990). College students' knowledge and attitudes about AIDS and changes in HIV-preventive behaviours. *AIDS Education and Prevention,* 2(3), 201-212.

DiClemente, R. J., Boyer, C. B., & Morales, E. S. (1988). Minorities and AIDS: Knowledge, attitudes, and misconceptions among black and latino adolescents. *American Journal of Public Health,* 78, 55-57.

DiClemente, R. J., Zorn, J., & Temoshok, L. (1988). Adolescents and AIDS: A survey of knowledge, attitudes, and beliefs about AIDS in San Francisco. *American Journal of Public Health,* 76, 1443-1445.



DiIorio, C., Parsons, M., Lehr, S., & Adame, D. (1992). Measurement of safe sex behaviour in adolescents and young adults. *Nursing Research,* 41(4), 203-208.

Emmons, C. A., Joseph, J. G., Kessler, R. C., Wortman, C. B., Montgomery, S. B., & Ostrow, D. G. (1986). Psychosocial predictors of reported behaviour change in homosexual men at risk for AIDS. *Health Education Quarterly,* 13(4), 331-345.

Fisher, J. D., & Misovich, S. J. (1990). Evolution of college students' AIDS-related behavioural responses, attitudes, knowledge, and fear. *AIDS-Education and Prevention,* 2(4), 322-337.

Flisher, A. J., Roberts, M. M., & Blignaut, R. J. (1992). Youth attending Cape Peninsula day hospitals: Sexual behaviour and missed opportunities for contraceptive counselling. *South African Medical Journal,* 82(2), 104-106.

Freudenberg, N. (1990). AIDS prevention in the United States: Lessons from the first decade. *International Journal of Health Services,* 20(4), 589-599.

Friedland, R. H., Jankelowitz, S. K., De Beer, M., De Klerk, C., Khoury, V., Csizmadia, T., Padayachee, G. N., & Levy, S. (1991). Perceptions and knowledge about the acquired immunodeficiency syndrome among students in university residences. *South African Medical Journal,* 79, 149-154.

Fullilove, M. T., & Fullilove, R. E. (1993). Understanding sexual behaviours and drug use among African-Americans: A case study of issues for survey research. In D. G. Ostrow and R. C. Kessler (Eds.), *Methodological issues in AIDS behavioural research* (pp. 117-132). New York: Plenum Publishing Corporation.

Handsfield, H. H. (1988). Letter to the editors. In L. K. Clarke and M. Potts (Eds.), *The AIDS Reader: Documentary History of a Modern Epidemic* (pp. 246-247). Boston: Branden.

Helgerson, S. D., Petersen, L. R., & the AIDS Education Study Group. (1988). Acquired Immunodeficiency Syndrome and secondary school students: Their knowledge is limited and they want to learn more. *Pediatrics,* 81(3), 350-355.

Herek, G. M., & Glunt, E. K. (1988). An epidemic of stigma: Public reactions to AIDS. *American Psychologist,* 43, 886-891.

Huggins, J., Elman, N., Baker, C., Forrester, R. G., & Lyter, D. (1991). Affective and behavioural responses of gay and bisexual men to HIV antibody testing. *Social Work,* 36(1), 61-66.

Ilardo, J. (1992). *Risk Taking for Personal Growth.* California: New Harbinger Publications, Inc.

Kalton, G. (1993). Sampling considerations in research on HIV risk and illness. In D. G. Ostrow and R. C. Kessler (Eds.), *Methodological issues in AIDS behavioural research* (pp. 53-74). New York: Plenum Publishing Corporation.

Keller, M. L. (1993). Why don't young adults protect themselves against sexual transmission of HIV? Possible answers to a complex question. *AIDS Education and Prevention*, 5(3), 220-233.

Leigh, B. C. (1990). The relationship of substance use during sex to high-risk sexual behaviour. *The Journal of Sex Research*, 27(2), 199-213.

Madhok, R., McCallum, A. K., McEwan, R., & Bhopal, R. S. (1993). Students knowledge and behaviour concerning safer sex: A UK study. *Journal of American College Health*, 42(3), 121-125.

Mann, J. (1987). AIDS in Africa. *New Scientist*, 1553, 40-43.

Marmor, M., Laubenstein, L., William, D. C., Friedman-Kien, A. E., Byrum, R. D., D'Onofrio, S., & Dubin, N. (1982). Risk factors for Kaposi's Sarcoma in homosexual men. *Lancet*, 1, 1083-1087

Martin, J. L. (1986). AIDS risk reduction recommendations and sexual behaviour patterns among gay men: A multifactorial categorical approach to assessing change. *Health Education Quarterly*, 13(4), 347-358.

Mathews, C., Kuhn, L., Metcalf, C. A., Joubert, G., & Cameron, N. A. (1990). Knowledge, attitudes, and beliefs about AIDS in township school students in Cape Town. *South African Medical Journal*, 78, 511-516.

McDonald, N. E., Wells, G. A., Fisher, W. A., Warren, W. K., King, M. A., Doherty, J. A., & Bowie, W. R. (1990). High-risk STD/HIV behaviour among college students. *Journal of the American Medical Association*, 263(23), 3155-3159.

Moore, S. M., & Rosenthal, D. A. (1991). Condoms and coitus: Adolescents' attitudes to AIDS and safe sex behaviour. *Journal of Adolescence*, 14, 211-228.

Moran, J. S., Janes, H. R., Peterman, T. A., & Stone, K. M. (1990). Increase in condom sales following AIDS education and publicity, United States. *American Journal of Public Health*, 80(5), 607-608.

Norman, C. (1986). $2-Billion program urged for AIDS. *Science*, 234, 661-662.

Odets, W. (1993). *AIDS Education and Prevention: Why it has gone almost completely wrong and some things we can do about it.* Paper delivered to the National Gay and Lesbian Health Conference in Houston on July 23, 1993.

Ostrow, D. G., Kessler, R. C., Stover, E., & Pequegnat, W. (1993). Design, measurement, and analysis issues in AIDS mental health research. In D. G. Ostrow and R. C. Kessler (Eds.), *Methodological issues in AIDS behavioural research* (pp. 1-16). New York: Plenum Publishing Corporation.

Reiss, I. L., & Leik, R. K. (1989). Evaluating strategies to avoid AIDS: Numbers of partners vs. Use of condoms. *The Journal of Sex Research,* 26(4), 411-433.

Ross, M. W. (1990). Psychovenereology. In D. G. Ostrow (Ed.), *Behavioural aspects of AIDS* (pp. 19-40). New York: Plenum Publishing Corporation.

Rubinson, L., & De Rubertis, L. (1991). Trends in sexual attitudes and behaviours of a college population over a 15-year period. *Journal of Sex Education and Therapy,* 17(1), 32-41.

Sack, A. R., Keller, J. F., & Hinkle, D. E. (1984) Premarital sexual intercourse: A test of the effects of peer group, religiosity, and sexual guilt. *The Journal of Sex Research,* 20(2), 168-185.

Schoub, B. D. (1994). *AIDS and HIV in Perspective: A guide to understanding the virus and its consequences.* Cambridge: Cambridge University Press.

Schurink, E., & Schurink, W. J. (1990). *AIDS: Lay perceptions of a group of gay men.* Pretoria: Human Sciences Research Council.

Shilts, R. (1987). *And the Band Played On: Politics, People, and the AIDS Epidemic.* New York: St Martin's.

Shrum, J. C., Turner, N. H., & Bruce, K. E. (1989). Development of an instrument to measure attitudes toward acquired immune deficiency syndrome. *AIDS Education and Prevention,* 1(3), 222-230.

Siegel, K., & Gibson, W. (1988). Barriers to the modification of sexual behaviour among heterosexuals at risk for acquired immunodeficiency syndrome. *New York State Journal of Medicine,* 8, 66-70.

Siegel, K., Mesagno, F. P., Chen, J. Y., & Christ, G. (1989). Factors distinguishing homosexual males practising risky and safer sex. *Social Science and Medicine,* 28(6), 561-569.

Skurnick, J. H., Johnson, R. L., Quinones, M. A., Foster, J. D., & Louria, D. B. (1991). New Jersey high school students' knowledge, attitudes, and behaviour regarding AIDS. *AIDS Education and Prevention,* 3(1), 21-30.

St Leger, C. (1996). Not tonight, darling, I'm an average South African. *Sunday Times Newspaper, 19 May, p. 1.*

Stall, R., McKusick, L., Wiley, J., Coates, T. J., & Ostrow, D. G. (1986). Alcohol and drug use during sexual activity and compliance with safe sex guidelines for AIDS: The AIDS behavioural research project. *Health Education Quaterly*, 13(4), 359-371.

Stevenson, H. C., De Moya, D., & Boruch, R. F. (1993). Ethical issues and approaches in AIDS research. In D. G. Ostrow and R. C. Kessler (Eds.), *Methodological issues in AIDS behavioural research* (pp. 19-51). New York: Plenum Publishing Corporation.

Strunin, L. & Hingson, R. (1987). Acquired Immunodeficiency Syndrome and adolescents: Knowledge, beliefs, attitudes and behaviours. *Pediatrics*, 79, 825-828.

Taylor, S. J., & Bogdan, R. (1984). *Introduction to qualitative research methods: The search for meanings.* USA: John Wiley and Sons, Inc.

Taylor, C. L., & Lourea, D. (1992). HIV Prevention: A dramaturgical analysis and practical guide to creating safer sex interventions. In R. Bolton & M. Singer (Eds.), *Rethinking AIDS Prevention* (pp. 105-146). USA: Gordon and Breach Science Publishers.

Thompson, C. (1996). Is the end of AIDS in sight? *Sunday Times Magazine, 18 August, p. 18-23.*

Tolsma, D. D. (1988). Activities of the Centres for Disease Control in AIDS education. *Journal of School Health*, 58, 133-136.

Turner, C. F., Miller, H. G., & Moses, L. E. (1989). *AIDS, Sexual Behaviour and Intravenous Drug Use.* Washington: National Academy Press.

Waddell, C., (1992). The social correlates of unsafe sexual intercourse. *Australian and New Zealand Journal of Sociology*, 28(2), 192-207.

Watney, S. (1987). Peoples perceptions of the risk of AIDS and the role of the mass media. *Health Education Journal*, 46, 62-65.

White, D, G., Phillips, K. C., Clifford, B. R., Davies, M. M., Elliott, J. R., & Pitts, M. K. (1989). AIDS and intimate relationships: Adolescents' knowledge and attitudes. *Current Psychology: Research and Reviews*, 8(2), 130-143.

World Health Organisation. (1989). *AIDS Prevention and Control.* Oxford: Pergamon Press.

Zeller, R. A. (1993). Combining qualitative and quantitative techniques to develop culturally sensitive measures. In D. G. Ostrow and R. C. Kessler (Eds.), *Methodological issues in AIDS behavioural research* (pp. 95-116). New York: Plenum Publishing Corporation.

Date of interview: ..../............/95

Case number: ....

QUESTIONNAIRE FOR ASSESSING KNOWLEDGE AND PRACTISE OF SAFE SEX AMONG RHODES UNIVERSITY STUDENTS

PREAMBLE

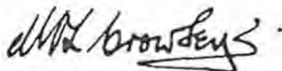
The rate of HIV infection continues to increase at an alarming rate. It is estimated that 20 per cent of the South African population between the ages of 15 and 55 years old will be infected by the year 2 000, and an estimated 95 per cent of those infected will die within 10 years of being infected.

The following questionnaire was designed by Michelle Crowley and Malcolm Simpson for the purposes of assessing your knowledge of safe sex practices, the information sources from whom/where you have gained your knowledge of safe sex, whether (if you are sexually active) you practise safe sex, and your attitude towards persons who are living with HIV/AIDS.

The information you provide will be used to assess the need for further safe sex education programmes on campus and elsewhere, and to recommend effective means for doing so. While it is acknowledged that some of these questions are highly sensitive, it is critically important that you answer them as honestly as possible. Your and others' lives literally depend upon it.

The information provided will be treated as strictly confidential. In other words, we do not know who you are as an individual (since we do not ask you to provide your name) and the data will be analysed collectively in terms of subsamples (such as biological sex, age groups, racial groups and sexual preferences). As such, there is no possibility of your being identified as an individual.

Please bear in mind that this is not a test - it is an attempt to elicit factual and attitudinal information for the purposes of research, generalisation and intervention. The results of the survey will be available for your perusal during the fourth term of this year. Should you wish to talk about your interest in, fear of and/or anxiety about HIV infection and safe sex practices, you can approach either Malcolm or I in confidence. We are both bound by the ethic of confidentiality.



MICHELLE L. CROWLEY
LECTURER: RHODES PSYCHOLOGY DEPARTMENT

CONFIDENTIAL

SECTION A: BIOGRAPHICAL DETAILS

Please complete the following biographical details.

1. How old are you? .... years

2. What is your biological sex? (Please circle the correct answer)

   (a) male (b) female

3. Please indicate the race group to which you belong by circling the correct answer.

   (a) Black (b) Coloured (c) Indian

   (d) White (e) Other (please specify) ....

4. What language(s) do you speak at home?

   (a) .... (b) ....

5. Are there other languages in which you are fluent? (Please list these below)

   ....

6. Please indicate the degree for which you are currently registered.

   ....

7. Please indicate the subjects in which you intend to major.

   ....

8. What do you anticipate will be your career once you complete your degree?

   ....

9. What are your parents' occupations?

   Mother:..................................... Father:..

10. When it comes to choosing someone with whom to enjoy an intimate physical relationship, which of the following statements is true of you? (Please circle the correct answer)

    (a) I prefer a person of the same sex

    (b) I prefer a person of the opposite sex

    (c) I have no particular preference

11. How would you categorise your relational status presently? (Please circle the correct answer)

    (a) Married (b) Divorced (c) Single (d) Separated

    (e) Living together

12. To what religious faith do you belong? (Please specify)..................................

13. How regularly do you practise your religious faith? (Please circle the most appropriate answer)

(a) Not applicable (b) Daily

(c) At least once a week (d) At least once a month

(e) At least once or twice a year (f) Never

14. Do you have strong objections to completing this questionnaire? (Please circle the appropriate answer)

(a) Yes (b) No (go to question 16)

15. Please explain in as much detail as possible why you object to filling in this questionnaire.

....

....

....

....

....

....

....

Please consider answering question 31, 32 and questions 35 to 43.

SECTION B: KNOWLEDGE OF HIV TRANSMISSION AND SAFE SEX PRACTICES

16. What do you understand by the concept "safe sex"?

....

....

17. Below is a list of various sexual practices. Please rate the degree to which you consider these practices SAFE with respect to the transmission of HIV by circling the appropriate number where 1 means SAFE, and 3 means UNSAFE.

NB: A latex barrier refers to female and/or male condoms, dental dams, gloves and/or clingwrap.

SAFE ←→ UNSAFE

1	Penis-vagina penetration without a latex barrier	1	2	3
2	Rubbing bodies when clothed	1	2	3
3	Cuddling and hugging when clothed	1	2	3
4	Using sex toys without a barrier	1	2	3
5	Rubbing bodies when naked	1	2	3

		SAFE ←		→ UNSAFE
6	Cuddling and hugging while naked	1	2	3
7	Masturbating alone	1	2	3
8	Penis-vagina penetration with a latex barrier	1	2	3
9	Mutual masturbation without a latex barrier	1	2	3
10	Kissing a partner on the cheek.	1	2	3
11	Mutual masturbation with a latex barrier	1	2	3
12	Penis-anal penetration with a latex barrier	1	2	3
13	Finger-vagina penetration without a latex barrier	1	2	3
14	Penis-anal penetration without a latex barrier	1	2	3
15	Finger-vaginal penetration with a latex barrier	1	2	3
16	Using sex toys with a latex barrier	1	2	3
17	Finger-anal penetration without a latex barrier	1	2	3
18	Holding partner's hand	1	2	3
19	Unprotected contact with other's urine	1	2	3
20	Oral sex with a latex barrier	1	2	3
21	Finger-anal penetration with a latex barrier	1	2	3
22	Behaviour that results in bleeding	1	2	3
23	Deep or French kissing	1	2	3
24	Unprotected contact with other's faeces	1	2	3
25	Oral sex without a latex barrier	1	2	3

18. Are there any of the above answers that you would like to qualify? (Please circle the correct answer)

(a) Yes (b) No

IF YES, state the number of the item and the qualification you would like to add.

....

....

19. Please indicate which of the following statements you believe are true or false by circling the correct answer, where T means true, F means false and ? means you are unsure.

1	All infected people show positive on tests for HIV	T	F	?
2	If you test negative on a test of HIV you can be sure you do not have HIV	T	F	?
3	Names and address of AIDS/HIV patients are kept on a register and are made available on request	T	F	?
4	Oil based lubricants such as Vaseline are safe when using a latex barrier	T	F	?

5	HIV can only be contracted fromhomosexual anal intercourse	T	F	?
6	Water based lubricants like K-Y Jelly are safe when using a latex barrier	T	F	?
7	If you have contracted HIV the blood test is immediately positive	T	F	?
8	Douching (washing/scrubbing) before having sex can prevent HIV transmission	T	F	?
9	AIDS is caused by a virus	T	F	?
10	It is easy to identify [illegible] who are living with AIDS	T	F	?
11	AIDS and HIV are the same thing	T	F	?
12	Douching (washing/scrubbing) after sex can prevent HIV transmission	T	F	?
13	It is easy to identify someone who is living with HIV	T	F	?
14	There is a cure for HIV/AIDS	T	F	?
15	AIDS/HIV may be contracted from blood and/or blood products	T	F	?
16	You cannot get infected with HIV through heterosexual intercourse	T	F	?
17	All blood donations are tested for HIV	T	F	?
18	HIV can be contracted by sharing needles and/or syringes	T	F	?
19	A woman who is HIV positive cannot carry it over to her unborn child	T	F	?
20	Homosexual men cannot contract HIV from each other	T	F	?
21	HIV can be contracted from/by sharing washing, eating and drinking utensils	T	F	?
22	Babies cannot contract HIV through breast feeding	T	F	?
23	If your blood tests positive for HIV you will die of AIDS	T	F	?
24	There is a vaccine against HIV/AIDS	T	F	?
25	Women who are sexually active are less likely to contract HIV	T	F	?
26	You cannot get HIV from insect bites	T	F	?
27	You can get HIV from saliva	T	F	?
28	You cannot get HIV from tears	T	F	?
29	Anybody can get HIV	T	F	?
30	You can contract HIV from domestic animals	T	F	?
31	Women who are sexually active are at greater risk for contracting HIV	T	F	?
32	Lesbians cannot get HIV from each other	T	F	?
33	HIV is particularly resilient outside of the human body	T	F	?
34	Latex barriers always prevent the spread of HIV	T	F	?

20. Are there any of the above answers you would like to qualify? (Please circle the correct answer)

(a) Yes (b) No

IF YES, please indicate the item number and your qualification.

....

21. From which of the following sources have you gained your knowledge about safe sex practices? Please circle yes (Y) or no (N).

1	Public Television (e.g. SABC)	Y	N
2	Cable Television (e.g. Mnet)	Y	N
3	Public Newspapers	Y	N
4	Campus-based Newspapers	Y	N
5	Public Radio	Y	N
6	Campus-based Radio	Y	N
7	Pamphlets distributed on campus	Y	N
8	Pamphlets available to the general public	Y	N
9	Lectures	Y	N
10	Practicals and Tutorials	Y	N
11	Hired videos	Y	N
12	Informal discussion with friends	Y	N
13	Informal discussion with family	Y	N
14	Discussions with a lover	Y	N
15	Posters around town	Y	N
16	Posters on campus	Y	N
17	Movies and/or films	Y	N
18	Organised workshops/support groups	Y	N
19	Gay/Lesbian organisations	Y	N
20	Magazines	Y	N

22. Are there sources from which/whom you have gained knowledge about safe sex practices which are not listed above? If so, please list these.

....

....

....

23. Which of the two sources of information listed in both questions 21 and 22 above would you regard as the most effective with respect to informing you about safe sex practices?

....

24. Why would you regard these sources as more effective than others on the list?

....

....

SECTION C: PRACTISE OF SAFE SEX

25. During the past twelve months have you been intimately involved with another person (Please circle the correct answer)

    (1) Yes   (2) No (go to question 31)

26. During the past year, with approximately how many partners have you been sexually intimate?

    ....

27. During the past year in which of the following sexual practices have you engaged? Please circle in the appropriate answer where Y means yes and N means no.

1	Penis vagina intercourse without a latex barrier	Y	N
2	Rubbing bodies when clothed	Y	N
3	Cuddling and hugging when clothed	Y	N
4	Using sex toys without a latex barrier	Y	N
5	Rubbing bodies when naked	Y	N
6	Cuddling and hugging while naked	Y	N
7	Masturbating alone	Y	N
8	Penis-vagina penetration with a latex barrier	Y	N
9	Mutual masturbation without a latex barrier	Y	N
10	Kissing a partner on the cheek	Y	N
11	Mutual masturbation with a latex barrier	Y	N
12	Penis-anal penetration with a latex barrier	Y	N
13	Finger-vagina penetration without a latex barrier	Y	N
14	Penis-anal penetration without a latex barrier	Y	N
15	Finger-vaginal penetration with a latex barrier	Y	N
16	Using sex toys with a latex barrier	Y	N
17	Finger-anal penetration without a latex barrier	Y	N
18	Holding a partner's hand	Y	N
19	Unprotected contact with other's urine	Y	N
20	Oral sex with a latex barrier	Y	N
21	Finger-anal penetration with a latex barrier	Y	N
22	Behaviour that results in bleeding	Y	N
23	Deep or French kissing	Y	N
24	Unprotected contact with other's faeces	Y	N
25	Oral sex without a latex barrier	Y	N

28. How would you rate your risk of HIV infection?

Extremely high 6 5 4 3 2 1 Extremely low

29. How often do you make use of a latex barrier when being physically intimate with a sexual partner? (Please circle the most appropriate answer)

(1) Always (go to question 31) (2) Most often

(3) Sometimes (4) Never

30. What prevents your using a latex barrier with your partner?

....

....

SECTION D: IMAGES OF PEOPLE LIVING WITH HIV/AIDS

31. Do you know someone who is living with HIV/AIDS? (Please circle the appropriate answer)

(a) Yes (b) No (c) Unsure

32. To what extent are the following statements true about people who are living with HIV/AIDS? Please circle the appropriate number, where 1 means TRUE and 4 means FALSE.

		TRUE	←→		FALSE
1	They did not practise safe sex in the past	1	2	3	4
2	They are most often black men	1	2	3	4
3	They are most often homosexual	1	2	3	4
4	They are people like you and I	1	2	3	4
5	They are unfortunate	1	2	3	4
6	They deserve our sympathy	1	2	3	4
7	They are most often white women	1	2	3	4
8	They are promiscuous	1	2	3	4
9	They are most often white men	1	2	3	4
10	They are most often black women	1	2	3	4
11	They are immoral persons	1	2	3	4
12	They put people like me at risk	1	2	3	4
13	They are most often heterosexual	1	2	3	4
14	They do not practise safe sex presently	1	2	3	4
15	They deserve to die	1	2	3	4
16	They are most often poor	1	2	3	4
17	They are dangerous people	1	2	3	4
18	They are very different to me	1	2	3	4

		TRUE	←	→	FALSE
19	They deserve to be cared for	1	2	3	4
20	They were promiscuous	1	2	3	4
21	They are usually wealthy	1	2	3	4
22	They are innocent victims	1	2	3	4
23	They are bad people	1	2	3	4
24	They are usually prostitutes/sex workers	1	2	3	4
25	They should be removed from society	1	2	3	4
26	They are people who abuse drugs	1	2	3	4
27	They will most certainly die	1	2	3	4
28	They are in need of friendship	1	2	3	4
29	They are people who inject drugs	1	2	3	4
30	They are being punished by God	1	2	3	4
31	They should be restricted from working in certain jobs for example teaching and medical jobs	1	2	3	4
32	They are a burden to society	1	2	3	4
33	They should be isolated in special wards at hospitals	1	2	3	4
34	Their names should be kept on a register	1	2	3	4
35	They should be imprisoned if they infect others	1	2	3	4

33. Would you consider having an intimate physical relationship with someone who is living with HIV/AIDS? (Please circle your answer)

(a) Definitely yes (b) Unsure (c) Definitely no

Why do you say this?...

....

....

....

34. In which of the following behaviours do you believe your closest friend(s) have engaged? (Please circle the appropriate answer where Y means yes and N means no.

1	Kissing a partner on the cheek	Y	N
2	Rubbing bodies when clothed	Y	N
3	Cuddling and hugging when clothed	Y	N
4	Holding partner's hand	Y	N
5	Rubbing bodies when naked	Y	N

6	Cuddling and hugging while naked	Y	N
7	Masturbating alone	Y	N
8	Penis-vagina penetration with a latex barrier	Y	N
9	Mutual masturbation without a latex barrier	Y	N
10	Penis-vagina penetration without a latex barrier	Y	N
11	Mutual masturbation latex barrier	Y	N
12	Penis-anal penetration with a latex barrier	Y	N
13	Finger-vagina penetration without a latex barrier	Y	N
14	Penis-anal penetration without a latex barrier	Y	N
15	Finger-vaginal penetration with a latex barrier	Y	N
16	Using sex toys with a latex barrier	Y	N
17	Finger-anal penetration without a latex barrier	Y	N
18	Using sex toys without a latex barrier	Y	N
19	Unprotected contact with other's urine	Y	N
20	Oral sex with a latex barrier	Y	N
21	Finger-anal penetration with a latex barrier	Y	N
22	Unprotected contact with blood	Y	N
23	Deep or French kissing	Y	N
24	Unprotected contact with other's faeces	Y	N
25	Oral sex without a latex barrier	Y	N

SECTION E: RISK TAKING BEHAVIOURS

35. Do you use alcohol or any recreational drugs? (Please circle the correct answer)

    (a) Yes (b) No (go to question 39)

36. Have you ever engaged in any sexual behaviours while under the influence of alcohol/drugs that you would not have engaged in when sober? (Please circle the correct answer)

    (a) Yes (b) No (go to question 38)

37. Are you more or less likely to engage in unsafe sex practices while using alcohol or other drugs? (Please circle the correct answer)

    (a) More likely (b) No difference (c) Less likely

38. In general do you believe you engage in higher risk behaviours when under the influence of alcohol/drugs. (Please circle the appropriate answer)

(a) Yes (b) No

Why do you say this?...

....

39. Please read the following statements and place and circle the number in the box that best reflects your position where 1 means you STRONGLY DISAGREE and 5 means you STRONGLY AGREE. Respond as though you are confronting the situation right here and now.

DISAGREE ←——→ AGREE

1	I'm not content to do things half way. When I discover that I have a skill, I work hard to develop it fully.	1	2	3	4	5
2	If I had the opportunity to participate in a potentially explosive public demonstration in support of some cause I believe in deeply, I would participate, despite the risks involved.	1	2	3	4	5
3	I tend to open up to people quite often , even though I'm not always comfortable when I do.	1	2	3	4	5
4	When I really want to improve myself in some way, I'm willing to invest time and effort to do it.	1	2	3	4	5
5	I get no joy out of risking myself for fun, but I enjoy the less dramatic risks of loving others and committing myself to them.	1	2	3	4	5
6	If I felt taken advantage of by a family member or friend, I would let that person know how I felt.	1	2	3	4	5
7	I am the sort of person who enjoys trying new things and discovering new possibilities within myself, even when doing so costs me a lot.	1	2	3	4	5
8	If I become aware of fraud, corruption, or employee theft in the business where I work, I would report it to my supervisors.	1	2	3	4	5
9	When I need a favour from someone close to me, I can almost always ask for it without much discomfort.	1	2	3	4	5
10	I resist getting into ruts, and prefer taking a chance on new things, even if I feel uncomfortable doing them.	1	2	3	4	5
11	If I believe in some value or principle (for example a persons right to privacy), I will put myself on the line to see that the value or principle is upheld.	1	2	3	4	5
12	If I were dissatisfied with a product I purchased, I would return the item and voice my dissatisfaction, even if the retailer from whom I had bought it had a "no returns" policy.	1	2	3	4	5
13	If I were given the opportunity to improve my education or develop my skills, I would take it, even at a considerable inconvenicience or personal expense.	1	2	3	4	5
14	At one point in my life I lost friends because I stood up for a principle I believed in.	1	2	3	4	5
15	If I wanted to date someone but I wasn't sure he or she was interested in me, I'd take a chance and ask him or her out anyway	1	2	3	4	5

		DISAGREE ←——→ AGREE				
16	Within the past few years, I've devoted a lot of time and effort to developing a talent I'd never tried to develop before.	1	2	3	4	5
17	If I were to witness a crime, I would volunteer at a subsequent trial, despite the inconvenience and possible dangers.	1	2	3	4	
18	If I were at a party with friends and someone proposed doing something I objected to (suppose, for example, that the host offered crack cocaine to the guests), I would speak out forcefully against the idea, even though I might be seen as a wet blanket by the other guests.	1	2	3	4	5
19	If I were given a chance to break into a new and exciting career, I would certainly give it my best shot, even if there were no assurances that I would succceed.	1	2	3	4	5
20	Despite all the uncertainties associated with forming close, long-term ties with people outside my family, I have formed and maintained at least a few such ties in my life.	1	2	3	4	5
21	I enjoy starting conversations and making friends with strangers I meet when I travel.	1	2	3	4	5
22	If given the choice between a familiar and secure job and an exciting one that makes new demands on me, I'd try the new job, even if it meant that I'd have to give up some security.	1	2	3	4	5
23	If I were with people and someone told an offensive ethnic joke, I would voice my displeasure, even if that meant that others might think me too serious or high-minded.	1	2	3	4	5
24	My friends and family know that I'm not afraid to ask questions in any situation, regardless of whether I may appear foolish to others.	1	2	3	4	5
25	I'm determined to do all I can to live out my dreams, even if that means that I must risk failure to do so.	1	2	3	4	5
26	I can't just sit by and watch while vulnerable people are treated cruely or unfaily; I feel obligated to try to intervene.	1	2	3	4	5
27	I am quick to state my opinions.	1	2	3	4	5
28	I welcome the opportunity to take on tough assignments at work and in most other contexts.	1	2	3	4	5
29	I feel sorry for people who don't commit themselves to other people and to the values that matter in life.	1	2	3	4	5
30	If I were in line at the supermarket and someone tried to get ahead of me, I'd quickly let him or her know that I was there first.	1	2	3	4	5

40. Please rate the level of enjoyment you experience while participating in the following activities by circling the appropriate number, where 1 means it is HIGHLY ENJOYABLE and 4 means it is NOT ENJOYABLE at all. If you have not engaged in the activity please circle the n/a option.

1	I enjoy contact sports (e.g. rugby or hockey)	1	2	3	4	n/a
2	I enjoy parachutting	1	2	3	4	n/a
3	I enjoy living on the edge	1	2	3	4	n/a
4	I enjoy bungi jumping	1	2	3	4	n/a
5	I enjoy gambling	1	2	3	4	n/a
6	I enjoy driving fast	1	2	3	4	n/a
7	I enjoy playing on the stock exchange	1	2	3	4	n/a
8	I enjoy driving without wearing my seat belt	1	2	3	4	n/a
9	I enjoy breaking the law	1	2	3	4	n/a
10	I enjoy scuba diving	1	2	3	4	n/a
11	I enjoy taking chances	1	2	3	4	n/a

41. Are there any of the above answers you would like to qualify? (Please circle the correct answer)

(a) Yes (b) No

IF YES, please indicate the item number and your qualification.

....

....

42. Do you think the Rhodes Sanatorium should offer HIV testing?

(a) Yes (b) No (c) Unsure

Why do you say this?...

....

....

43. Have you ever had an HIV test?

(a) Yes (b) No

IF YES, what motivated you to do this?...

....

....

....

IF NO, under what circumstances would you consider having an HIV test?

....

....

....

44. Do you believe HIV testing should be anonymous?

(a) Yes (b) No

Why do you say this?...

....

....

....

45. Having completed this questionnaire, how are you feeling right now?

....

....

....

....

46. Do you have any additional comments you would like to make?

....

....

....

....

....

....

THANK YOU FOR YOUR PARTICIPATION AND STAY SAFE!