AN EXPLORATORY STUDY ON THE EFFECTIVENESS OF THE BARTH ASSERTIVENESS TRAINING PACKAGE WITH THE EMPHASIS ON REDUCING HIGH-RISK BEHAVIOUR FOR HIV INFECTION AND AIDS.

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ABSTRACT

The Acquired Immunodeficiency Syndrome (AIDS) may be viewed as one of the world's most feared diseases. The Human Immunodeficiency Virus (HIV) has been identified as the cause of AIDS. The HIV has the unique characteristic that an infected person may remain asymptomatic and continue to infect others without knowing it. This feature, coupled with the fact that at the present time there is no known cure for AIDS and HIV infection, has made it extremely difficult to control the spread of AIDS. It is estimated that everyone who is HIV infected will eventually die. This has left people and especially the youth all over the world uncertain and afraid of what the future may hold for them. It was, thus, the intention of the present study to investigate the efficacy of the Barth assertiveness package. It was argued that this skills training package would positively increase the subjects' knowledge of AIDS, their perceived risk of AIDS, attitude and behaviour towards condoms and also reduce their number of sexual partners. A Repeated Measures Design was used in collecting the data. 90 subjects completed a questionnaire before and after the implementation of the Barth package. 30 of the subjects were assigned to an Experiment group (Group 1) and 60 to Control group (Group 2). The results of the study showed that the subjects of Group 1 did not differ significantly from the subjects of Group 2 in respect of their level of AIDS knowledge, perceived risk of AIDS, attitude and behaviour towards condoms as well as their number of sexual partners. The package had no effect on outcome. It was also concluded that AIDS intervention campaigns which focus on the provision of AIDS information and assertiveness skills are only partially effective and that researchers should examine the role of psychosocial factors in these intervention campaigns. The present study should be seen as the initial stage in a process of developing a more effective AIDS intervention strategy.

DECLARATION

The author hereby declares that this whole thesis,
unless specifically indicated to the contrary
in the text, is his own original work.

Yul Derek Davids

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Although many people contributed to the study, the author still claims to be responsible for the ideas, findings and shortcomings expressed in the study.

Y. D. Davids
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CHAPTER 1

INTRODUCTION

It is clear from the many studies undertaken all over the world that AIDS constitutes a major public health problem (for example, Adler, 1987; Barth, 1993; Bell, Feraios & Brian, 1990; Fish & Rye, 1991; Gerrard, Kurylo & Reis, 1991; Paine, 1988; White, Phillips, Clifford, Davies, Elliot & Pitts, 1989).

AIDS, an acronym for Acquired Immune Deficiency Syndrome was, first recognised in the United States in 1981 by the Centers for Disease Control (MA & Armstrong, 1989). In 1983 the human immunodeficiency virus (HIV) was identified as the cause of AIDS (Ma & Armstrong, 1989). Research has indicated that this incurable disease has spread at an alarming rate. According to Kelly, Murphy, Sikemma and Kalichman (1993) approximately 300 000 cases of AIDS were diagnosed by 1993. The number of people infected with HIV is probably between 15 and 20 million (Perkel, 1992). Statistics on South Africa have indicated that the disease has grown from 2 cases in 1982 to 3210 cases as at the end of February 1994 (Department of National Health and Population Development, 1994). The World Health Organisation (WHO) estimated that for every diagnosed case of full-blown AIDS, there were ten people with AIDS Related Complex (ARC) who were symptomatic but not yet in the full-blown stage of the disease, and more or less a hundred who were infected with the virus (HIV) yet remained asymptomatic (Perkel, 1992). A person who is infected without symptoms or knowledge of having been infected, may unknowingly infect others and could stay in this state for years.

The number of AIDS cases is, therefore, inadequate in describing the real nature and extent of the crisis. Since there is no known cure or vaccine to prevent HIV infection (De Wildt, 1990; Paine, 1988), it is estimated that everyone with AIDS will eventually die. The potential effect that the death of so many people will have on the world, has given rise to the sentiment that something needs to be done to prevent this killer disease from spreading. According to Adler (1987), the most common mode of transmission of the HIV is through sexual intercourse; whether this is anal or vaginal is unimportant, though anal intercourse does pose a higher risk. To prevent this disease the sexual behaviour of people has to be examined, given that sexual behaviour represents one of the highest contributing factors to the spread of HIV. Rosenthal and Shepherd (1993) argued that a high percentage of adolescents in Australia are sexually active, that few of them use condoms, and many engage in multiple partnering. Adolescence is also a stage where the individual is extremely vulnerable to a variety of pressures like

drug-taking (White et al., 1989). It is on this basis that the present study aim to help high school adolescents to decrease high-risk sexual behaviour (such as multiple sexual partners, HIV infection) and encourage the adoption of safer sexual behaviours like condom use. To reach this aim it would be useful to examine the impact of AIDS and HIV infection on the world and it's people. Chapter 2, thus, provides a historical overview of the AIDS pandemic, its modes of transmission as well as the incidence of AIDS cases and rate of HIV infection. It also discusses the scope of the disease within a South African context. Further, it is emphasised that something needs to be done to stop or lessen the risk of becoming HIV infected.

Chapter 3 discusses three types of methods used by health professionals to stop the spread of AIDS. It is argued that information campaigns, campaigns which make use of fear tactics as well as behavioural methods have no significant influence on the sexual behavioural patterns of people. A number of psychosocial variables, however, seem to intrude upon the effectiveness of these campaigns. The discussion is taken further by examining the psychosocial variables, external and internal locus of control and the defense mechanisms of denial, repression and rationalisation.

Chapter 4 comments on the interactive context of AIDS and HIV infection. It explains the importance of internal processes (for example, attitudes) as well as the external processes (for example, communication between partners) in the adoption of safer sex (like using a condom). This chapter also discusses the role of educational authorities, parents and teachers in AIDS interventions, and reports that adolescents constitute a high-risk group.

Chapter 5 provides a broad outline of the Barth assertiveness training package, which aims to reduce HIV infection among high school adolescents. The chapter also discusses three theories underlying the principles on which the Barth package are based, namely the Social Learning Theory, Health Belief Model and Theory af Reasoned Action.

Chapter 6, the study is reported. This includes an explanation of the aim, hypotheses, subjects, instruments, procedure, research design and data analysis. Some of the results of the study are also reported here.

Chapter 7 report on the results of the study. It also discusses the results of the study.

Chapter 8 comments on the flaws and shortcomings of the study and makes suggestions for possible improvements. It also suggested future research possibilities along with the conclusion derived from the study.

CHAPTER 2

OVERVIEW OF THE AIDS EPIDEMIC

2.1 Introduction

Over the past decade, there has been a growing concern about the rapid spread of AIDS (Évian, 1990). To curtail the spread of AIDS and HIV infection a thorough understanding of AIDS and HIV infection is needed. To be able to understand this disease, it would be useful to analyse all the related aspects of it. The following chapter will, therefore, concentrate on explaining AIDS and HIV, the transmission patterns of HIV, the origin(s) of AIDS, its historical perspective and demographic patterns. It will also focus on the impact of AIDS and HIV on South Africa.

2.2 Definitions of AIDS and HIV infection

2.2.1 What is AIDS?

It has been argued that AIDS, an acronym for Acquired Immune Deficiency Syndrome, is one of the most serious health problems facing the world and its peoples (Adler, 1987). The STD's related to AIDS were first noted by the Centers for Disease Control (CDC), when they received several reports of pneumocystis carinii pneumonia and kaposi's sarcoma occuring among male homosexuals (Jayasuriya, 1988). These homosexuals were found to have an underlying defect of their cell mediated immune systems related to depletion of the T4-helper lymphocytes (Sarafino, 1990). The Centers for Disease Control (CDC) first defined a case of AIDS as "an illness characterized by one or more opportunistic diseases, also called infections and cancers that are at least moderately predictive of an underlying defect in the T-lymphocyte mediated immunity, occuring in the absence of known causes of reduced resistance to those diseases other than HIV-induced immunodeficiency"(Ma & Armstrong, 1989, p.237).

The human immunodeficiency virus (HIV), a lymphotropic retrovirus, was later identified as the cause of AIDS (MA & Armstrong, 1989). There are at least two forms of the virus, HIV - 1 and HIV - 2 (King, 1993). According to King (1993) HIV - 2 appeared mostly in Africa and the rate at which it spread has been much less extensive. As the scope of the illness associated with HIV expanded, the utility of the surveillance definition of AIDS as used by the CDC in collecting case reports, came under question

(Feldman, 1990). Concern developed that a significant amount of HIV related diseases were being overlooked. The CDC subsequently formulated a new surveillance definition of AIDS in September 1987 to include HIV-infected patients who had serious opportunistic infections, malignancies or neurological disabling complications of HIV disease (see Table 2.1).

Table 2.1 A case definition of AIDS: Classification according to the Centers for Disease Control (1987 cited in King, 1993).

Group I Acute infection (seroconversion)
- may occur up to three months after contact
- usually asymptomatic but may have acute illness similar to infectious mononucleosis or more rarely encephalopathy and /or myelopathy

Group II Asymptomatic infection
- seropositive for HIV antibodies

Group III Persistent generalised lymphadenopathy (PGL)
- nodes at least 1 cm in diameter in two or more non-contiguous extrainguinal sites for at least three months
- no history of opportunistic infections or persistent constitutional symptoms

Group IV

Subgroup A Constitutional disease (AIDS-related complex)
- fever, weight loss, fatigue, night sweats

Subgroup B Neurological disease
- dementia, encephalitis, meningitis, peripheral neuropathy

Subgroup C Secondary infectious disease

Subgroup D Secondary cancers

Subgroup E Other conditions

The AIDS phase is characterized by a depletion of the body's defenses and an increase in the severity of infections, ranging from more severe infections of the lungs leading to pneumonias (especially tuberculosis and pneumocystis carinii infection), fungal infections of the mouth and intestinal tract, diarrhoeal diseases, marked weight loss and weakness, viral eye infections leading to visual disturbances, rare cancers of the skin and blood, and problems associated with infection or damage to the brain and spinal cord causing headaches, convulsions, memory and concentration loss, poor coordination, and, occasionally, personality changes and severe weakness (Evian, 1991). One can conclude that AIDS does not kill directly, but it destroys the individual's immune system, leaving the victim defenseless against a variety of diseases.

2.2.2 **The term HIV infection**

In order to understand the nature and course of the AIDS disease it is vital to separate and understand the concepts of HIV infection and AIDS itself. An individual who is infected with HIV, is referred to as an HIV positive person, who does not necessarily feel or look sick and does not yet have AIDS.(Strang & Stimson, 1990). This is often referred to as the asymptomatic phase of the disease. A person who is HIV infected may remain asymptomatic and continue to spread the virus without knowing it (Perkel, 1992).

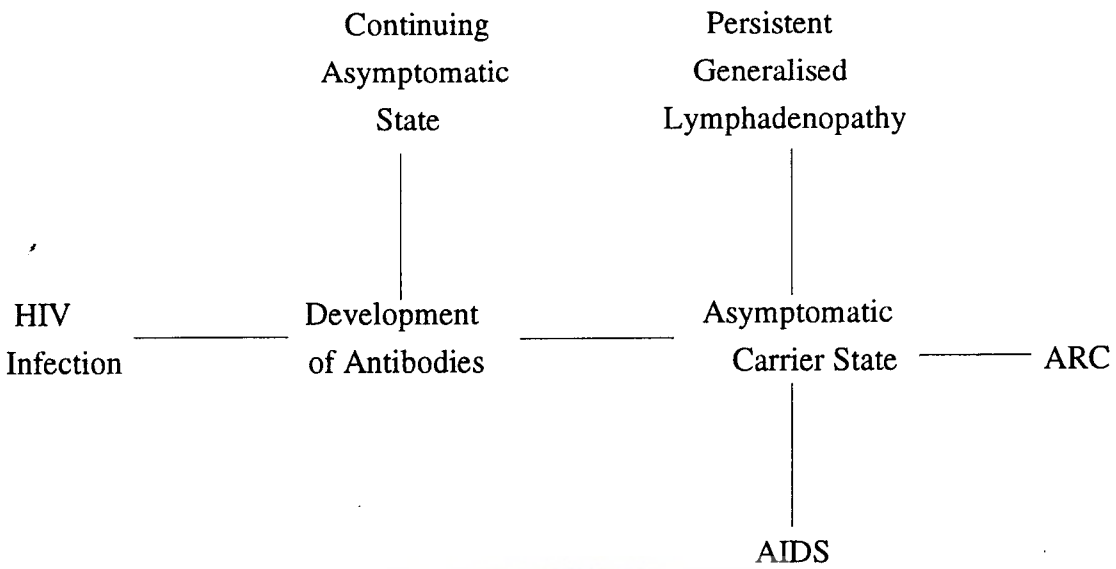
The duration of the asymptomatic state is unpredictable, but approximately 30% will develop AIDS during a seven year period (Department of National Health and Population Development, 1991). The term AIDS-related complex (ARC) refers to those HIV positive persons who are symptomatic, but not yet in the full-blown phase of the disease (Perkel, 1992). The development of ARC marks a significant deterioration in these persons'immune systems (Evian, 1991). This group of persons may suffer from chronic fever, night sweats, weight loss, oral thrush, herpes zoster or hairy leukoplakia (Evian, 1991). Literature on AIDS indicates that the majority of HIV positive people will eventually develop AIDS, and that those who develop it, will die (Evian, 1991; Perkel, 1992; Strang & Stimson, 1990).

The future for people with HIV and AIDS is bleak, and is dependent on today's medicines and the development of new effective drugs and vaccines which may prolong theasymptomatic phase of HIV infection, as well as combat some of the life-threatening infections and other conditions associated with the AIDS phase.

2.3 **How the HIV is spread**

In general, AIDS is not easy to acquire and many of the misconceptions that exist have been generated by either misinformation or the reluctance to talk openly about sex and related issues. According to Barth (1993) many people, especially the youth, are not receiving the information that is vital to their future and wellbeing because of our reluctance to deal with the subjects of sex, sexual practices and homosexuality. Duh (1991) argues that once a person is infected with HIV, there is a progression from the initial infection to the development of AIDS (see Figure 2.1).

Figure 2.1. Natural History of HIV infection (Duh, 1991, p. 49).



2.3.1 **Sexual intercourse**

Previous research indicates that the most common way of HIV transmission is by having sexual intercourse (Adler, 1987). HIV is spread mainly in the bodily fluids such as semen, blood and possibly cervical secretions (Adler, 1991; Sarafino, 1990). It has been reported that anal intercourse (without condoms) ranks high in physical and emotional pleasure for men who have sex with men (Connell, Crawford, Dowsett, Kippax, Sinnott, Rodden, Berg, Baxter & Watson, 1990), thus, further contributing to the transmission of the HIV.

HIV transmission is not only common among homosexuals, but also among heterosexuals and bisexuals. According to Campbell, Peplau and DeBro (1992) heterosexual teenagers and young adults are at growing risk of contracting AIDS and other sexually transmitted diseases (STD's). A survey of sexual behaviour in young adults of the United Kingdom, for example, reported that at least 50% of them have engaged in sexual intercourse by the age of 16 years and among those 50% only one in four indicated using a condom on the last ocassion of sexual intercourse (Bellingham & Gillies, 1993). Studies carried out in Australia also indicated high levels of sexual activity, irregular (or non-) use of condoms, and many instances of multiple partnering among adolescents (Rosenthal & Shepherd, 1993).

Literature on AIDS indicates that HIV is more commonly passed from men to women (Adler, 1991). The spread of HIV through homosexual intercourse seems to be common in Europe and America, while it shows similar levels of infection among men

and women in Africa (Adler, 1991). Less research, however, has been done on the spread of HIV through bisexual intercourse. Waddell (1992) argues that the sexual orientation to safer sex of bisexual men may not even differ from homosexuals or heterosexuals, or they may even construct an orientation quite different from either. Tudiver, Myers, Kurtz, Orr, Rowe, Jackson and Bullock (1992), however, found that although the majority of AIDS cases in Canada and the rest of North America have been attributed to gay and bisexual men, these men in particular showed a higher commitment to complete the required tasks which would enable them to adopt safer sexual behaviours.

The history of South Africa shows that sexually transmitted diseases (STD's) have been very poorly controlled; diseases such as gonorrhoea and syphilis are running rampant, especially in low socio-economic communities (Evian, 1991). Evian (1991) argues that as much as 30% of all adult consultations in primary health care clinics in such communities, is for STD's. This highlights serious implications for the spread of HIV in South Africa.

2.3.2 **Intravenous drug abuse**

The use of drugs has become more widespread than ever before and there is growing evidence that the taking of drugs by injection has become especially popular (Strang & Stimson, 1990). There is a high correlation between drug-injection and HIV infection (Strang & Stimson, 1990). They estimated that approximately 20% of the more than 80,000 reported cases of AIDS in the United States, are directly associated with a history of drug injection. A similar trend occurs in Europe, where by 1989 approximately 27% of all reported AIDS cases were related to a history of drug injection (Strang & Stimson, 1990). At present intravenous drug use is not very common in South Africa, but it is steadily on the increase. There has been only two reported cases of HIV transmission by means of intravenous drug abuse from 1982 up to February 1994 (Department of National Health and Population Development, 1994).

2.3.3 **Perinatal transmission of HIV**

Perinatal transmission is the process where mothers are responsible for the transmission of HIV to their offspring (Duh, 1991; Sarafino, 1990). Perinatal transmission may occur via three routes: in utero; during labour or uterine cervical cells (Valdiserri, 1989); and after birth as a result of breast-feeding (Strebel, 1991). The frequency of infection via each of these routes, is relatively difficult to predict, but the risk of transmission of

HIV from pregnant mothers to their foetuses has been estimated at approximately 30-50% (Department of National Health and Population Development, 1991). A high percentage of the American adolescents are sexually active (Barth, 1993). Available literature on AIDS and HIV infection also indicates that the adolescents constitute a high risk group (Bellingham & Gillies, 1993; Valdiserri, 1989). It is, therefore, possible that an adolescent who is infected with the virus, may pass it to her unborn child. Reports on the incidence of AIDS and HIV infection in South Africa indicate that 481 children contracted the virus through a perinatal transmission pattern (Department of National Health and Population Development, 1994).

2.4 **The origin(s) of AIDS**

Numerous theories have been formulated about the origin of AIDS, none of which have been proven. Fitzpatrick and Milligan (1987) argue that the HIV originates from Central Africa and Asia, where it was discovered in the African green monkey and in the Asian macacque monkey, and somehow passed on to the human being. There is also a belief that the HIV was manufactured in an American laboratory for biological warfare (Paine, 1988). Such theories have been formulated by recognised scientific authorities such as Medvedev and Seale (Fitzpatrick & Milligan, 1987).

Whether this is true or not is unimportant. What is important, is that there is a vast epidemic of AIDS in Africa and particularly in Central Africa and also in America, Europe and other parts of the world.

2.5 **The demographic patterns for HIV infection and AIDS**

The demographic patterns for HIV infection and AIDS in Europe and the United States are generally similar to the vast majority of persons infected; being either homosexual or bisexual men, intravenous drug abusers or recipients of infected blood (Adler,1991). In these communities heterosexual transmission is relatively rare (Ma & Armstrong, 1989). In contrast, the demographic pattern of this disease in developing regions of the world, including Africa, differs significantly, with heterosexual spread of infection being the most common means of acquisition of the desease (Adler, 1991).

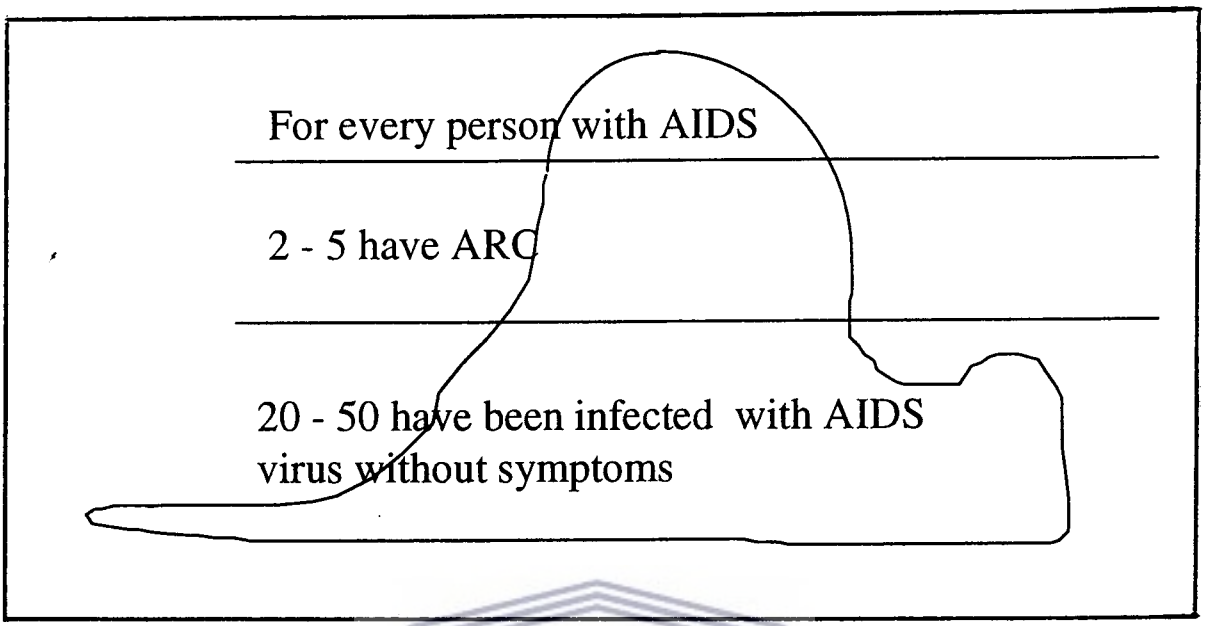
2.6 **The incidence of AIDS and HIV infection in the world**

AIDS has spread at such an alarming rate that a large proportion of the world's population could be destroyed (Edelston, 1988). In the United States alone, the CDC received reports of 16 574 cases of AIDS between June 1, 1981 and January 20, 1986 (Ma & Armstrong, 1989). Just one year later, by July 1987 this figure had increased to 37 785 cases of AIDS (Adler, 1991), 21 211 cases more within the space of 18 months. Ratzan (1993) indicates that since June 30, 1992, 230 179 people in the United States have been diagnosed with AIDS of whom 152 153 have died. It is also estimated that up to 10 million Americans are infected thus far, with an additional 5 000 more each day (Ratzan, 1993). By August 31, 1990 thirty one European countries reported a total number of 38 503 AIDS cases (Duh, 1991). It is obvious that the AIDS epidemic has reached alarming figures in Europe and America. According to Kingman (1989) all the reported cases of AIDS in Africa are only representative of one-tenth of the actual cases. The figure of 70 724 cases of AIDS, by August 31, 1990, reported in 45 African countries (Duh, 1991), is therefore, much higher because many of the African countries have not reached the level of achieving accurate data collection, like their American and European counterparts (Perkel & Strebel, 1990). The Aids epidemic in Africa has reached catastrophic proportions. There are an estimated 8-10 million persons with HIV infection in the world; of these, an estimated 6 million live in sub-Saharan Africa where less than 10% of the world's population is found (Department of National Health and Population Development, 1992).

It is clear from the reports that the AIDS epidemic is worse than it appears to be. According to Ratzan (1993), for example, between 30 and 40 million people will be infected worldwide by the year 2000. Note figure 2.2 which illustrates that the number of knowncases of full-blown AIDS represents only a small proportion of the extent of the AIDS crisis.

Figure 2.2 The iceberg model of AIDS

" The incidence and prevalence of AIDS cases reflect merely a tiny proportion of the entire picture surrounding AIDS" (Ahmed, 1992, p. 4).



2.7 AIDS and HIV infection in South Africa

South Africa, in relation to other countries of the world, is presently experiencing the initial stages of the disease. There is, however, great concern among health care professionals about the future of the disease (Schall & Padayachee, 1990). Up to now research and education about AIDS and HIV infection have been relatively good, but researchers need to conduct more studies if a better understanding of the disease is to be gained. Eagle and Bedford (1992) argue that research in South Africa should emphasize the importance of psychosocial research in the prevention of HIV infection.

2.7.1 The demographic patterns for AIDS and HIV infection in South Africa

The South African HIV transmission pattern is characterized by two distinct patterns. Firstly, the spread of the virus by white homosexual and bisexual males. Secondly, the spread of HIV by black heterosexual males and females. Of the 450 white males who had AIDS, 390 (87%) contracted it through either a homosexual or bisexual pattern (Department of National Health and Population Development, 1994). Of the 2436 blacks who had AIDS, 1839 (76%) contracted the HIV through heterosexual patterns (Department of National Health and Population Development, 1994).

2.7.2 **The incidence of AIDS and HIV infection in South Africa**

The available data on AIDS and HIV infection in South Africa clearly indicates that the disease is on the increase. The first two cases of AIDS in South Africa were recorded in 1982 (Perkel & Strebel, 1990). By the end of February 1994, 3 210 cases of full-blown AIDS were reported on a voluntary basis (Department of National Health and Population Development, 1994). In a similar reporting procedure, 27 389 HIV infected persons entered the surveillance system Department of National Health and Population Development, 1991). Scientific studies done on South Africa indicate that there are approximately 120 000 - 150 000 HIV positive people in this country (Evian, 1991). This figure is estimated to double every 9-11 months (Evian, 1991). It can, thus, be estimated that there will be about 4 million HIV-positive people by 1996. Up to now there have been, more or less, only 3 500 cases of full-blown AIDS reported out of a population of well over 30 million (Department of National Health and Population Development, 1994). Compared to the other countries, this is still relatively low.
South Africa is, thus, in the unique position to tackle the disease before it results in uncontrollable figures.

2.7.3 **The social, economic and political situation in South Africa**

The removal of the discriminatory laws of apartheid and the first democratic elections in April 1994 have paved the way for a better future. The road ahead, however, is not an easy one and all resources need to be pooled to help eradicate the disparities which still exist amongst the different racial groupings. Although the rebuilding of the South African society has started, the social, economic and political situation may still contribute to a situation where AIDS and HIV prevention will be difficult to exercise.

According to Evian (1991) HIV infection in South Africa has been associated mainly with a heterosexual spread among the low socio-economic groups. The majority of South Africa's HIV-infected people will, therefore, come from the black population, and specifically men and women in the 15-50 year old age group, as well as children from birth to 5 years of age (who become infected during the pregnancy and childbirth) (Edelston, 1988; Evian, 1991). There are a number of factors that could explain why HIV infection among blacks is high. Perkel (1992) argues that many countries of the world (especially those like South Africa) populations are subject to greater social stressors, some of which lead to increased numbers of sexual partners and poorer adherence to the practice of monogamy. This problem applies in particular to the high number of migrant labourers who spend much of the year in single-sex hostels away from their families, thereby increasing their exposure to risk factors associated with HIV

transmission and infection (Perkel, 1992). The policy of Apartheid also contributed to this situation through social and political factors, like the fragmentation of health services, poverty-related living conditions, and social tensions (Perkel, 1992). According to Perkel (1992) the lack of AIDS education in Third World communities and limited access to condoms further contribute to HIV infection.

2.8 **Conclusion**

In the previous sections it was mentioned that there is no cure and/or vaccine to prevent AIDS; thus, once a person is infected with HIV, he/she may develop AIDS and consequently die. The social, political and health conditions in Third World countries have also weakened the struggle against this devastating disease. While it is important to understand the political, economic and social factors that influence the disease, it is evident that AIDS and HIV infection are problems which occur throughout the world and which affect people of all races, ages, the rich and the poor. The destruction of large proportions of societies all over the world may become a reality if we do not tackle this ever increasing problem.

CHAPTER 3

PSYCHOSOCIAL VARIABLES AND AIDS INTERVENTION PROGRAMMES

3.1 Introduction

AIDS and HIV are affecting some of the most fundamental aspects of our human society, the way in which it is organised, the way it functions and the manner in which we respond to health and social problems. The AIDS epidemic has, thus, forced health and social planners to investigate the complex cultural heterogeneity of contemporary society and the implications of that complexity for the development of health and social policies as well as the provision of services (Fitzpatrick & Milligan, 1987).

The following chapter will evaluate the effectiveness of AIDS education programmes. The present study concentrated mainly on fear arousing campaigns (De Wildt, 1990), information campaigns (Gard, Sheridan, Constatini & Humfleet, 1991; White, Phillips, Clifford, Davies, Elliot & Pitts, 1989), and programmes which focussed on behavioural methods (Quirk, Godkin & Schwenzfeier, 1993; Rosenthal & Shepherd, 1993; Tudiver, Myers, Kurtz, Orr, Jackson & Bullock, 1992). The main aim of these AIDS education programmes is to encourage individuals to adopt and maintain healthy sexual behavioural patterns. This is done by educating or informing people about their unhealthy sexual habits; pursuading them to change these unhealthy sexual behaviours; and teaching them to adopt less risky or non-risky sexual behaviours. It will further examine the influence of psychosocial variables upon the effectiveness of these health education programmes.

3.2 Methods for promoting health

According to Sarafino (1990) one can group health promotion programmes into three categories. Firstly, the fear arousing warnings category where the health programme makes people aware of their unhealthy behaviours by exposing them to the negative effects of these behaviours. Smokers, for example, are encouraged to stop smoking by exposing them to posters on lung cancer. The second group of health promotion programmes is based on the principle that people need information if they want to lead healthy lives. AIDS education programmes, for example, must inform people about the transmission pattern of AIDS so that they could be persuaded to adopt behaviours that do not place them at risk of becoming HIV infected. The third approach focuses directly on the unhealthy behaviour of the individual and then encourages him/her to adopt

healthy behaviours. The three categories or approaches should not be viewed as separate and incompatible with each other, because one health promotion programme may include all three or a combination of only two of these methods.

3.2.1 **Fear arousing warnings**

De Wildt (1990) made a comparative study on health education programmes to determine their effectiveness in the promotion of health-based behaviour. These health education programmes were aimed at the prevention of STD's in the past and present century, anti-smoking campaigns for the prevention of lung cancer and AIDS prevention campaigns. De Wildt (1990) found that the focus on fear by these campaings actually increased the awareness of the danger of AIDS, but tended to scare away the people who were at risk of becoming infected. According to Perkel, Strebel and Joubert (1991) education campaigns that tend to increase anxiety, are counterproductive, since they increase the need to defend against such anxiety, whether in the form of denial of risk, repression of anxiety, or rationalisation of behaviour. Sarafino (1990) also indicated that too much fear may stimulate a person to use intrapsychic processes to cope by ignoring, minimizing, or denying the threat. This approach seems to have very limited success in effecting positive behavioural change.

3.2.2 **The provision of information (or Knowledge)**

Numerous studies have shown that information of AIDS seems to be the only alternative to encourage people to adopt safer sexual behaviour that does not put them at risk of contracting HIV. Gard, Sheridan, Constantini and Humfleet (1991), for example, conducted a study on the efficiency and effectiveness of a single presentation seminar on HIV infection and AIDS. Pre-training and post-training questionnaires assessing knowledge and risk assessment, were given to police officers attending a two hour seminar on AIDS. A one-way ANOVA was used to compare post-training scores of 42 officers who attended the seminar one year before with the pre-training scores of 63 officers who were currently attending the seminar, some of whom had attended the seminar one year earlier. The findings of the study showed that the subjects' knowledge of AIDS had increased. To determine if the results could be attributed to the training seminar and not to other factors such as media exposure over time, those officers who had never received training, were compared to those officers who had received training one year earlier. The results indicated that the officers who had received training one year earlier, had higher pre-test scores than the officers who had never received the training. Although the officers' knowledge ofAIDS increased, no significant differences were found in the behaviour of the officers in all the groups (Gard et al., 1991).

Kelly and St. Lawrence (1989) also reviewed a number of studies that compared, the psychological and behavioural dimensions of gay men and found that information on AIDS alone may be insufficient to promote meanimgful change in risky behaviour, espesially if the behaviour is immediately reinforced, when it is well-established, and when negative consequence of the activities are temporally distant or uncertain. Cigarette smokers, for example, may continue to smoke even though they are congnitively aware of the long range health threats posed by it. Because sex is a powerful motivating force and sexual practices are maintained by past experience, it was concluded that sexual behavioural patterns are difficult to change through information-provision alone (Kelly & St. Lawrence, 1989).

Another study conducted on two hundred British adolescents, aged 14 and 15 years, attempted to assess both their knowledge about HIV infection and its transmission, and their attitudes to intimate relationships. It was learned from the study that, although they were becoming more knowledgeable about AIDS and HIV infection, that increase in knowledge had not led to any positive behavioural change (White, Phillips, Clifford, Davies, Elliott & Pitts, 1989). In the Strunin and Hingson (1987 cited in White et al., 1989) study it was argued that although 70% of the teenagers reported themselves as being sexually active, only 15% of them reported changing their behaviour in the light of the AIDS threat. Of those 15% who had changed their behaviour, only 20% were doing so in a way that would significantly reduce their chances of infection, e.g. sexual abstinence or use of a condom. Among the same sample of teenagers, it was found that 40% of them were unaware that the use of a condom could reduce the risk of HIV infection.

Previous research, thus, appear to indicate that prevention programmes, based on the provision of information alone, are less effective in influencing the high-risk sexual behaviour of individuals (Rosenthal & Shepherd, 1993). One, therefore, needs to examine other methods which may affect the high-risk sexual behaviour of people.

3.2.2.1 **The role of the mass-media in health promotion campaigns**

The television, radio, newspaper and magazine can play an important role in the promotion of healthy behavioural patterns (Patton, 1990). Sarafino (1990) argues that one of the approaches of the mass media is simply to inform people of the negative effects of an activity. A health promotion campaign may for example try to persuade alcoholics to stop drinking by informing them that it may lead to ulcers. A study conducted by Jacob, Jayakumari, John and John (1989) used the newspaper and radio as channels of information on AIDS. A survey was administrated to patients attending a medical outpatient departement, a clinic for STD's and among women prostitutes in Vellore, a city in India. The study indicated that most of the subjects in all three groups were ignorant of AIDS. The lack of AIDS awareness among patients with STD's was associated with illiteracy and lower socioeconomic status. All 71 prostitutes were from the lowest socioeconomic class, 67 were illiterate, and only 3 had heard of the disease. The study concluded that AIDS education campaigns that made use of the media, were ineffective and stressed the need to tailor the efforts of these campaigns to specific groups.

Weenig, Schmidt and Midden (1990) investigated the effectiveness of information campaigns and demonstrated that, at least at national level, mass-media campaigns appear to lack the power of peruasion and therefore are ineffective in affecting attitudes and especially behaviour. Valdiserri (1989) also reviewed a number of studies that focussed on the effectiveness of media campaigns in altering health-related behaviours and concluded that it was limited in its potential to effect behavioural change.

Although the mass media is limited in its potential to effect behavioural change, it does not mean that this agency is worthless. Sarafino (1990), for example, found that media campaigns which focus on people who already want to stop an unhealthy behaviour, are more successful than campaigns which simply provide information. This approach is very successful if it introduces, for example, a person who wants to stop smoking to a community agency (Sarafino, 1990). Another approach which a television audience follows individuals who are trying to change unhealthy habits as they progress through a self-help programme (Sarafino, 1990). Sarafino (1990) also argues that this is a very successful mass media approach because it reaches impressive numbers of people.

3.2.3 Behavioural methods or the relationship between knowledge and behavioural change.

People's behaviour has an important impact on their health. People who display healthy behaviours, such as not smoking, not drinking excessively, eating healthy food, and exercising regularly, are usually in a good physical, emotional and psychological state. Health promotion campaigns which use behavioural methods therefore focus directly on the health-endangering behaviour of an individual. These behavioural methods usually provide the individual with specific instructions and/or training for performing the desired behaviour. Behavioural methods in health promotion usually include modelling, role-playing and reinforcement. The present study, for example, made use of role-play and modelling to teach high school pupils effective refusal and delaying skills to say "no" to requests for sexual intercourse. Dainow and Bailey (1990) also argue that the most effective way of learning is through "a mixture of information inputs and active participation" (p. 4).

Many studies have employed behavioural methods to influence the sexual behavioural patterns of individuals. It would be useful to evaluate some of these studies. Quirk, Godkin and Schwenzfeier (1993), for example, conducted a study on 214 adolescent girls to evaluate the effectiveness of two AIDS prevention interventions. These interventions intended to positively change the subjects' knowledge of AIDS, their attitudes toward AIDS and their existing sexual behaviour. The intervention programmes were delivered by either a peer or a health care provider at an inner-city family health centre which predominantly served minority patients. Questionnaires administered immediately before and after the intervention and at a one month follow-up session, evaluated changes in knowledge, attitudes and behaviour. The findings of the study indicated significant improvements in several areas of knowledge, including the effectiveness of using a condom and cleaning drug implements with bleach to prevent transmission of HIV. Many improvements were retained at the one month follow-up.

In a further study Tudiver, Myers, Kurtz, Orr, Rowe, Jackson and Bullock (1992) assessed the effectiveness of two different kinds of AIDS risk reduction programmes for gay and bisexual men practising sexual behaviour at all ranges of risk for transmission of HIV. Six hundred and twelve (612) subjects were randomly assigned to either single-sessions groups led by trained volunteer peers, four-session groups led by paid counsellors, or waiting-list control groups. Questionnaires were administered to determine the knowledge of AIDS risk, attitudes towards AIDS and sexual practices and sexual behaviour prior to randomisation, and three months after the intervention. The findings of the study showed that there was an overall reduction in the practice of unsafe sex. There was a decline of 18% in the practice of unsafe sex, and the decline was 40% for the single-session group and 14% for either the serial session or control groups. The reduction was described significant even though it did not reach the goal of a 25% decline set for the project. The changes in knowledge of AIDS risk, and the attitude Condom Efficacy were significantly higher for individuals in the two treatment groups than for the controls.

In another study conducted by Mansfield, Conroy, Emans and Woods (1993), 90 adolescent patients with at least one STD were interviewed in a hospital-based adolescent clinic and randomly assigned to a standard care group and an intervention group. Both these groups were interviewed about high-risk behaviours before and two months after the intervention. The intervention group was also given a detailed discussion about HIV risks and prevention. The results of the study showed that 25% of the patients reported less sexual activity (standard care, 32%; intervention 18%). The use of condoms ("always use") increased significantly in both groups, and at the last intercourse, increased in the intervention group (37% to 42%). The number of patients who stated that they shared needles, decreased from 3 to 0. Both the groups reported a reduction in high-risk behaviour over a two and a half month period. It was learned from the study that discussions of AIDS with a primary care provider improved HIV risk-reduction more than did discussions with friends, parents or school educators (Mansfield et al., 1993). Mansfield et al., (1993) argued that school-based prevention programmes have been short term, have focused on HIV knowledge and attitudes, and have had difficulty demonstrating behavioural changes in adolescents. Many of the adolescents also felt that personal interaction with a primary health care provider might stimulate them to adopt positive sexual behavioural patterns.

Rosenthal and Shepherd (1993) investigated changes in sexual behaviour, knowledge about HIV and AIDS transmission, and attitudes towards condoms over a six month period in 93 undergraduate adolescents. Examination of the findings of the study revealed that there was an overall reduction in sexual risk-taking behaviour with casual partners, but no change occured in sexual behaviour with regular partners, knowledge about HIV and AIDS, attitude towards condoms, or intention to use condoms at the next sexual encounter (Rosenthal & Shepherd, 1993). The study also found that adolescents did not perceive unprotected sex with a regular partner as unsafe, while abstinence from casual sex is sufficient to guard against HIV infection. Few self-reports appeared of sexual behavioural change, intention to take precautions against HIV infection, or concern about HIV and AIDS over the subsequent six months. Subjective reports of behavioural change did not correspond with reports of actual behaviour. Low rates of behavioural change were related to the failure of adolescents to personalize the threat of HIV infection and to their trust in the safety of sex with a regular partner.

In the previous section it was indicated that the provision of information is the primary means of persuading individuals to modify their risky behaviour and minimise fear and prejudice based on ignorance. Other research, however, has indicated that knowledge or information alone of AIDS is insufficient to change behaviour and, therefore, prevent the spread of AIDS. There is, however, no easy answer as to why knowledge on AIDS does not always lead to the expected behaviour change. Even AIDS awareness programmes which made use of behavioural methods, did not always result in the expected sexual behavioural change. Finding answers to these questions may give us a tremendous advantage in the fight against AIDS. It is, therefore, an area worthy of investigation. A number of studies suggested that the effectiveness of AIDS awareness programmes - through fear arousing warnings (Sarafino, 1990), information campaigns (Gard et al., 1991) and behavioural methods (Quirk et al., 1993) - are often contaminated by psychosocial variables that intrude upon the effectiveness of these programmes. The following section concentrates on examining the role of these psychosocial variables in AIDS prevention programmes.

3.3 **Psychosocial variables**

According to Perkel (1992) a number of factors seem to influence the internalisation and formation of knowledge, attitudes, and consequential behaviour derived from both the external systemic environment and from internal psychological and personality factors. Martin and Vance (1984) argue that the inclusion of such factors might help in determining the variables specifically relevant to the AIDS health-crisis. Although these variables are discussed independently, they appear to be intercorrelated. According to Perkel, Strebel and Joubert (1991), for example, there appears to be a correlation between poor self-concept and various defense mechanisms. They found that poor self-concept can be associated with high repression and rationalisation mechanisms.

3.3.1 **Peer norms**

In the next chapter, a detail discussion will follow on adolescence: a period of transition and adjustment where the individual is required to respond to external as well as internal forces which may shape his/her identity (Coleman & Hendry, 1990). Role models become increasingly important during adolescence. It is within this stage that the individual's peer group plays a significant role in his/her social learning (Bandura, 1977). Coleman and Hendry (1990) also argue that social attitudes and sex role behaviours are primarily shaped through peer interaction. McCusker, Stoddard, McDonald, Zapka and Mayer (1992) found that social norms or percieved peer pressure have been reported to play an important role in sexual behaviour change.

A peer group is referred to as "a few friends of the same age, or a number of individuals of the same age, but not necessarily friends" (Coleman & Hendry, 1990, p. 108). The peer group not only acts as role model but also exerts pressure upon the individual to conform to norms of the group. Pressure to engage in sex and drug-taking is especially significant during the later stages of adolescence (Clasen & Brown, 1985). Bellingham and Gillies (1993), for example, found, in their study on sexual behaviour of British adolescents, that nearly 50% had engaged in sexual intercourse by the age of 16 years. White et al., (1989) indicated that because many adolescents are sexually active, others may feel pressured to act as their friends do. At the same time curiosity about a variety of sexual matters is aroused, encouraging experimentation. During early adolescence, however, peers often discourage each other from using drugs or having sex (Brown, 1982). It is important to note that peers can encourage as well as discourage one another. Behaviours and attitudes towards sex, that are formed within adolescent relationships, may continue to influence adolescents' adulthood relationships.

According to Perkel (1992) the influence of peer pressure is not only related to AIDS epidemic, but to a variety of behaviours, particularly during the developmental years preceding adulthood. A longitudinal study conducted by Joseph, Montgommery, Emmons, Kessler, Ostrow, Wortman, O'Brien, Eller and Eshleman (1987) examined the effect of knowledge, perceived risk, perceived efficacy, difficulties with impulse control, belief in biomedical solutions, and social norms as predictors of behavioural risk reduction in a high risk cohort of homosexual men. The study found the recommended behavioural changes of the peers to be positively and consistently related to subsequent behavioural risk reduction (Joseph et al., 1987). Referring to a number of studies used in the control of health problems, Nelkin (1987) argues that people will only use information, obtained through the media, to guide their behaviour, if this information corresponds with their social world and the beliefs and attitudes of their reference groups. An attempt to positively change the adolescent's sexual behaviour, must therefore take these attitudes, pressures and social norms into account.

3.3.2 **Self-concept**

Perkel (1992) suggested that the term self-esteem has been used to describe the evaluative component of the self-concept, and is, therefore, subsumed under it. A number of terms have been used to describe the self-concept (among others, self-esteem, self-acceptance, self-respect, self-image) (Perkel, 1992). It can, therefore, be argued that the terms self-image (which reflects the individual's description of him- or herself) and self-esteem (which reflects the individual's evaluation of him- or herself) are used to describe the self-concept (Coleman & Hendry, 1990). Burns (1982 cited in Perkel, 1992) refers to the self-concept as "the beliefs and evaluations an individual has of himself or herself, these determining not only who the individual is as a person, but also how the self and future potential are perceived" (p. 26).

Self-esteem is related to the social adjustment and stability of the self-concept (Coleman & Hendry, 1990). Overall, one can argue that the higher the individual's self-esteem, the more stable and better adjusted self-concept he/she should have. Individuals' self-concepts do not all develop in the same manner - some individuals may have positive self-concepts while others may have negative self-concepts. There are, however, a number of factors that contribute to the development of an individual's self-concept - like family background and the cultural context of the individual.

Numerous studies have been done on self-esteem and it is evident that they play a vital role in the manner in which an individual learns and behaves. A study conducted by Gerrard, Kurylo and Reis (1991) concluded that self-esteem also plays an important part in influencing the individual's sexual behaviour. It was hypothesized that high self-esteem erotophobics (people with negative emotions towards sex) would have difficulty in learning about contraceptives and accepting AIDS information. The results showed that high self-esteem erotophobics accept little or none of the AIDS information while the low self-esteem erotophobics accept the sexual material just as well as the erotophillics (people with more positive emotions to sex) (Gerrard et al., 1991). That gave rise to another question. If people with erotophobia and high sex guilt were receptive to AIDS and contraceptive information, why were they less knowledgeable about it than erotophillics (people with more positive emotions to sex). An explanation for that was that erotophobics were less eager than erotophillics to be exposed to AIDS and sexual information, suggesting that they will avoid it (Fisher, Byrne, White & Kelly, 1988). Freimuth, Hammond, Edgar, McDonald and Fink (1992) have hypothesized that erotophobic individuals may not be anxious enough about sex to avoid intercourse altogether, but their negative responses may inhibit the enactment of other sex-related behaviours like buying and using of condoms. Gerrard, Kurylo and Reis (1991) argued that avoidance of threatening material like AIDS information appears to be common for people with high self-esteem. This tendency has been suggested as one of the reasons why people with high self-esteem are less easily influenced than those with low self-esteem; that is, they ignore information which is inconsistent with, or might disturb their view of the world (Gerrard, Kurylo & Reis, 1991). In a similar vein, Eagly (1981) has suggested, that people with high self-esteems trust their own judgements more than people with low self-esteems do, and are therefore more resistant to information which threatens their attitudes or values. The study concluded that avoidance of threatening material like HIV and AIDS information appeared to be common among people with high self-esteems. Keeling (1987) suggests that people with high self-esteems are more likely to practise safer sex because they more strongly value their health and the health of their partners.

Perkel (1992) argued that the self-concept, particularly in the area of sexuality, may affect the need for external affirmation. Further, an individual with a low self-concept may rate high on conformity which will ultimately lead to the attainment of external acceptance. Burns (1982 cited in Perkel, 1992) indicated that the self-concept may, therefore, interact with other psychological components of personality (such as defenses), to achieve internal consistency and appropriate interpretation of events for the self. Perkel, Strebel and Joubert (1991), for example, argued that poor self-concept is linked to a lower likelihood of behavioural change in the area of sexual practices. Similarly, poor self-concept is associated with high repression and rationalisation mechanisms. The self-concept is, thus, an intergral part of the psychological functioning of the individual's attitudinal formation and consequent behavioural outcome. Individuals have a number of self-concepts that each relate to a specific situation. Self-concept like locus of control (see 3.3.6) is context-bound, meaning that an individual may display a positive self-concept in one situation, for example, his home environment, and a negative self-concept in another situation, for example, his work environment. It is, therefore, important in the context of the AIDS epidemic that the self-concept of an individual be measured in relation to a specific situation. Failing to do so, may often lead to misleading results.

3.3.3 **Self-efficacy**

Self-efficacy is another variable that seems to affect the effectiveness of AIDS intervention programmes. Self-efficacy refers to "individuals' perceptions that they are, or are not, capable of performing a behaviour" (Bandura 1977a; 1986 cited in Valdiserri, 1989, p. 56). Freimuth et al , (1992) argues that self-efficacy is the belief of an individual that he/she has the ability to effect and influence the outcome of his/her behaviour. Differently stated, self-efficacy seems to influence an individual's choice of behavioural settings and an individual's initiation and maintenance of a specific behaviour. Self-efficacy, therefore, does not operate independently of contextual factors (Perkel, 1992). The concept of self-efficacy has been applied to a number of health-related activities such as smoking, weight control, alcohol abuse, exercise and condom use (Freimuth et al., 1992). According to Perkel (1992) efficacy can be referred to perceived rather than actual capabilities, and it is these perceptions and not the individual's true abilities that often influence behaviour. Freimuth et al.,(1992) conducted a study on the use of condoms in first-time sexual encounters. The study examined a three stage model of condom use and explored the factors that predict each of the stages. They reasoned that individuals probably approach the sexual encounter

with some predisposition about condoms. Some may have a general commitment to use them, others either do not even think of the issue or have a negative attitude toward their use. Also, those who want to use condoms, may initiate communication with their partners about the use of a condom. Finally, depending on the discussion about the use and the availability of the condom, it may or may not be used. One of the most important discriminators for the communication stage was communication self-efficacy. The study found that the greater the respondents' belief in their ability (in other words respondents with high self-efficacy) to communicate with a partner about condoms, the more likely they were to initiate a discussion about the issue. Condom self-efficacy was also an important variable for the actual condom use stage. The study showed that the more respondents believed that they could use condoms successfully, the more likely they were to actually use them. Strecher, DeVellis, Becker and Rosenstock (1986) evaluated a number of studies on cigarette smoking and found that the effect of self-efficacy in some of the studies was contaminated by locus of control. The findings showed that there was a significant interaction between locus of control and the efficacy manipulation, with self-efficacy manipulation only being effective among subjects with an internal locus of control. Perkel (1992), therefore, argued that the employment of the self-efficacy construct as the sole determinant for behavioural change is problematic because of its interaction with other concepts.

3.3.4 **Personality factors**

Skolnick (1986) defined personality as "the individual's characteristic way of behaving and approaching the world" (p. 217). More specifically, "a person's unique hopes, fears and fantasies, moral character, basic attitudes and values, styles of thinking, and especially his or her self-concepts and concepts of others, will determine his/her behaviour" (Skolnick, 1986, p. 217). Hampson (1982) suggested that the individual's personality seems to be stable and located within the individual. Further, that the personality makes a person's behaviour consistent from one time to another and different from other people. It would, therefore be useful to examine the role of the personality in determining an individual's sexual behaviour.

Williams, Kimble, Covell, Weiss, Newton, Fisher and Fisher (1992), for example, investigated the underlying dynamics of college students' unsafe sexual behaviour that puts them at risk of HIV infection. Focus group discussions were conducted with 308 university undergraduate students (146 men and 162 women), who were recruited both through an advertisement in the campus newspaper and through the university subject pool to ensure a representative sample. The subjects were assigned to same- or mixed - sex groups of four to eight subjects each. Only previously unacquainted people were

assigned to the same group, and there were at least two men and two women assigned to each mixed-sex group. The discussion sessions were conducted by trained moderators who followed a prepared, semi-structured outline. The moderators for the mixed-sex groups were female, whereas those for the same-sex groups were of the same sex as the group members.

The findings of the study were presented in four subsections. Firstly, how students made judgements regarding the risk of their sexual partners. The results of the study indicated that instead of consistently using condoms, many of the students use implicit personality theories to judge the risk of potential sexual partners. The students' judgements were, thus, determined by their own personalities. Specifically, partners whom students knew and liked, were not perceived to be risky, even if what the students knew about these individuals was irrelevant to the HIV status. The students determined the risk of partners whom they did not know on well-based superficial characteristics that were also generally unrelatedto HIV status. They tended to assume that risky people were those who dressed provocatively, who were from large cities, whom were met in bars, who were older than college students, or who were overly anxious for sex. In a similar study adolescents believed that it is possible to identify risky and nonrisky partners, either by personal vetoing and selection of partners thought not to be infected or by mandatory HIV screening of the population at large (White et al., 1989).

Secondly, the findings of how students assessed their own personal risk, were presented. The students did not consider themselves to be at risk of HIV infection, regardless of whether they engaged in safe sex or not (Willaims et al., 1992). In a further study conducted by Price et al, (1985 cited in White et al., 1989) it was reported that 73% of the adolescents were not worried about contracting AIDS. An explanation for this tendency was that AIDS is still seen as a disease that only affects intravenous drug users and homosexual males; if the adolescents do not fall into either of these two groups, they see themselves as safe (White et al., 1989).

Thirdly, the findings reported on the reasons for students practising unsafe sex. The study found that alcohol intoxication and lust contributed to unsafe sex (Williams et al., 1992). A study conducted by Waddell (1992) indicated that unsafe sex respondents are much more likely to agree that they 'often engage in casual sex when drunk' than are respondents who engage in safer sexual intercourse (52% and 33% respectively). Most of the respondents (53%), regardless of the safety of their own sexual behaviour agreed that 'drink is really an excuse for people having sex' although it may also lower sexual inhibitions (Waddell, 1992). The study also concluded that sexual activity increased with alcohol consumption at heterosexual and gay pubs (Waddel, 1992).

The study conducted by Williams et al., (1992) also reported on the students' beliefs about condoms. The students reported that they do not like using condoms because they interfere with their enjoyment of sex. Also, that requesting that a condom be used, may imply that one distrusts one's partner; that is, that one believes the partner has been promiscuous or will not be monogamous (Williams et al.,1992). The main theme that emerged from the results was that college students' judgements of a particular partner's risk, are not based on the relevant objective criterion of HIV status. AIDS prevention strategies, therefore, need to highlight that implicit personality theories do not provide protection from HIV infection.

3.3.5 **Attitudes**

Oskamp (1991) argued that an attitude can be defined as "the readiness of an individual to respond in a positive or negative manner to a particular class of objects" (p. 14). "Attitudes are not observable but are theoretical constructs which act as mediating variables between stimulus events and behavioural responses" (Oskamp, 1991, p. 14). For example, a person with a negative attitude toward homosexuality may refuse to sit next to such a person. It is clear from the example that attitudes not only motivate behaviour but they also guide the form and manner of behaviour along specific channels, encouraging some actions and deterring others. It may therefore be worthy to investigate the influence of attitudes in AIDS prevention programmes.

A study conducted by Fish and Rye (1991), for example, examined the attitudes of people towards a homosexual or heterosexual person with AIDS. The subjects of the study were 60 female and 60 male undergraduate students. The subjects, who were primarily Caucasian, ranged in age from 18 to 38 years. The study showed that even if people are well informed about AIDS and HIV infection, a person with AIDS, whether homosexual or heterosexual, can encounter negative attitudes although these attitudes may be higher for the homosexual than for the heterosexual. The study also found that females expressed a more positive evaluation of a person with AIDS than did males. Fish and Rye (1991) concluded that a number of factors seem to have influenced the outcome of the study. Fish and Rye (1991), for example, found that students holding prejudice attitudes toward homosexuality, were less likely to welcome interaction with a nonhomosexual with AIDS than those less prejudiced. This result was attributed to the relationship that existed between antihomosexual feelings and feelings about AIDS. AIDS phobia is another factor that could likely have influenced the results. Irrational fears about contracting AIDS from everyday interactions, may have contributed to negative attitudes toward a person with AIDS, irrespective of his or her HIV status (Fish & Rye, 1991).

Another factor that needs to be considered as a significant determinant of attitudes towards a person with AIDS, is AIDS knowledge. Fish and Rye (1991) indicated that students with high-knowledge of AIDS tended to have more positive evaluations of persons with AIDS than those students with low-knowledge. In a further study Bell, Ferraios and Bryan (1990) found that particular attitudes were associated with particular areas of AIDS knowledge. Generally, the adolescents with the higher degrees of knowledge seemed to be making discriminations between the attitudes they held, while those with the lower degrees of knowledge were either making indiscriminantly intolerant reponses or demonstrated an inability to judge (Bell et al., 1990).

Adolescents, for example, scoring high on the Issue Avoidance Scale (i. e., thinking that AIDS is someone else's problem) had significantly lower knowledge than those scoring low on avoidance (Bell et al., 1990). In another example it was found that those adolescents who indicated a low degree of sympathy, were more likely to indicate that only homosexuals contract AIDS, than those who indicated a high degree of sympathy (Bell et al., 1990). It is, therefore, important that we attend to variables of this nature, because it may improve the status of a person infected with AIDS, and may even contribute indirectly to the prevention of AIDS.

Despite the growing awareness of the dangers of AIDS and HIV infection, however, most sexually active young men and women do not use condoms (Friedland & Klein, 1987). When they do use condoms, they use them only occasionally (Kegeles, Adler & Irwin, 1988). Campbell et al., (1992) argues that attitudes play a major part in the decision by both women and men to use condoms. To investigate the relationship between attitudes and condom use, Campbell, Peplau and DeBro (1992) conducted a study using 393 undergraduate students (213 women and 180 men). All the students were unmarried, with an age range of 18 to 24. The sample was diverse with respect to ethnicity: 23% were Asian American, 10% were African American/black, 53% were Anglo/white, and 14% were Latino/Chicano. The study concluded that students were overall positive about condom use, believing that they offer effective protection, but detract from sexual sensation. Also, students with a more positive attitude towards condoms, were more likely to use condoms. The use of condoms was also associated with greater worry about STD's and fewer sexual partners. Gender differences also emerged in the predictors of condom use. Women had a more favourable attitude towards condoms than men. Those who seek to encourage young adults to use condoms as protection against AIDS, may need to tailor their messages to the specific concerns of men and women. It can be concluded that attitudes towards AIDS and HIV infection may influence prevention strategies. One, therefore needs to include attitudes as a variable in the fight against AIDS.

3.3.6 **Locus of control**

Locus of control is another variable to be included in AIDS research. Locus of control is "the perception of a person that he or she has the ability to effect and influence the outcome of events" (Rotter, 1966 cited in Perkel, 1992, p. 16). While some people feel that they may have an effect on important events of the world, others have a more passive worldview, and regard important events as independent of their actions. Distinction is, therefore, made between internal (those who believe they are in control of their own lives) and external (those who beleive that their destinies are in the hands of others) locus of control (Coleman & Hendry, 1990). Although it is important to distinguish between external and internal locus of control, a study conducted by Leming (1974) discovered no locus of control differences between politically active and non-politically motivated adolescents. Coleman and Hendry (1990) drew on Rotter's theory and asserted that internality - externality in locus of control is aquired in childhood as a direct consequence of parental treatment.

Phares (1987, cited in Perkel, 1992) argued that "internals are superior in the utilisation of information in problem-solving" (p. 17). Their ability to actively seek and acquire information, enables internals to control and manipulate information relevant to their environment, better than externals. Freimuth, Hammond, Edgar, McDonald and Fink (1992) examined a number of studies which focussed on the relationship between health behaviours and locus of control and found that people with an internal locus of control tend to believe that one is or is not healthy as a result of one's own actions, while people with an external locus of control think that their state of health is a consequence of luck or chance. Freimuth et al., (1992) further indicated that individuals with an external locus of control were less likely to take action to protect themselves by initiating a discussion about condom use with their partners. Externals are also more susceptible to social influences and conformity. They are, therefore, easily influenced by others. Perkel (1992) argued that in relation to AIDS, internals would be more susceptible to AIDS information and hence behavioural change, while externals would demonstrate higher levels of resistance to AIDS information and more conforming behaviour to social pressures leading to high risk sexual practices. Locus of control is not homogenous across situations. A person can exert control in one situation while he/she is unable to exert control in another situation. A person may be in control in his/her home environment, but less in control in his/her work environment.

3.7.3. Defense mechanisms

Related to locus of control are defense mechanisms. Freud argued that the defense mechanisms of the psyche play important roles in the psychological well-being of the individual by protecting the individual from both external threat (objective anxiety) and internal threat (neurotic and moral anxiety) that threaten the personality (Perkel, 1992). A number of defense mechanisms seem to surface, when a individual is learning to cope with the dangers of AIDS and HIV infection. Cameron and Rychalk (1985 cited in Perkel, 1992) argued that "Freud viewed the defense mechanism of repression as one of the key processes used by the psyche to protect itself" (p. 29).

3.3.7.1 Repression

Repression protects the individual from unacceptable impulses, stressful situations or traumatic events by unconsciously refusing to let these impulses, situations or events surface to awareness (Muuss, 1988). Although the impulse is cut off from awareness, it remains dynamically operative in the unconscious. An adolescent girl who was raped as a child, may repress this highly traumatic sexual experience but it might be operative in the adolescent's attitude toward sexuality (Muuss, 1988). In the context of AIDS, repression may be used as a defense mechanism to protect the individual from threatening stimili such as AIDS and HIV information by pushing this information into the unconsciousness where it is prevented from threatening conscious ego functioning.

3.3.7.2 Denial

Muuss (1988) argues that "repression deals with impulses from within, while denial on the other hand has offered protection to a person by acting as a barrier against incoming stimuli" (p. 43). The process of denial also operates at an unconscious level. Kelly and St. Lawrence (1989) reviewed a number of studies and suggested that denial is the single strongest predictor of failure to take risk-reduction steps. Valdiserri (1989) on the other hand has argued that denial is the manifestation of responses called fear. Denial, thus helps the individual to cope with anxiety-induced behaviour, for example, by the threat of a HIV infection. Denial as a defense mechanism may protect the individual in the short term by reducing his/her emotional stress (Kelly & St. Lawrence, 1989); but in the longterm, denial contributes negatively to behavioural changes that will prevent further HIV infection.

The use of fear tactics is a central problem in risk communication, and especially communication about the risk of AIDS and HIV infection. Theories of fear suggest that when people are confronted with the risk of AIDS and HIV infection, it causes discomfort that motivates them to eliminate it (Valdiserri, 1989). Research findings conflict with this theory of fear. Valdiserri (1989) argues that although fear can motivate behavioural change, it can also produce dysfunctional effects which may interfere with behavioural change. People may respond to fear in a variety of ways. According to (Valdiserri, 1989) people may ignore or disregard health messages if they are manipulative. Shilts (1987) argued that gays, for example, often ignored the warnings of HIV infection, because they claimed it to be politically motivated.

3.3.7.3 **Rationalisation**

Further more, people may also feel helpless to protect themselves against the anxiety caused by these fear campaigns. People who feel helpless may be incapable of producing the desired behaviour. They may also use defense mechanisms to cope with this fear. De Wildt (1990) argues that AIDS awareness programmes that have made use of fear tactics, have increased anxiety in the participants. Individuals who have avoided this threatening information, appear to have used rationalisation as a defense mechanism to explain away attitudes and/or behaviour that may be of high risk nature. Muuss (1988) defined rationalisation as "a process where an individual explains his actions to others and at the same time conceals the true reason or motive for his behaviour, to them or even to himself or herself" (p. 42). An individual who engages in unprotected sex may, for example, rationalise by arguing that only prostitutes contract AIDS because they have multiple sexual partners. By rationalizing, the individual does not accept his shortcomings. Although the individual frees himself/herself from the anxiety of becoming HIV infected, he/she does not protect himself/herself from becoming HIV infected.

3.3.7.4 **Stereotyping and projection**

Literature on AIDS also points out that stereotyping and projection have been commonly used to explain away the problem of AIDS. Projection is the process by which an individual ascribes unacceptable impulses or feelings within himself or herself, to other people (Muuss, 1988). AIDS may be seen as a homosexual disease (Fish & Rye, 1991). By ascribing the problem of AIDS to homosexuals, the individual is assuming that he/she is personally not at risk and, therefore, needs not be concerned with behavioural change. The use of this defense mechanism not only frees the

individual from the anxiety induced by the possibility of contracting AIDS, but also allows the individual to get rid of the tension by blaming another party. Stereotyping and projection are often used in combination with rationalisation.

3.4 **Conclusion**

Previous research stipulated that defense mechanisms appear to contaminate AIDS education programmes because the individual avoids participating in an programme that might reveal his/her HIV-status. One, therefore, needs to address these intervening variables to bring about effective behavioural change. What seems to be required of AIDS education, is to go beyond the individual's understanding of the disease, to those attitudes and biases that influence their perception of the disease. Researchers, therefore, need to examine the impact of psychosocial variables on AIDS intervention programmes. Without such examination, intervention programmes may remain only partially effective with a poor outcome in real sexual behavioural change (Perkel, Strebel & Joubert, 1991).

CHAPTER 4

INVESTIGATING THE SEXUAL BEHAVIOURAL PATTERNS OF ADOLESCENTS

4.1 Introduction

Although tremendous progress has been made in the area of AIDS and HIV infection, many health professionals believe that AIDS is still the number one threat to the well-being of the human race (Waddell, 1992). The fear of contracting HIV, therefore, permeates the lives of many people all over the world. Fear, however, will not stop the disease from spreading. Researchers are continually suggesting that prevention is the only option to stop the disease, since there is no known cure or vaccine available. Literature on AIDS indicates that the most common route of HIV infection is through sexual intercourse. People need to tailor their sexual behavioural patterns to reduce the risk of becoming HIV infected. The question that arises, is about why large numbers of individuals engage in high risk sexual behaviour even if they are cognitively aware of the life long health risk they would have to face. Some of the potential explanations have included: the use of implicit personality theory instead of safer sex (Williams et al., 1992), fear tactics (De Wilt, 1990), attitudes towards a person with AIDS (Fish & Rye, 1991), sexual phobias and self-esteem (Freimuth et al., 1992), intrusion of psychosocial variables (Perkel,1992) and peer pressure (White et al., 1989).

4.2 The interactive context of AIDS and HIV infection

Although all the above factors relate to individual personality characteristics or attitudes, researchers increasingly acknowledge that in addition to these individual characteristics and attitudes one also need to look at AIDS intervention strategies that requires a unit of analysis larger than the individual. The following chapter, therefore, investigate the sexual behavioural patterns of adolescents and the role social institutions play in shaping there sexual behaviour. The use of condoms, which is widely recognized as one of the most effective ways to prevent HIV infection (Freimuth et al., 1992), usually occurs in an interactive context where the implicit agreement and cooperation of both sexual partners is necessary. Communication between partners prior to and during sex is very important for the adoption of safer sex, like the use of a condom.

If communication about condom use is non-existent or ineffective then safer sex may not be practised (Freimuth et al, 1992). It is, thus, clear that behavioural change is not a simple action, but a complex process which involves a series of stages, some of which are interactive and depend on communication to negotiate behaviour between partners (Freimuth et al., 1992). Freimuth et al., (1992) developed a three stage model of condom use which could describe the stages, including a communication-based stage, students may follow in determining the use of a condom in a sexual encounter. The first stage is referred to as the 'desire stage'. Within this stage respondents claimed that they wanted to use a condom (as opposed to their partner's idea). Even the non-condom users answered that they wanted to use a condom. The second stage is referred to as 'initiate' which meant that condom users initiated discussions with their partners about using condoms prior to use. The third stage represented the actual use of a condom by the respondents. Waddell (1992) also argued that we should move away from these simplistic and individualistic approaches to safer sex, to HIV education and prevention programmes that focus more on the social and collective nature of unsafe sex. From a social learning perspective one's behaviour is guided by internal processes (individual's thoughts, feelings, expectations, and so on) as well as external processes (environmental consequences of that behaviour) (Zimbardo, Ebbesen & Maslach, 1977). Most of our energy, thus far, has been dedicated to explaining how the internal processes of an individual determines his behaviour. In trying to explain the continued practice of unprotected sexual intercourse one needs to look at the social situations in which these behaviours occur. Waddell (1992), for instance, found that unsafe sex may be seen as a social institution in our society, attributable to situational and cultural mandates. Further, these mandates appear to be influenced by: alcohol consumption, uncertainty about one's HIV-infection status, and learned and shared logic about condoms and the seriousness of the AIDS epidemic. There is a high correlation between alcohol consumption and unsafe sexual intercourse (Waddell, 1992). Health promoters, however, are still concentrating on the victims of this institution, such as those drinking and engaging in casual sex, while the institution itself is not addressed (Waddell, 1992). Health promotion campaigns should, thus, focus explicitly on the relationship between drinking and sex, in addition to providing social processes to sustain such practices safely. Researchers should, thus, develop AIDS prevention programmes that focus on collective action to promote safer sex practices and on grassroots social processes that will sustain changes towards safer sex rather than relying solely on individualistic approaches to change (Waddell, 1992).

4.3 The role of schools in AIDS education

While AIDS and HIV infection is a sensitive issue, one cannot ignore the fact that adolescents need guidance in this area. The issue of teaching pupils about AIDS is a controversial one. Even today, people are still discussing whether, when and how AIDS Education should be delivered. The following sections discuss the role educational authorities, parents and teachers play and should play in educating adolescents about AIDS and HIV infection.

4.3.1 Educational authorities

The school, as an educational institution, provides us with a useful base from which collective action against AIDS and HIV infection can be undertaken. AIDS prevention programmes could be implemented in schools to teach pupils about AIDS and HIV infection. Research has indicated that children all over the world constitute the most hopeful group for AIDS education, as they do not yet have to take important decisions about their lifestyles, including their sexual behaviour. Smith, Minden and Lefevbre (1993), however, argue that "education programmes that target adolescents are ineffective because they are reaching a population that already has a well-established set of values, attitudes and beliefs" (p. 282). Children could, thus, be educated at a younger age to adopt and maintain healthy behavioural patterns that eliminate the risk of becoming HIV infected. These behaviours should be maintained throughout adolescence, adulthood as well as the other life stages.

Educational Authorities should implement AIDS prevention programmes at primary as well as secondary level. The response of the educational authorities, however, has been limited in this respect. The Department of Education and Culture claimed that a compulsory curriculum on AIDS and HIV infection will be implemented in their schools, but no formal AIDS instruction has yet taken place (Administration House of Representatives. Department of Education and Culture, November 1993). South Africa is one of the few countries where schools, at both primary and secondary level, have not yet received formal instruction on the topic, or where the issue of AIDS and HIV infection does not form an integral part of the educational curriculum. Although a number of AIDS awareness programmes have been conducted at a number of high schools, it is still uncertain about whether, it had any significant effect on the sexual behavioural patterns of the pupils.

Schlebusch, Bedford, Bosch and Du Preez (1991), for example, found that a group of township high school pupils lacked knowledge about AIDS and also held negative attitudes towards affected patients. It is clear that AIDS education in South Africa is limited and where AIDS awareness programmes have been conducted, they have been found to be ineffective and inappropriate. Researchers need to develop AIDS prevention programmes that are relevant in a South African context. Literature on America indicates that 42% of the adolescents have received some instruction on the topic (White et al., 1989). The recommendations included in the American AIDS education programmes at different ages are mainly based on facts. Whatever their present involvement, schools do have an important role to play in the battle against AIDS and HIV infection. White et al., (1989) argue that adolescents want more information and that the school can supply it. Furthermore, that most of these adolescents would be receptive to an increased exposure to the topic in schools.

4.3.2 **The task of parents**

Parents are the most important persons in their children's lives. They play the roles of teacher, friend and guide, and have a major influence in their chidren's future. This role is of particular importance during adolescence when the individual begins to make his/her own role choices (Coleman & Hendry, 1990). Research also indicated that adolescents view their parents as their best source of information with regard to sexuality (Peterson, 1989). It is, thus the responsibility of parents to inform their children about their own sexuality and related sexual issues. A number of studies, however, indicated that parents lack the knowledge to teach their children about sex (Peterson, 1989). Parents need to obtain information and to educate their children on AIDS and sexual behaviours. Smith, Minden and Lefevbre (1993) showed that even when parents were knowledgeable about the most serious risk factors (unprotected sex and sharing needles) and the most casual types of contact (shaking hands), high levels of misinformation or uncertainty existed about a number of other activities (receiving blood and insects).

4.3.3 **The role of the teacher**

This is, however, not an easy topic to introduce into the school's curriculum, because many teachers are themselves not aware of the latest body of knowledge about AIDS and HIV infection. Some teachers may even find it embarrassing to discuss the finer details of sex and sexual practices. Apart from the fact that teachers may feel uncomfortable about AIDS education, they also need to be aware of other issues that

have bearing on AIDS education efforts, particularly at the secondary level. Teachers not only need to accurately inform adolescents about the risks they face regarding the disease, but they also need to present prevention recommendations that will remain effective for several years (Kelly & St. Lawrence, 1989). According to Kelly and St. Lawrence (1989) teachers without expertise in AIDS prevention require access to suitable teaching resource material and they should establish cooperative relationships with AIDS authorities in their area who can advise them as to the context and development of educational programmes. Teachers also need to be made aware, that AIDS education is more than just facts. It must among other things, deal with emotions and behaviour, and teach skills in decision-making and problem-solving in regard to relationship issues.

Since there is no known cure for AIDS at present, accurate information on the means and risks of contracting it, as well as preventative measures, can be crucial for the adolescent's sexual well-being. It appears from the previous arguments that most teachers are not only uncomfortable about teaching about AIDS but also seem to be less knowledgeable than other professional or adult sources. It is, thus, questionable whether teachers are appropriate agents of AIDS prevention strategies. Studies on sex education found that many British, Australian and American adolescents lack trust in their teachers' knowledge and/or discretion and that it inhibited them from approaching their teachers for information (Peterson, 1989). Other research, however, has indicated that AIDS education and sex education are prerequisites for AIDS prevention programmes (Barth, 1993). Although teachers do not appear to be the first choice for AIDS educators, they do seem to be vital in the process of AIDS education and HIV prevention.

4.4 **Adolescence and AIDS**

Most western countries view adolescence as a transitional period from childhood into full maturity (Peterson, 1989). Coleman and Hendry (1990) also portray adolescence as a transitional process rather than a stage or a number of stages because empirical evidence has clearly shown that too much individual variation exists for young people of the same chronological age to be classified together.

It is difficult to determine the beginning and end of this period. Puberty, the onset of sexual maturation and changes in bodily size and shape usually gives us an indication that the child is entering adolescence. The end of adolescence is usually marked by laws and regulations (such as when to get married, go to jail, go to work, get a driver's license) which the society places on the individual. This belief is not universal because

many cultures of the world view the termination of childhood and the corresponding onset of adulthood very differently (Peterson, 1989). According to Peterson (1989) the traditional Australian Aborigines, for example, used a single brief ceremony to achieve the same result as western-style adolescence. This ceremony indicate a clear boundary between childhood and responsible adult life. It is clear that the transition from childhood to adulthood is smooth and gradual in some cultures, while in others, the change is abrupt and dramatic, with the person moving directly from childhood to adulthood by means of complicated ceremonies (Skolnick, 1986).

Adolescence is more than a particular span of time between childhood and adulthood. It is also a period in which the individual undergoes a series of physiological changes (Skolnick, 1986). Puberty marks the beginning of adolescence and the end of childhood. At the onset of puberty the individual starts to grow at a rapid speed and the road to sexual maturity begins. The adolescent stage is also characterized by the beginning of menstruation and the development of breasts, hips and pubic hair in girls while boys show a greater increase in muscle size and strength, their voices deepen and their sexual organs change (Peterson, 1989). All these changes have a psychological influence on the adolescent who finds himself/herself facing an identity crisis where he/she constantly needs to adjust to his/her changing body. Apart from these physiological and emotional pressures, which are all internal, other external pressures coming from peers, parents, teachers, and the society at large is believed to cause this transitional process (Coleman & Hendry, 1990). White et al., (1989), for example, found that during adolescence the individual is extremely vulnerable to a variety of pressures like sexual practices and drug-taking. Strunin and Hingson (1987 cited in White et al., 1989) conducted a study on adolescents and indicated that 70% of the 16-19 year olds describe themselves as sexually active. A study conducted by Bennet (1986 cited in White et al., 1989) reported that 61% of the adolescents in United States had experimented with drugs by the age of 18 years. Adolescents are also the only age group in which mortality has risen since 1960 (Valdiserri, 1989). From the above it is clear that risk-taking is common among adolescents. This risk-taking, however, has led to socially disruptive and health-endangering behaviour (Valdiserri, 1989).

One can conclude that adolescents constitute a high risk group (Barth, 1993). It is, therefore, not surprising that many people become HIV infected while they are still in the adolescent stage (White et al., 1989). Tolsma (1988 cited in White et al., 1989) argued that although only 2% of AIDS victims in the United States are diagnosed in adolescence, the figure could be much higher because 21% of the AIDS victims are diagnosed in their early twenties and given the average four-or five year incubation period before diagnosis, many of them may have been infected as adolescents. Literature on South Africa indicates that 110 of the reported AIDS cases are between the

ages of 15 and 19 years (Department of National Health and Population Development, 1994). While a further 423 AIDS cases were reported in the age group 29 - 24 years (Department of National Health and Population Development, 1994). It is, thus, apparent that adolescents need AIDS education to stop the spread of HIV.

4.5 **Conclusion**

Valdiserri (1989) argued in the preceding section that adolescents constitute a high-risk group, because many of them engage in behavioural patterns which put them at risk of becoming HIV infected. It was also concluded that the sexual behavioural patterns of these adolescents need to be changed to prevent HIV infection. Behavioural change is, however, not a simple process, but a complex one which involves a series of stages. It was determined that change in health-risk behaviours requires a multi-determined intervention strategy. Such an approach should be more than the mere provision of AIDS and HIV information.

CHAPTER 5

THE BARTH ASSERTIVENESS PACKAGE

5.1 Introduction

It is evident from the previous discussions that HIV infection and AIDS prevention strategies are more effective when they focus directly on the behaviour of an individual who is at risk. Such an approach should not only consider the behaviour of the individual but also the social context of that behaviour. The Barth assertiveness training package seems to fit into this category. The Barth package is one of a few AIDS education curricula that has been evaluated on an American sample and has been found to reduce unprotected intercourse significantly. It is on this basis that the present researcher assessed the effectiveness of the Barth package on a South African sample.

This chapter will give a brief description of "Reducing the Risk" curriculum. This curriculum has been developed by Richard P. Barth, who is the Professor, School of Social Welfare, University of California at Berkeley and chair of the School Social Work Programme. The aim of the curriculum is to equip high school adolescents with skills to prevent pregnancy, STD and HIV. This is done through the active participation of these adolescents in role play situations where they practise to adopt behaviours that eliminate or reduce the risk of pregnancy or HIV infection. The curriculum has been developed to complement other preventative strategies like health organizations. The curriculum, therefore, does not assume to be the sole solution to the AIDS crisis. The package is especially appropriate in communities where there are high rates of of teenage pregnancy, drug abuse and sexually transmitted diseases (Barth, 1993). The present study, however, referred to " Reducing the Risk " curriculum as the Barth assertiveness package. The sections on " Reducing the Risk " curriculum which covered the area of teenage pregnancy were not incorporated in the present study. The Barth assertiveness package should therefore be viewed and evaluated on its own because it does not include all the sections from " Reducing the Risk " curriculum.

5.2 The development of the Barth assertiveness package

The development of the Barth assertiveness package could be ascribe to the occurence of two major social problems. Firstly, the increase in teenage pregnancy in the USA in the mid-1970s forced health care professionals to develop sex education programmes to reduce behaviours that placed adolescents at risk of pregnancy. Secondly, the discovery

of AIDS and HIV in the mid-1980s also prompted researchers to search for AIDS education programmes that could help to reduce behaviours which may transmit HIV. The package was also developed in an effort to reduce high risk behaviours like drug-taking.

5.3 **Evaluation of the Barth assertiveness package**

Researchers have developed hundreds of sex education curricula, but most of them have not been evaluated, or when they have been evaluated, the results have indicated that the curricula did not significantly reduce unprotected intercourse (Barth,1993). The Barth assertiveness package is one of the few AIDS education curricula that has been evaluated and has been found to significantly reduce unprotected intercourse amongst adolescents in junior and senior high schools throughout the state of California.

The evaluation employed such methodological advances as large sample sizes, good comparison groups and long-term follow-up. Forty six classes from 13 high schools throughout the state of California were used in the study. These 46 classes were assigned to programme and comparison groups. The pupils in the comparison groups received a more traditional sex education course of the same length. Pupils in these classes completed questionnaires measuring knowledge, peer norms, behavioural intentions, sexual and contraceptive behaviours and parent/child communication before the curriculum was implemented, immediately after the curriculum was implemented, about 6 months later and about 18 months later. In total, 758 pupils were employed in the study.

Results of the study showed that the package significantly increased the knowledge of almost all the pupils, and that the pupils retained this knowledge for at least 18 months (Barth, 1993). Major objective of the package was to change norms about unprotected sex and to change pupils' perception that everyone is sexually active. According to Barth (1993) the pupils did not appear to have changed their perceptions about sex, but the package apparently prevented those perceptions from becoming worse with time.

The results also revealed an increase in parent/child communication regarding abstinence and the use of condoms (Barth, 1993). There was a proportional reduction of 24% for the onset age of sex among those pupils who were not sexually active prior to the pre-test. It was learned from the study that among those relatively few pupils who did initiate intercourse after the implementation of the package, significantly more pupils of the programme group than the comparison group used condoms. Thus, an analysis of measures of unprotected intercourse revealed that the package significantly reduced unprotected intercourse among all the pupils who had not initiated intercourse at pre-test -- the estimated proportional reduction was 40% (Barth, 1993). The package, however, did not significantly influence the frequency of sexual intercourse or use of condoms among those pupils who had initiated intercourse prior to the implementation of the package. Barth (1993) concluded that the package should be implemented as soon as possible before the pupils are sexually active, because it is more difficult to change behaviour after it has become well-established.

5.4 **Assertiveness training**

Hargie, Saunders and Dickson (1987) argued that "assertiveness is a skill that was introduced during behaviour therapy by Joseph Wolpe to help individuals to function or act more effectively in their daily routine" (p. 209). According to Dainow and Bailey (1990) assertiveness training is "the response to the need many people have to know what to do in situations where they feel ineffectual or out of control" (p. 110). Both these definitions seem to indicate that assertiveness enables individuals to act or respond effectively in situations where they feel incompetent or helpless. Wolpe, for example, used the technique of assertiveness in conjunction with systematic desensitisation (another behavioural technique) for those patients who were excessively passive and submissive in their social and work relations. Wolpe's approach consisted of breaking down the problem into specific components and then advising his patients to be more assertive. Wolpe attained this goal through the process of behaviour rehearsal which involved role-playing, modelling, advice, task assignment, reinforcement of assertive behaviour and finally the performing of tasks outside of therapy (Trower, Bryant & Argyle, 1978). The Barth assertiveness package is based on a similar principle. The package is designed to enhance high school adolescents'skills to resist unprotected sex by modelling those skills and then providing opportunities for practice (Barth, 1993). The package also uses reinforcement techniques to encourage adolescents not to engage in unprotected sex, and that the only way to do this, is to abstain from sex. If adolescents do not abstain from sex, they should use contraceptives to guard against sexually transmitted diseases (STD's), especially HIV.

According to Trower, Bryant and Argyle (1978) the concept of assertiveness was originally referred to as "standing up for one's rights". In a similar vein, Ellis and Whittington (1981) argue that "the assertive response is where a person stands up for his/her rights, beliefs, feelings, or opinions without violating the rights, beliefs, feelings or opinions of the other person" (p. 84). It is important to note that assertiveness differs from nonassertiveness and aggression. "A nonassertive response usually involves expressing oneself in such an apologetic manner that one's rights and feelings can easily be ignored, while the aggressive response is where the rights of the other person are usually violated (Hargie et al., 1987, p. 211).

5.5 **Theories behind the Barth package**

No single theory is satisfactory to explain, predict and control the wide variety of behaviours that are linked to health status, especially the sensitive and complex sexual behaviours that puts one at risk of HIV infection and AIDS (Valdiserri, 1989). According to Barth (1993) the assertiveness package is based on several interrelated theories - Social Learning Theory, Social Inoculation Theory and Cognitive-Behavioural Theory. The present study considered the Social Learning Theory, Theory of Reasoned Action and Health Belief Model.

5.5.1 **Social Learning Theory**

Miller (1993) indicated that the social learning theory was born in the 1930s at Yale University, when Clark Hull offered a graduate seminar on relating Learning theory to Psychoanalysis. Muuss (1988) also argued that "social learning theory can be describe as the translation of psychoanalytic constructs into behaviouristic terminology" (p. 280). According to Miller (1993) social learning theory has its roots in "classical" learning theory. The work of Watson and Skinner was instrumental in the development of social learning theory. Watson, for example, believed that by changing the environment, one can actually change the individual's behaviour. Skinner, on the other hand, believed that behaviour can be shaped and controlled by rewarding only those behaviours that are desired and not rewarding those behaviours that are undesirable.

The major focus of the early social learning theorists was on socialization. These theorists strongly believed that the personality is learned (Miller, 1993). According to Miller (1993), the modern social learning theorists continued to focus on learning, but extended the notion of learning in two ways: they focus on (i) social behaviour, and (ii) the social context of behaviour. These theorists argue that learning theories based on animal research are inadequate to account for human behaviour, which occurs in a social milieu. They believed that an individual's behaviour is shaped through the process of socialization. Even behaviours that are not social in nature are influenced by the social context in which they occur (Miller, 1993). A boy's attempts to learn to play the piano may be encouraged by his parents, but actively discouraged by his soccer teammates. They also broadened the types of learning to be explained. The modern social learning theorists, for example, acknowledge the importance of observational learning which is the acquirement of new skills or information or altering old behaviours simply by watching other children and adults (Steinberg & Belsky, 1991). The features of observational learning is that a child need not produce the behaviour right away and that the model need not be reinforced in order for the observer to learn (Miller, 1993). Observational learning is, therefore, of particular importance for explaining how complex behaviours (such as refusal and delaying skills) are acquired. A refusal skill is a skill which enable adolescents to effectively say "no" to request for sex, while a delaying skill is used to delay request for sex by suggesting an alternative action like playing cards instead of sexual intercourse (Barth, 1993).

5.5.2 **The Health Belief Model**

The Health Belief Model (HBM) is derived from Decision-Making Theories which rest on the assumption that people are "rational actors", more specifically, that people will make choices they believe will increase their likelihood of obtaining valued experiences and avoiding negative experiences (Abelson & Levi, 1985). According to Valdiserri (1989) "these theories focus on biases in thinking that might prevent people from acting rationally" (p. 48). A shortcoming of these theories, however, is that they assume that many behaviours, attitudes and beliefs can be explained without taking into account emotion or motivation. In the context of AIDS prevention, these theories assume that a person who knows which behaviours are high risk will avoid such behaviours and adopt safer sexual behaviours because he/she perceives that high risk sexual behaviours increase the likelihood of HIV infection (Valdiserri, 1989).

According to Valdiserri (1989) the HBM includes several families of variables that predict behaviour:

(a) Perceived susceptibility - This refers to a person's subjective perception of a health threat, or his/her personal vulnerability to a health threat.

(b) Perceived severity - This refers to a person's perception of the consequences of a disease or health threat.

(c) Perceived effectiveness - This refers to a person's perception that he/she is capable of protective action.

(d) Perveived costs of or barriers to protective actions - The protective behaviour may have negative aspects which act as obstacles to undertaking the desired behaviour. For example, a person with AIDS may stop using medication due to an increase in costs.

(e) Cues to action - A stimulus (such as symptoms or the physician's advice) is necessary to trigger the decision-making process.

(f) Demographic, structural, and sociopsychological factors - It is believed that these factors may influence a person's perception and thus indirectly influence the protective or health-related behaviour.

Valdiserri (1989) argued that these variables are hypothesized to have a multiplicative relationship with each other. For example, "the likelihood of condom use as a means of preventing HIV infection will be greater when people perceive themselves as susceptible to HIV infection, perceive protective action as very effective, see few costs or barriers to self-protection (such as embarrassment over condom purchases), have a cue to action (for example, a reminder of protective behaviours when dating), and are enabled to protect themselves (for example, have the opportunity to get condoms)"(Valdiserri, 1989, p. 51).

Although the HBM is extremely useful for understanding AIDS prevention programmes, it has several weaknesses. Leventhal (1980 cited in Valdiserri, 1989), one of the original developers of this model, cites seven:

(i) It was noted that perceived severity does not predict behaviour very well.

(ii) A large amount of the health behaviour is not explained by the model.

(iii) Even if in the presence of a cue (internal - symptoms or external forces - mass media) people still failed to behave in line with their views.

(iv) A fourth criticism was that the definition of the susceptibility dimension needs to be improved, because people do not act in line with their beliefs.

v) The model only focussed on health beliefs and motives while other beliefs and issues (such as prostitution) are just as important to a person who is engaging in high-risk behaviour.

(vi) The model assumes that information on high-risk behaviour will lead to a reduction of that behaviour.

(vii) Finally, the model assumes that beliefs precede behaviour. Leventhal (1980 cited in Valdiserri, 1989) argues that behaviour sometimes precedes beliefs.

In conclusion, although the HBM has value, other models should be explored, since a recurrent finding in health promotion studies is that information alone is often inadequate to get people to change health-related behaviour (Perkel, 1992; Rosenthal & Shepherd, 1993).

5.5.3 **The Theory of Reasoned Action (TRA)**

The theory of Reasoned Action, is another cognitive model, developed by Fishbein and Ajzen (1975), which provides information about the linkages between knowledge, beliefs, attitudes and behaviour (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). In general, the TRA assumes that individuals will use all information available to them to influence and guide their behaviour. Research, however, indicated that there is a weak relationship between information and behavioural change (Freimuth et al., 1992; Kelly & St. Lawrence, 1989; Perkel , 1992). According to Perkel (1992) the TRA is useful in the sense that it not only predicts behaviour, but it also identifies the determinants of intentions. The emphasis of the TRA is on the person's intentions which are assumed to be the immediate determinants of behaviour (Ajzen & Fishbein, 1980). There are two factors which affect this intention. Firstly, of a personal nature, the intention is affected by the person's attitude toward the behaviour and the person's belief about that behaviour, and secondly, the intention to act is influenced by social factors (such as the person's perception of subjective norms and the value the person places on approval by others) (Perkel, 1992; Valdiserri, 1989).

The TRA and the HBM are similar in that both regard behaviour as the person's perception of and/or belief about the outcome of that specific behaviour. The TRA, however, has an added function in that it not only predicts behaviour, but it "recognizes the influence of subjective norms - albeit in a totally cognitive, information-processing way" (Valdiserri, 1989, p. 53).

In conclusion one can argue that the HBM, Social Learning Theory as well as the TRA all operate at a cognitive level to predict behaviour. The Social Learning Theory claims that social factors, such as significant others, play an important role in shaping a person's behaviour. The HBM, however, argues that behavioural formation is a result of the person's perception of the outcomes of that specific behaviour. The TRA on the other hand can be seen as a bridge between the Social Learning Theory and the HBM, because it not only focusses on internal processes (like the person's attitude toward behaviour), but also on external processes (like the person's belief that others who are significant to him/her believe that he/she should not perform the behaviour).

5.6 **The major concepts of the Barth assertiveness package.**

The package is based on three major concepts. Firstly, abstaining from sexual intercourse or refusing unprotected sexual intercourse are the only responsible alternatives for adolescents. Adolescents usually want to avoid pregnancy and HIV infection (Barth, 1993). the package, therefore, teaches the adolescent ways in which to abstain from sex or to use condoms consistently and effectively. Secondly, correct information about protection and STD's, including HIV transmission, is essential for safe sex. Thus, for adolescents to abstain or protect themselves, they not only need to be aware of the risk of pregnancy and HIV, but also how to abstain or protect themselves and how to handle social situations in which they are pressurized to engage in sex. Lastly, effective communication skills about abstinence and refusal skills related to unprotected sexual intercourse will contribute to responsible sexual behaviour.

5.7 **The objectives of the programme.**

Barth (1993) argues that adolescents participating in classes that use this package, will be able to evaluate the risks and consequences of becoming infected with HIV. Aolescents will also be able to recognize that abstaining from sexual activity or using contraception, are the only ways to avoid HIV infection. Furthermore, factual information about contraception and protection are essential for preventing HIV infection. Adolescents will also be able to demonstrate effective communication skills for remaining abstinent and for avoiding unprotected sexual intercourse.

5.8 Information

Although literature on AIDS indicates that information on AIDS does not keep adolescents from having sex or becoming infected with HIV (Perkel, 1992), accurate information about the consequences of unsafe sex may strengthen their ability to resolve not to have sex or not to have it without protection (Barth, 1993). Informing adolescents that many of their peers do not have sex, may encourage them to abstain (Barth, 1993). Adolescents will complete a number of activities that will make the information relevant to them. Only when the adolescents believe that the information may have an effect on their lives, will they change their behaviour. Participants will also state their own reasons for abstaining from sex or using protection. According to Barth (1993) these reasons will be discussed with parents or guardians and adolescents can practise stating their opinions during role plays, class activities and discussions, and homework assignments.

5.9 Social skills

5.9.1 The nature of social skills

"Social skills are the skills people employ, when interacting at a personal level, with other people" (Hargie, Saunders & Dickson, 1987, p. 1). This definition seem to be limited, because it really indicates what social skills are used for rather than what they are. Phillips (1978 cited in Hargie, Saunders & Dickson, 1987) argues that "a person is socially-skilled if he or she can communicate with others, in a way that fulfils his/her rights, requirements, satisfactions, or obligations to a reasonable degree without damaging the other person's similar rights, requirements, satisfactions, or obligations, and hopefully shares these rights with others in a free and open manner" (p. 2). "A socially-skilled person is one who knows how to behave in a variety of situations" (Hargie, Saunders & Dickson, 1987, p. 2). Other theorists, however, tend to view social skill in terms of the behaviour of the individual. Kelly (1982 cited in Hargie, Saunders & Dickson, 1987), for example, argues that social skills are "those identifiable, learned behaviours that individuals use in interpersonal situations to obtain or maintain reinforcement from the enviroment"(p. 2). McGuire and Priestly (1981 cited in Hargie, Saunders & Dickson, 1987), further, regarded social skills "as those kinds of behaviour which are basic to effective face-to-face communication between individuals" (p. 2). It is, thus, clear that 'social skills' refers to the interpersonal interactions between a person and another person or persons, where the person states his or her opinions, rights,

requests and objections, verbally or nonverbally, without violating the rights, requests and objections of the other person or persons. It is also evident that social skills are learnt (Hargie, Saunders & Dickson, 1987).

5.9.2 **Social skills used in the Barth package**

The most significant emphasis of the package is to teach adolescents the interpersonal or social skills they can use to abstain or protect themselves from unprotected intercourse. The above responses are treated equally, and the adolescent should decide with his parents and his conscience what he/she should do. The curriculum provides ideas, skills and practice to do it effectively. Barth (1993) distingiushes between refusal and delaying (also called alternative actions) statements. A refusal skill is where adolescents will assert themselves by saying "no" to sex, while a delaying skill is used to avoid sex by suggesting an alternative action like going to the movies. According to Barth (1993), a refusal skill, whether verbal or nonverbal, is a clear "no" statement that tells a person "no", without losing a friendship. It is sometimes difficult to say "no" to requests for sex, especially to someone whom you know. In such cases a person might suggest an alternative action to gain time to think about what he/she really wants. The package, therefore, does not intend to be unrealistic in its purpose to stop sexual intercourse, but rather to postpone the onset age of sexual intercourse and also to reduce sexual risk-taking behaviour like multiple sexual partners (Barth, 1993).

5.10 **Educational basis for the Barth assertiveness package**

The package claims that learning follows on from action. The package requires the active participation of pupils in role-play situations to prepare themselves for similar or more difficult situations outside the classroom. Barth (1993), therefore, argues that the pupils will be better-prepared for requests to engage in sex after practice and rehearsal with difficult situations. A number of homework assignments provide pupils with the opportunity to talk to their parents and guardians about abstinence and sex, to visit clinics and stores that sell condoms and other protection, and familiarize themselves with situations that might lead to HIV infection. Through these activities pupils obtain the necessary information and practisein interpersonal skills to prevent them from becoming pregnant or HIV infected.

5.11 **Parent notification and permission**

It is important that the permission of the parents of the pupils participating in the package be obtained. Pupils participating in the package must be aware of what it involves and their parents must know every detail of it before giving their consent for their children to participate. Parents should be informed in writing about the implementation of the package. A parent meeting may be arranged to inform parents about the content and process of the package.

5.12 **Conclusion**

Although the Barth assertiveness package is one of the few AIDS education curricula that has been found to significantly reduce unprotected intercourse (the most common mode of HIV infection), it does not assume to have all the answers. Barth (1993) argues that serious preventative action needs to include the increasing of opportunities for communication between pupil and parent, and pupil and teachers. In addition, Barth (1992) argues that in the United States of America the package apeared to be a good component of a more comprehensive health prevention programme. This, however, needs to be established in a South African context. The next chapter explains in detail how the Barth assertiveness package was evaluated in a South African context, using subjects from two different high schools from the city of Bellville in the South Western Cape.

CHAPTER 6

METHOD

6.1 The aim of the research

(i) The aim of the study was to test the effectiveness of the Barth assertiveness package. In specific the study intended to evaluate the effectiveness of refusal and delaying skills in AIDS-related attitudes and behaviour which may serve as positive change mechanisms in their existing sexual behavioural patterns.

6.2 Hypotheses

6.2.1 The formulation of the hypotheses:

(i) Subjects exposed to the Barth package will differ from those in the Control group in their level of knowledge about AIDS and HIV infection.
(ii) Subjects exposed to the Barth package will differ in risk perception from those in the Control group.
(iii) Subjects exposed to the Barth package will differ from those in the Control group in their condom attitude and behaviour.
(iv) Subjects exposed to the Barth package will differ from those in the Control group in their number of sexual partners.

6.2.2 Overview of the hypotheses

The hypotheses were based on the assumption that the subjects who were subjected to the Barth package would avoid unprotected sex or engage in protected intercourse only. More specifically, subjects in the Barth package (Group 1 or Experiment group) would have higher knowledge of AIDS and HIV and would rate high on assertiveness (display effective refusal and delaying skills), while those subjects in the control group would have lower knowledge of AIDS and HIV and would also rate low on assertiveness.

6.3 **Subjects**

The subjects consisted of 90 standard nine pupils from which 60 were drawn from Bellville High and 30 from Kasselsvlei High. Of the 60 pupils at Bellville High 30 formed an experiment group (Group 1). The remaining pupils at Bellville High and the 30 pupils from Kasselsvlei High formed the control group (Group 2). The subjects in Group 1 were drawn from one class (the standard 9C class). The subjects in Group 2 from Bellville High were drawn from two different classes. 25 were drawn from the standard 9E class and 5 from the 9B class. The subjects from Group 2 at Kasselsvlei High were drawn from two different classes. 15 of the subjects were drawn from the standard 9A class and 15 from the 9B class. The groups were formed in this manner so that it did not interfere with the school programme (See Table 6.1). The number of subjects in the control group(60) are higher than the subjects in the experiments group(30), because the 30 subjects in the experiment group from Kasselsvlei High were included to make the results more representative from the adoloscent sample in Bellville South.

Table 6.1 Composition of the groups

GROUP	N
1	30
2	60

In total, 90 subjects completed the questionnaire before the Barth assertiveness training package was implemented. Of those who completed the relevant demographic section of the questionnaire, 56 (62.9%) were female, 33 (37.1%) were male, and 1 missing value was reported (see Table 6.2); 75 (83.3%) were Afrikaans speaking and 15 (16.7%) were English speaking (see Table 6.3); 87 (96.7%) were of a Christian religion and 3 (3.3%) indicated that they belong to a religion other than Christianity and Islam (see Table 6.4). The subjects had an age range of 16 - 21 years (see Table 6.5). The mean age of the subjects were 17.19 years (males = 17.27 years, SD = 1.18; and females = 17.11, SD = 1.04). Consent was obtained from the parents of the pupils who participated in the study. Consent was also obtained from the Department of Education and Culture through the principals of the schools where the study was conducted. 55 (61.8%) of the subjects indicated that they grew up in a City, while 32 (36.0%) reported growing up in a town and 2 (2.2%) in a village (see Table 6.7).

Table 6.2 Sex Distribution

GROUPS	MALE	FEMALE
GROUP 1 (EXPERIMENTAL)	13	17
GROUP 2 (CONTROL)	20	39
TOTAL	33	56

Table 6.3 Language Distribution

GROUPS	ENGLISH	AFRIKAANS
EXPERIMENTAL	1	29
CONTROL	14	46
TOTAL	15	75

Table 6.4 Religion

GROUPS	CHRISTIAN	OTHER
EXPERIMENTAL	29	1
CONTROL	58	2
TOTAL	87	3

Table 6.5 Age in Years

	AGE GROUPS OF SUBJECTS					
GROUPS	16	17	18	19	20	21
EXPERIMENTAL	4	10	12	2	1	1
CONTROL	23	23	9	3	2	
TOTAL	27	33	21	5	3	1

Table 6.6 Place of Birth

GROUPS	CITY	TOWN	VILLAGE
EXPERIMENTAL	19	11	
CONTROL	36	21	2
TOTAL	55	32	2

6.4 Apparatus / Instruments

6.4.1 Intervention programmes

The subjects in Group 1 were exposed to the Barth assertiveness package. The subjects in Group 2 were exposed to a standard nine Guidance curriculum for the third and part of the fourth quarter. These intervention programmes are discussed under the procedure section (see 6.5). The intervention programmes were presented by the guidance teachers.

6.4.2 AIDS survey (Questionnaire)

Subjects completed a questionnaire in August, 1993 before the implementation of the Barth assertiveness package. The same questionnaire was administered to all the subjects immediately after the implementation of the Barth package in November, 1993. The questionnaire assessed the subjects' knowledge of AIDS and HIV infection, their perceived risk of AIDS and HIV infection, their attitude and behaviour toward condoms and their sexual behavioural patterns prior to and after the implementation of the Barth assertiveness package. The questionnaire was based on a survey, designed by a team of researchers of the University of the Western Cape, which was used in a previous study on the attitudes towards AIDS an its problems (Perkel, 1992). Briefly, the questionnaire can be divided into two parts. Part one consisting of section 1, 2, 3, 4 and 5 while section 6 comprised part two. Part one of the questionnaire was based on a modified

World Health Organisation survey which measured knowledge, perceived risk and attitudes to behavioural change, condom knowledge and attitude, and sexual practices (Perkel, 1992).

The second part of the questionnaire consisted of a refined version of the AIDS Psychosocial scale (APSS) (Perkel, 1992). According to Perkel (1992) this "scale covered psychological dimensions of denial, repression and rationalisation, peer pressure, sexual self-concept, self-efficacy and locus of control" (p. 100). The present study, however, only used part one of thequestionnaire to evalute the effectiveness of the Barth package. It is the intention of the present researcher to conduct a follow-up study,which will examine the influence of these psychosocial factors upon the the effectiveness of the Barth assertivness package. Although the subjects' level of knowledge of AIDS and HIV infection, risk perception , attitudes and behaviour towards condoms and number of sexual partners were measured before and immediately after the intervention programme, it is recognized that long term follow-up need to be done to see whether the change in behaviour was maintained.

Although question 106 and question 301 were changed, the questionnaire did not differ from the one used in the previous study. In question 106 and 301 the word "campus" was substituted with the word "school". The revised questionnaire was then administered to all the subjects (see appendix B, pp.119, for the full scale). The questionnaire has been validated on a South African sample and displays a validity of 0.84 (Perkel, 1992). In the present study the Knowledge of AIDS Scale displayed a reliability score of 0.50, while 0.57 were reported for the Perceived Threat to AIDS and HIV infection and 0.51 for the Attitude and Behaviour toward Condoms. Below is a detailed description of the questionnaire:

Section 1 - In this section respondents provided information about their age, their sex, their home language, their religion, where they grew up and how long they have been at that specific school.

Section 2 - This set of questions assessed the subjects' knowledge of AIDS (i.e., "How much do you think you know about this disease called AIDS?"; "Do you think that a woman who has AIDS can pass it to her baby?").

Section 3 - In this section information was sought, via the questionnaire, about the subjects' perceived risk and attitudes to behavioural change (i.e., "What are the chances that you yourself might catch AIDS?", "Do you intend to make any changes in your behaviour as a result of what you have heard or learned about AIDS").

Section 4 - This set of questions assessed the subjects' knowledge of and attitudes towards condoms. Knowledge of the subjects (i.e., "Men can wear a condom (rubber or FL) during sex to prevent pregnancy. Have you heard of this method?"; "Have you ever used a condom?"). Attitudes towards condoms: there were 12 items presented in an agree / disagree format (i.e., "Getting a condom is/would be too embarrassing"; Condoms are/would be offensive to my sexual partners").

Section 5 - This set of questions assessed the subjects' sexual practices (i.e., "Have you ever had a sexual partner?"; Do you have a regular sexual partner?"). Although the subjects completed the entire section, only Question 504 (number of sexual partners) were used in the analysis.

A number of missing values made it impossible to include the other question items in the scale. A frequency table were constructed to provide us with more information about the subjects sexual practices.

6.4.3 **Scoring of the data**

6.4.3.1 **Section 1 - Demographic data**

The demographic data concerning the variables of sex, language, religion, importance of religion in relation to daily problems and where the subjects grew up were categorized as follows:

(i) Sex: 1 = Male and 2 = Female
(ii) Language: 1 = English, 2 = Afrikaans, 3 = Xhosa and 4 = Other
(iii) Religion: 1 = Muslim, 2 = Christian, 3 = Other and 4 = None
(iv) Importance of religion in daily problems:
1 = Very important, 2 = Somewhat important and 3 = Not important

The demographic data concerning the variables of age and the number of years at this school were scored as folows:

(i) Age: Self-coding question. The age provided by the respondent was scored.
(ii) Years at this school: Self-coding question. The number of years provided by the respondent was scored.

6.4.3.2 **Data from section 2, 3, 4 and 5**

All the other questions consisted of close-ended coded responses (such as 1 = Yes, 2 = No, 3 = Do not know; 1 = Agree and 2 = Disagree; 1 = A great deal, 2 = A moderate amount, 3 = Just a little and 4 = Nothing or 1 = No threat at all, 2 = Some threat and 3 = Serious threat).

Question 308 were the only open-ended question and were scored as follow:
1 = Abstinence, 2 = Condoms, 3 = Other protection, 4 = No behavioural change, 5 = Usure and 6 = Abstinence and condoms.

The subjects' responses were grouped into these categories and scored. See appendix B for the full scale. Also see appendix C for the variable response codes.

6.5 Procedure

6.5.1 Introducing the study to the pupils

At the beginning of the second quarter of 1993 pupils in standard nine at Bellville High and Kasselsvlei High were informed that the present researcher would be conducting a study, and their participation was requested. They were also informed that their participation in the study was entirely voluntary, and that participation or lack thereof would not influence their school progress in any manner. In efforts to increase participation, pupils were promised feedback on the results of the study.

6.5.2 Notification of the study

Due to the nature of the research topic and the information that was required, the consent of the parents of the pupils in the sample were obtained. Letters were sent home with the pupils. Letters were written in both Afrikaans and English to accomodate the language preference of the parents. Permission from the Department of Education and Culture was also obtained since sex education is not part of the Guidance curriculum. Permission for conducting the study at the schools was also obtained. Formal application was made to the principals of the schools. It was agreed that the principal of each school should inform the educational authorities about the study. After the permission of the four parties involved was obtained, the pupils who agreed to participate were incorporated into the study. The pupils were assigned to an Experimental Group and a Control Group (see Table 6.1).

6.5.3 **Study location**

The study was conducted at Bellville High and Kasselsvlei High Schools. Both these schools are situated in Bellville in neighbourhoods that are characterized by both low and middle class socio-economic status, although low socio-economic status appears to dominate. These schools were chosen because of their convenient location, accessibility and the willingness of the principals, teachers, pupils and their parents to participate in the study.

6.5.4 **The intervention programmes**

6.5.4.1 **The Barth assertiveness package**

Group 1 was exposed to the Barth assertiveness package. This package intended to teach pupils refusal and delaying skills to decrease their high risk sexual behaviour and encourage them to adopt safer sexual behavioural patterns. The programme consisted of 12 classes. The guidance teacher presented the classes during the guidance periods. The duration of the classes were of 45 minutes. The classes were presented during the third and fourth quarter of 1993 (See Table 6.7).

Table 6. 7 PROGRAMME FOR THE PRESENTATIONS OF THE CLASSES.

CLASS	WEEK	MONTH
1	9-13	Aug
2	16-20	Aug
3	23-27	Aug
4	30-3	Aug/Sept
5	6-10	Sept
6	13-17	Sept
7	20-23	Sept
8	5-8	Oct
9	11-15	Oct
10	18-22	Oct
11	25-29	Oct
12	1-5	Nov

The following aspects were covered in each class:

Class 1 - Abstinence, sex and protection - HIV prevention emphasis

Class 1 introduced the topic of AIDS, and also emphasized the importance of HIV prevention. It was argued that pupils should abstain from sex, because it is the best protection against HIV infection. Also, if pupils do engage in sexual activities, they need to use protection against HIV infection.

The teacher modelled two versions of a role play to demonstrate refusal skills to help prevent HIV infection. After the teacher performed the first version of the role play, he resumed his role as teacher and asked pupils to express their reaction to the way the players discussed having sex and the risk of HIV. The discussion included the following issues: the way in which adolescents decided whether or not to have sex, why one of the players did not adhere to the decision not to have sex, also what made it difficult to say "no".

Pupils then participated in an "HIV RISK" activity to personalize their vulnerability to HIV and to symbolically experience modes of HIV transmission. Next, the teacher modelled the second version of the role play, where the players dealt effectively with the request to engage in sex. The teacher and pupils then discussed why the players in version two were more effective in dealing with requests to sex than the players in version one.

Class 2 - Abstinence: not having sex.

Class two reminded pupils that there are only two ways to avoid HIV infection - not having sexual intercourse(abstaining), or continually using protection. This session focused on the advantages of abstinence. Additionally, reasons why adolescents fail to abstain or seek protection were considered. Pupils also discussed elements of successful male/female communication about abstinence. Pupils then practised identifying successful elements of communication in the role play from class one. Elements like strong communication (C): being honest and saying what you want so there is no doubt you mean it; relationship building (R): talking and acting in a way that shows you want to keep a good relationship going; and planning (P): talking and acting to ensure a healthy and happy were identified and explained.

Pupils were also informed about the facts of abstinence and reasons why many adolescents do not have sex. The pupils completed a worksheet (What abstinence means to me) to personalize the information on abstinence.

Class 3 - Refusals

Class 3 included a discussion of a pupil/parent homework assignment. The assignment involved two distinct sections. Part A where pupils indicated what they think about sex and protection as well as what they think their parents believe about the same things. The pupils completed part A in class while part B was handed out and the request was made that it be handed in at class 6. It was expected from the pupils to interview their parents to determine what they really think about sex and protection.

The main objective of this class was to introduce the pupils to nonverbal and verbal communication skills of refusal. The teacher first discussed nonverbal skills used for refusing. The pupils were also asked to describe and demonstrate body language that says "no" to sex. Next, verbal refusals were discussed. It was emphasized that it is difficult to say "no" to sex - even to someone we care about - and to keep/adhere to it. Five characteristics for a clear "no" statement were introduced and memorized. Pupils were given the chance to practise and examine the five characteristics of effective refusals. A number of role plays were then performed.

The class was concluded by reminding pupils that they should practise making a clear "no" statement in a way that tells a person they mean "no" without losing a friendship. Pupils were also reminded that the refusals they were learning could be used in a variety of situations.

Class 4 - Using refusal skills

Class 4 was an extension of class 3. Pupils were asked to complete a refusal quiz. Each pupil had to write one or two sentences that boys or girls they know, might use to convince/persuade them to do something they do not want to do - cut a class, have sex or unprotected sex. Volunteers in the full group then shared effective responses to each statement. A number of role plays were performed to practise the new skills in difficult situations. The aim of this class was to give pupils the opportunity to practise how to say "no" to requests for sex or unprotected sex without losing a friendship.

Class 5 - Delaying tactics

Class 5 introduced delaying tactics. The teacher explained that delaying statements were another way in which to handle difficult situations and avoid unwanted and unprotected sex. The teacher also demonstrated and practised delaying skills in

role-play situations. A delaying or refusing quiz was handed out to review the delaying skills introduced in this class.

Class 6 - Avoiding high-risk situations

Pupils were first given the opportunity to discuss the homework assignment from class 3. The teacher encouraged the pupils to report what they had learned rather than to evaluate whether they agreed with their parents. Secondly, pupils looked at situations that could lead to adolescents becoming involved in an unprotected "sex crisis". These situations were labeled "yellow alert" or "red alert". Yellow alerts were signals that there might be an unprotected "sex crisis" in the future and that you should slow down and prepare yourself to avoid HIV infection. Red alert signs showed that there was going to be an unprotected "sex crisis" at any moment and you had to act fast to avoid it. Pupils were then given the opportunity to practise dealing with the two types of alerts in the activity - Handling crisis situations. Although the exercise was difficult, it stimulated the pupils to plan to avoid HIV infection.

A worksheet - Protection: Myths and truths - was handed to the pupils. They were asked to complete only the round 1 section. The teacher explained that the round 2 section would be done in class 8 after they had reviewed and discussed each myth. The worksheet enabled the pupils to write down what they thought about protection facts.

Class 7 - Getting and using protection

The first half of class 7 continued with a discussion and visual demonstration of prevention methods, specifically preventing HIV. In the second part pupils got prepared to locate clinics in their areas and made plans for contacting one to get information about protection. Pupils then applied their knowledge about protection to decide which method(s) might be best for them. Options for this class include a guest speaker from a local clinic or a field trip to a local clinic.

Class 8 - Knowing and talking about protection: skills intergration

Class 8 was the first of a few classes which provided the pupils with the opportunity to practise the communication skills they had learned through the information and experiences from earlier classes on protection, contraceptive methods and clinic

services. Pupils first completed round 2 of a worksheet on protection methods. Round 1 had been completed in class 6. The teacher reviewed each answer. Pupils were asked if they had scored better on the round 2 column. Pupils were then introduced to two role plays in which friends talk to each other about issues related to sex. Pupils were reminded that many judgements about sexuality and protection are often made by talking to friends and that it is important to talk to friends in a way that protects our decisions. A discussion followed about ways to handle similar situations with friends.

Class 9 - Preventing HIV and other Sexually Transmitted Diseases (STD's)

The pupils were provided with facts about STD, including HIV. Pupils were also informed on how to prevent STD and in particular HIV transmission. Pupils were allocated to small groups which explored information about transmission and prevention of five specific STD's. The groups compared the ways in which these STD's are transmitted, how they are prevented and how to get treatment. This exercise enabled pupils to understand the commonalities of STD, including HIV, and how to protect themselves from sexually transmitted diseases. Pupils were also given a homework assignment - How HIV would change my life. This assignment was to be collected in another class.

Class 10 - HIV risk behaviours

The purpose of this class was to help pupils apply their knowledge about HIV transmission and identify which behaviours put them at greatest risk of exposure to HIV. Participants placed behaviours on a continuum of risk, from no risk to risky, and discussed why some behaviours are more risky than others. Adolescents were made aware that there are no second chances when it comes to HIV infection. Also that a steady relationship with a boy or girl does not protect you from becoming HIV infected. Pupils were also reminded of the potential impact of drug or alcohol use on their sexual behavioural patterns.

Class 11 - Implementing protection from STD - including HIV

The purpose of the activities in class 11 was to help pupils develop plans for preventing and reducing the risk of STD, including HIV, through the use of a condom. In the first activity, pupils projected on a worksheet what they would say and do to take steps toward protection. They then used their experience in thinking about these plans to

create the content in the role-play activity. The teacher reminded pupils that they can plan every detail of how to protect themselves.

Class 12 - Sticking with abstinence and protection

Class 12 provided an important opportunity for pupils to discuss their experiences with the homework assignment from class 7, which required them to find information about protection. Additionally, pupils discussed and practised the "self-talk" method to help them plan and keep to the plan to avoid sex or unprotected sex. The homework assignment - How HIV would change my life - from class 9 was also reviewed and discussed.

The course was concluded with a summary of all the important concepts. The present study only used 12 of the 16 classes from the Barth assertiveness package. These 12 classes, however, did cover the entire aim and objectives of the Reducing the risk curriculum.

6.5.4.2 **Standard nine guidance curriculum for the third quarter of 1993.**

The subjects in Group 2 were given the normal guidance curriculum. The guidance teachers were responsible for the presentations of the classes during the guidance periods. The duration of each period was 45 minutes. The classes were presented to the subjects from August, 1993 to November, 1993 (See Table 6.8).

The curriculum consisted of the following classes:

1 - School progress
2 - Interpreting of Subject Achievement Profile.
3 - Matriculation Exemption
4 - Study habits
5 - Study methods
6 - What makes a good school
7 - Bursaries and loans for financing studies.
8 - Tertiary Training
9 - Family relationships and dynamics.
10 - Factors that influence career choice.
11 - Requirements for successful career practice.
12 - Preparations for examinations.

6.5.5 **Administration of the AIDS Survey (questionnaire).**

A questionnaire was administered to all the subjects before and after the Barth assertiveness package (See Table 6.8). The questionnaire was administered in the guidance periods under the supervision of the guidance teacher. The teacher first explained to the pupils how to complete the questionnaire. There were various options for each question and the pupils simply had to make a circle around the number alongside the answer of their choice. The pupils were also reminded that the questionnaire was designed so that the subject was to remain totally anonymous, so they should not write their name, standard group or other identifying information anywhere on the questionnaire. The subjects were then allowed to complete the questionnaire. It took them approximately twenty minutes to complete the questionnaire. 90 (100%) subjects completed the questionnaire before the Barth assertiveness package was implemented and 83 (92,2%) after the implementation of the package. Most of the subjects who were unable to complete the post-test had either left school or had gone to another school.

Table 6.8 ADMINISTRATION OF THE QUESTIONNAIRE

	WEEK	MONTH	QUARTER	YEAR
PRE-TEST	2-6	August	3	1993
POST-TEST	8-12	November	4	1993

6.6 **Research design**

Compare Table 6.9 for a graphical representation of the research process.

Table 6.9 Research Design

GROUPS	PRE-TEST	INTER VENTION	POST-TEST
EXPERIMENTAL (N = 30)	Q1	X	Q2
CONTROL (N = 60)	Q1	Y	Q2

Q1 - Pre-test
Q2 - Post-test
X - Barth assertiveness package
Z - Standard nine Guidance curriculum

6.7 **Analysis**

The main focus of analysis was the rate of change in unsafe sexual practices like condom usage and the number of sexual partners. The analysis also focussed on the knowledge of AIDS and the perceived risk of AIDS and HIV infection of the subjects prior to and after the implementation of the Barth assertiveness package. A Repeated Measures Design were used in the analysis of the data. A Repeated Measures Design is "one in which subjects are measured repeatedly" (Howell, 1989, p.270). The analysis of variance was use to test for the difference in means between the subjects on the experimental and continue ground in respect of their level of knowledge, risk perception, attitudes to condoms and number of sexual partners. For all analyses, any subjects with missing items within the questionnaire were discarded.

The present researcher has opted for a convenient sample because the research procedures required some volunteer commitment from the subjects and the research itself involved self implication in illegal and inappropriate actions. Interpretation of results must therefore be conservative because the sample is one of convenience.

6.8 **Conclusion**

This chapter has outlined in detail - the aim, subjects, instruments, procedure and analysis of the study. It also reported on some of the results of the study. Further discussion of the results as well as the findings of the study is discussed in the next chapter, chapter 7.

CHAPTER 7

RESULTS AND DISCUSSION

7.1 Introduction

This chapter presents the results of the study. The results of the study reports on the effectiveness of the Barth assertiveness package in reducing AIDS and HIV infection. These findings are presented in four subsections. Firstly, the study reported on the subjects' knowledge about AIDS and HIV infection prior to and after the implementation of the Barth assertiveness package. Secondly on the subjects' perceived risk of AIDS and HIV infection before the implementation of the Barth package as well as after the implementation of the package. Thirdly, the results reported on the subjects' attitude and behaviour toward condoms. Lastly, the results reported on the subjects' number of sexual partners prior to and after the package was implemented. The reporting of data is followed by a detailed discussion of the results.

7.2 The results of the study

7.2.1 Knowledge of AIDS Scale

Section 2 of the questionnaire represents the knowledge of AIDS Scale. The following items represented the Knowledge of AIDS Scale: Q201, Q202, Q203, Q204, Q205, Q206A, Q206B, 206C, Q206D, 206E, Q206F, Q206G, Q206H, Q206I, Q206J, Q206K Q206L, Q207, Q208, Q209 and Q210. A high score on this scale reflected that the subjects were highly knowledgeable about AIDS and HIV infection.

It was hypothesized that subjects in Group 1 (Experiment Group) would differ. From the subjects in group 2 (Control group) in their level of knowledge about AIDS and HIV infection after the implementation of the Barth Package. A Repeated-Measures Design was used in the analysis. The mean scores of Group 1 were compared to the mean scores of Group 2. The subjects' level of AIDS and HIV knowledge were measured before and after the study. The results of the pre-test revealed that the means of Group 1 (1.77; n = 27) differed from Group 2 (1.78; n = 53) (see Table 7.1). From the summary table (Table 7.2) it is clear that the differences in the mean scores are not statistically significant because F observed (0.27) < F critical (4.01), alpha = 0.05. One can conclude that the subjects of Group 1 did not differ significantly from the subjects in

Group 2 in respect of their level of knowledge about AIDS and HIV infection prior to the implementation of the Barth package.

Table 7.1 Combined observed means for the knowledge of AIDS

GROUPS	PRE-TEST	POST-TEST
EXPERIMENTAL (GROUP 1)	1.77 (n=27)	1.75
CONTROL (GROUP 2)	1.78 (n=53)	1.75 (n =49)

Table 7.2 Summary Table of Knowledge of AIDS at Pre-test

Source of variation	SS	DF	MS	F	Sig of F
Within+Residual	1.14	63	0.02		
Cond1 (Main Effect)	0.00	1	0.00	0.27	0.605
Total	1.14	64			

*p<.05

The results of the post-test showed that the mean of Group 1 (1.75; n = 26) differed from the pre-test mean of Group 1 (1.77; n = 26) (see Table 7.1). From Table 7.3 we can see that the difference between the means is not statistically significant because F observed (1.73) < F critical (4.01), alpha = 0.05. We do not reject the Ho and conclude that Group 1 subjects' level of AIDS and HIV knowledge did not differ significantly from the time of the pre-test up and to the time of the post-test. If we look at the interaction effect between the groups at the time of the post-test, it seems that the means of Group 1 (1.75; n = 26) and Group 2 (1.75; n = 49) did not differ at all. In fact they are exactly the same. Compare Table 7.3 to see that F observed (0.42) < F critical (4.01), alpha = 0.05. We do not reject the Ho. Thus, we can conclude that the subjects of Group 1's knowledge level of AIDS and HIV were not significantly different than the subjects of Group 2.

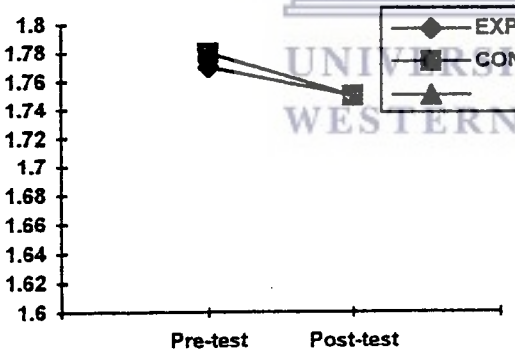
Table 7.3 Summary Table of Knowledge of AIDS at Post-test

Source of variation	SS	DF	MS	F	Sig of F
Within+Residual	1.15	63	0.02		
Factor1	0.03	1	0.03	1.73	0.193
Cond1 By Factor1	0.01	1	0.01	0.42	0.519
Total	1.19	65			

*p<.05

The Barth assertiveness package appeared to have had no significant influence on the subjects' knowledge of AIDS and HIV infection. Compare figure 7.1 which illustrates the interaction between the Barth assertiveness package and the knowledge of AIDS graphically. It is clear from Figure 7.1 that there is no interaction between the Barth package and knowlegde about AIDS and HIV infection.

Figure 7.1 Knowledge about AIDS



7.2.2 Perceived threat of AIDS and HIV infection

Section 3 of the questionnaire represents this scale. This scale is represented by the following items: Q301, Q302, Q303, Q304, Q305, Q306, Q307, Q308 and Q309. This scale determined whether the subjects perceive AIDS to be a threat to themselves, their friends, their school community, and the community at large. A high score on this scale indicated a high perceived risk of AIDS and HIV infection.

It was hypothesized that subjects in Group 1 would differ in risk perception from the subjects in Group 2 after the implementation of the Barth Package. The results of the

pre-test indicated that the mean of Group 1 (1.79; n = 18) differed marginally from the mean of Group 2 (1.80; n = 46) (see Table 7.4). From the summary table (Table 7.5) it is evident that the differences in mean scores are not statistically significant, because F observed (0.48) < F critical (4.20), alpha = 0.05. We therefore do not reject the Ho, and conclude that there were no significant differences between the mean scores of Group 1 and Group 2.

In conclusion, one can argue that before the implementation of the Barth package, the subjects of Group 1 did not perceive AIDS and HIV infection different from the subjects of Group 2.

Table 7.4 Combined observed means for the perceived risk of AIDS and HIV infection

GROUPS	PRE-TEST	POST-TEST
EXPERIMENTAL	1.79 (n = 18)	1.78 (n = 17)
CONTROL	1.80 (n = 46)	1.72 (n = 33)

Table 7.5 Summary Table of the Perceive Risk of AIDS and HIV infection at Pre-test

Source of variation	SS	F	MS	F	Sig of F
Within+Residual	1.61	34	0.05		
Cond1	0.02	1	0.02	0.48	0.495
Total	1.63	35			

*p<.05

The results of the post-test compared to the pre-test showed that the pre-test mean of Group 1 (1.79; n = 18) also differed from the post-test mean of Group 1 (1.78; n = 17) (see Table 7.4). Examination of Table 7.6 indicates that there is no significant difference between the pre-test and post-test means of Group 1, because F observed (1.49) < F critical (4.20), alpha = 0.05. We do not reject the Ho, and conclude that Group 1 subjects' perceived risk of AIDS and HIV infection did not differ significantly before and after the implementation of the package.

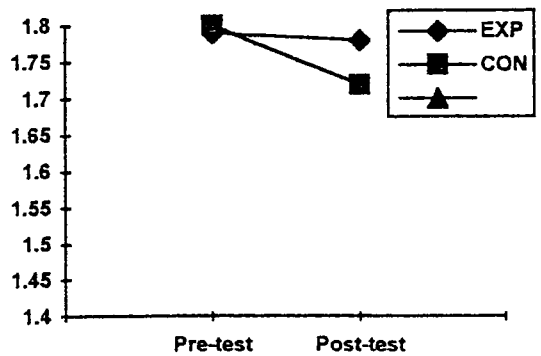
Table 7.6 Summary Table of the Perceive Risk of AIDS and HIV infection at Post-test

Source of variation	SS	DF	MS	F	Sig of F
Within+Residual	2.91	34	0.09		
Factor1	0.13	1	0.13	1.49	0.231
Cond1 By Factor1	0.04	1	0.04	0.46	0.501
Total	3.08	35			

*p<.05

Comparisons of the means of Group 1 (1.78; n = 17) and Group 2 (1.72; n = 33) at the time of the post-test revealed that they differed from each other. From the summary table (Table 7.6) it is clear that the differences in mean scores are not statistically significant. F observed (0.46) < F critical (4.20), alpha = 0.05. We therefore do not reject the Ho, and conclude that the subjects of Group 1 and Group 2 were not significantly different in respect of their perceived risk of AIDS and HIV infection at the time of the post-test (Compare figure 7.2).

FIGURE 7.2 Perceived Risk of AIDS and HIV infection



7.2.3 **Condom Attitude and Behaviour**

The Condom Attitude and Behaviour Scale is all the items included in section 4 of the questionnaire. This section included the following items: Q401, Q402, Q403, Q404, Q405, Q406, Q407, Q408, Q409, Q410, Q411, Q412, Q413, Q414 and Q415. A high score on this scale reflected a more positive attitude and behaviour toward condoms.

It was hypothesized that subjects in Group 1 and Group 2 would differ in attitude and behaviour toward condoms. The subjects' attitude and behaviour toward condoms were measured before and after the implemetation of the Barth assertiveness package. The results showed that the means of Group 1 (1.47; n = 26) and Group 2 (1.54; n = 49) differed at the time of the pre-test (see Table 7.7). From the summary table (Table 7.8) it appears that the differences in the mean scores are statistically significant because F observed (4.82) > F critical (4.01), alpha = 0.05. We, therefore, reject the Ho, and conclude that there is a significant difference between the subjects of Group 1 and Group 2 in respect to their attitude and behaviour toward condoms at the time of the pre-test.

TABLE 7.7 Combined observed means for Attitude and Behaviour toward Condoms

GROUPS	PRE-TEST	POST- TEST
EXPERIMENTAL	1.47 (n = 26)	1.53 (n = 25)
CONTROL	1.54 (n = 49)	1.56 (n = 52)

Examination of the post-test results showed that the mean of Group 1 (1.53; n = 25) differed from the pre-test mean of Group 1 (1.47; n = 26) (see Table 7.7). From the summary table (Table 7.9) it is evident that the differences in mean scores are not statistically significant because F observed (2.15) < F critical (4.01), alpha = 0.05. We do not reject the Ho, and conclude that there is no significant difference between Group 1 subjects' attitude and behaviour toward condoms before and after the implementation of the Barth assertiveness package.

Table 7.8 Summary Table of Condom Attitude and Behaviour at the time of the Pre-test.

Source of Variation	SS	DF	MS	F	Sig of F
Within+Residual	0.81	62	0.01		
Cond1	0.06	1	0.06	4.82	0.032
Total	0.87	63			

*p<.05

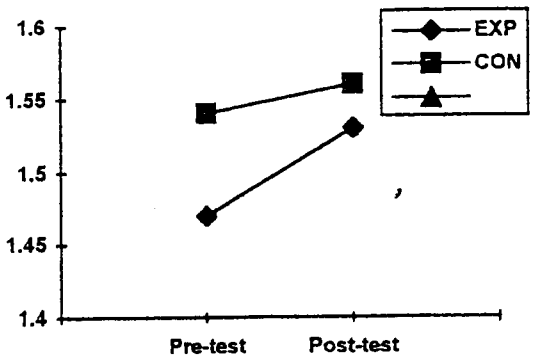
Table 7.9 Summary Table of Condom Attitude and Behaviour at the time of the Post-test.

Source of variation	SS	DF	MS	F	Sig of F
Within+Residual	1.08	62	0.02		
Factor1	0.04	1	0.04	2.15	0.148
Cond1 BY Factor1	0.01	1	0.01	0.57	0.453
Total	1.13	64			

*p<.05

If we look at the interactive effect between the groups at the time of the post-test, it appears that the mean of Group 1 (1.53; n = 25) and Group 2 (1.56; n = 52) are just marginally different. Compare Table 7.9 to see if these means are statistically different. F observed (0.57) < F critical (4.01), alpha = 0.05). We do not reject the Ho and conclude that the mean of Group 1 is not statistically significant from the mean of Group 2 Overall, one can argue that the subjects from Group 1 and Group 2 did not differ in relation to their attitude and behaviour toward condoms at the time of the post-test (see Figure 7.3).

FIGURE 7.3 Condom Attitude and Behaviour



7.2.4 **Number of sexual Partners**

The Sexual Practices Scale include all the questions of section 5 of the questionnaire. The following questions represented the scale: Q501, Q502,Q503, Q504, Q505, Q506, Q507, Q508, Q509, Q510 and Q511. The higher the score on this scale, the safer the sexual practices of the subjects. This scale could not be used in the analysis because a nunmber of missing values appeared for every item. It was decided that only Question 504 should be included here. This item measured the number of sexual partners for every subject before and after the implementation of the Barth package.

It was hypothesized that the subjects of Group 1 and Group 2 would have a difference in the number of sexual partners. The results of the pre-test revealed that the mean of Group 1 (2.64; n = 29) differed from the mean of Group 2 (2.58; n = 60) (see Table 7.10). From the summary table (Table 7.11) it is clear that the differences in the mean scores are not statistically significant, because F observed (1.92) < F critical (5.99),alpha = 0.05. We do not reject the Ho, and conclude that the subjects of Group 1 did not differ in their number of sexual partners.

Table 7.10 The combined observed means for Number of sexual partners.

GROUPS	PRE-TEST	POST-TEST
EXPERIMENTAL	2.64 (n = 29)	2.50 (n = 29)
CONTROL	2.58 (n = 60)	2.41 (n = 60)

The results of the post-test showed that the mean score of Group 1 (2.64; n = 29) differed from the pre-test mean score of Group 2 (2.50; n = 29) (see Table 7.10).
Table 7.12 indicate that the means are not statistically significant, because F observed (1.44) < F critical (5.99), alpha = 0.05. We do not reject the Ho, and conclude that there were no significant differences in the number of sexual partners of the subjects of Group 1 before and after the implementation of the Barth package.

Table 7.11 Summary Table for number of sexual partners at the time of the Pre-test.

Source of variation	SS	DF	MS	F	Sig of F
Within+Residual	16.67	6	2.78		
Cond1	5.33	1	5.33	1.92	0.215
Total	22.00	7			

*p<0.5

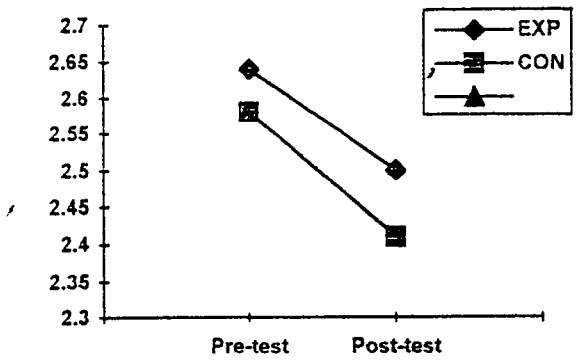
Table 7.12 Summary Table for the number of sexual partners at the time of the Post-test.

Source of variation	SS	DF	MS	F	Sig of F
Within+Residual	8.67	6	1.44		
Factor1	2.08	1	2.08	1.44	0.275
Cond1 By Factor1	8.33	1	8.33	5.77	0.053
Total	19.08	8			

*p.05

If we compare the post-test means of Group 1 (2.50; n = 29) and Group 2 (2.41; n = 60) it is evident that they differ only marginally (see Table 7.10). It was hypothesized that Group 1 and Group 2 would have a difference in the number of sexual partners after the implementation of the package. The results, however, indicate that Group 1 and Group 2 do not differ significantly. F observed (5.77) < F critical (5.99), alpha = 0.05 (see Table 7.12). We do not reject the Ho, and conclude that Group 1 and Group 2 did not differ in the number of sexual partners. Compare Figure 7.4 to see that there were no differences in the number of sexual partners of Group 1 and Group 2.

FIGURE 7.4 NUMBER OF SEXUAL PARTNERS



7.3 Discussion of the results

The present study aims to answer a number of questions raised in the previous sections of the literature review. It intends explaining the effectiveness of the Barth assertiveness package by using a Repeated Measures Design to measure the subjects' level of AIDS and HIV knowledge, perceived risk or vulnerability to AIDS and HIV infection, condom attitude and behaviour, and number of sexual partners, before and after the study. The Barth package is based on several interrelated theories. The present study will make use of elements of the HBM and the Social Learning Theory and the Theory of Reasoned Action to explain the outcome of the results. Frequency tables were included to help indicate the knowledge of AIDS, perceived risk of AIDS, attitudes and behaviour toward condoms as well as the sexual practices of the subjects.

7.3.1 Elements of Health Belief Models

Previous research indicated that the acquisition of AIDS and HIV knowledge as well as the adoption of safer sexual behaviours (such as condom use and fewer sexual partners) is a complicated and difficult task (Smith, Minden & Lefevbre, 1993). A number of studies showed that the provision of information did not always lead to the expected behavioural outcome. De Wildt (1990), for example, found that AIDS information campaigns which focus on fear, actually increased the awareness of the dangers of AIDS, but tended to scare away the people who are at risk. Even AIDS intervention programmes which made use of behavioural methods, did not always lead to positive sexual behavioural patterns. A study by Rosenthal and Shepherd (1993), for instance, revealed that adolescents displayed anoverall reduction in sexual risk-taking behaviour

with casual partners but no change occured in sexual behaviour with regular partners. knowledge about AIDS and HIV, attitude toward condoms, or intention to use condoms at the next sexual encounter. The current data replicates these findings, for example, no significant differences were found in the area of AIDS and HIV knowledge, perceived risk of AIDS and HIV infection, attitude and behaviour toward condoms, and the number of sexual partners. It is hypothesized that these variables (for example, AIDS knowledge, perceived risk, condom attitude and behaviour, and number of sexual partners) have a multiplicative relationship with each other (Valdiserri, 1989). It is, therefore, argued that a person will use a condom or have fewer sexual partners only if his/her AIDS knowledge is high and he/she perceives himself/herself to be at risk of contracting the virus (Valdiserri, 1989). Barth (1993) also reasoned that providing adolescents with accurate information about the risk of unsafe sex, may strengthen their ability to resolve not to have sex or not to have it without protection. A weakness of the Barth package is that it assumes that information on high-risk behaviours will lead to a reduction of that behaviour (Leventhal, 1980 cited in Valdiserri, 1989). Barth (1993), for example, felt that by informing adolescents that many of their peers do not have sex, may encourage them to abstain from sex. The results of the present study contradict this belief, because no significant differences were found between the number of sexual partners of Group 1 and Group 2. Another weakness of the package is the belief that when subjects perceive AIDS and HIV infection to be a risk, they will display safer sexual behaviours. Subjects were, for example, taught yellow and red alert signals to tell them when they were going to be confronted with an unprotected sexual encounter (see 6.5.4.1 Class 6). Furthermore, the subjects were instructed on how to deal with the crisis by saying "No" (using a refusal skill effectively) or suggesting an alternative action (using a delaying skill such as watching television), instead of having unprotected sex. The results showed that there were no significant changes in the sexual behavioural patterns of the subjects irrespective of whether they knew that they were going to be confronted with an unprotected sexual encounter.

7.3.2 **Elements of the Social Learning Theory**

The Barth assertiveness package claims that learning follows from action. Also, that this action or behaviour is formed within a social context. One, therefore, needs to examine the social behaviour as well as the social context in which the behaviour occurs. The package provides adolescents with the opportunity to learn these new skills within a social environment, through the active participation in role-plays and observing the behaviour of those pupils participating in the role-plays. Barth (1993) argued that adolescents who master these skills, will have fewer sexual partners and use condoms when engaging in sex. The results of the present study indicated that there were no

significant differences in the use of condoms and number of sexual partners of the Experiment and Control Group. The assertiveness skills training approach had no effect on the outcome of the results. The question that arises, is why learning did not follow from action. The following sections provide us with a number of arguments to explain the outcome of the results (see 7.3.3 and 7.4)

7.3.3 **Elements of the Theory of Reasoned Action**

The Theory of Reasoned Action (TRA) is a another theory which provides us with information about the relationship between knowledge, beliefs, attitudes and behaviour. It has already been found that the Barth package had no significant influence on the outcome of the results. A number of factors seem to have contributed to the outcome of the results. The TRA emphasizes that a person's behaviour is determined by the intentions of that behaviour (Ajzen & Fishbein, 1980). There are two factors which affect this intention (see 5.5.4). Firstly, a person's behaviour is determined by that person's attitude towards that behaviour. Subjects with negative opinions towards AIDS and HIV infection, are less likely to engage in discussions about AIDS and HIV infection (Fish & Rye, 1991). Freimuth et al., (1992) reasoned that individuals probably approach the sexual encounter with some predisposition about condoms. Some may want to use them, while others either do not think about them or have a negative attitude towards them. Although the Barth package introduced the subjects to the skills necessary to initiate communication with their partners about the use of a condom, it did not take into account the subjects' attitudes and beliefs about condoms. It is, therefore, possible that the subjects' attitudes may have influenced them to use condoms as well as initiate communication about condom usage. The use of condoms are not only influenced by the persons' attitude toward condoms, but also by other psychosocial factors such as self-concept (Gerrard et al., 1991), self-efficacy (Perkel, 1992) and locus of control (Freimuth et al., 1992) (see 3.3). It is, for example, argued that a person with a negative self-concept would avoid threatening material like AIDS and HIV infection, while a person with a positive self-concept would be more likely to practise safer sex such as the use of a condom (Keeling, 1987). Self-efficacy is another variable that appear to mediate between knowledge and behaviour change (Freimuth et al., 1992). Freimuth et al., (1992), for example, found that when respondents believed that they could use condoms effectively, the more likely they were to use them. Strecher et al., (1986) indicated a significant interaction between locus of control and self-efficacy. The study found that subjects who rate high on efficacy will display safer sexual behaviours only when these subjects have an internal locus of control. A person with an internal locus of control is one who feels that he/she has the ability to effect and influence his/her behaviour (Perkel, 1992). It is possible that these factors may have

had an impact on the effectiveness of the Barth package. The present study, for example, concluded that the subjects of Group 1 did not have a higher condom attitude and behaviour than Group 2. Secondly, the TRA emphasizes that a person's behaviour is also influenced by social factors (such as the person's susceptibility to peer pressure). White et al., for example, argued that many adolescents are sexually active, because they may feel pressured to act as their friends do. Although the Barth package acknowledges the role of peer pressure in influencing adolescents' sexual behavioural patterns, it is extremely weak in demonstrating effective communication to deal with these social pressures. It appears that the subjects had difficulty in demonstrating strong elements of communication (such as refusal and delaying skills) outside the boundaries of the classroom. The subjects' friends or other significant role models may have played a more important role than the Barth package in the formation of the subjects' sexual behavioural patterns. Compare a study conducted by McCusker et al., (1992) which found that social norms and perceived peer pressure played a significant role in sexual behavioural change of adolescents. Literature also indicate that when a person is confronted with an external threat like AIDS and HIV infection, he/she may use defense mechanisms (such as repression, denial and rationalisation) to protect himself/herself (Muuss, 1988). A person may, for example, deny health messages of AIDS and HIV infection, because it causes fear of contracting the virus (Valdiserri, 1989). AIDS and HIV infection also causes people to feel helpless against the anxiety caused by AIDS education campaigns. De Wildt (1991) argued that individuals avoid this anxiety by using rationalisation as a defense mechanism to explain away attitudes and behaviour that may be of a high risk nature. These defense mechanisms seem to be counterproductive in that they protect the individual from the anxiety induced by AIDS awareness programmes, but do not help to alleviate the risk of contracting AIDS and HIV infection. Fish and Rye (1991) indicated that individuals often see AIDS as a homosexual disease and not a problem of the broader public.

These individuals do not see themselves at risk of contracting the disease and are, therefore, not concerned with behavioural change. These individuals have appeared to use projection as a defense mechanism (Fish & Rye, 1991). It may appear that subjects in the present study made use of these defense mechanisms to protect themselves from AIDS and HIV infection. In conclusion, one need to address the role of these defenses on the effectiveness of the Barth package in a future study.

7.4 **Discussion of the frequency data.**

The Repeated Measures Design only allowed us to test for differences between the means of the Experiment and Control Group. Little, however, is revealed about the subjects' level of AIDS knowledge, their perceived risk of AIDS, their condom attitude and behaviour, and finally their sexual practices. The frequency data will provide us with some useful information with regard to the subjects under study.

Regarding AIDS knowledge, 20% of the subjects at pre-test and 10% at post-test knew somenone who had AIDS (see Table 7.13). A significant 80% (pre-test) and 73% (post-test) of the subjects knew that a healthy person with HIV can still pass it to other people, while 42% (pre-test) and 56% (post-test) of the subjects were aware that a HIV infected person may have no symptoms (see Table 7.13). Although only a few subjects knew person with AIDS, high levels of knowledge about AIDS and HIV infection were reported for the rest of the subjects.

Results regarding the transmission risk appeared to be extremely good before as well as after the implementation of the Barth package. A high 98% of the subjects at pre-test and an equally high 91% at post-test believed that you will contract AIDS when having sex with a man who has AIDS (see Table 7.13). Only 8% of the subjects at pre-test as well as at post-test believed that you can contract AIDS by kissing, while 96% at pre-test and 88% at post-test indicated that you can become HIV infected from a blood transfusion from an infected person (see Table 7.13). Although only 14% of the subjects at pre-test and 7% at post-test thought that there is a cure for AIDS, an encouraging 80% at pre-test and 77% at post-test felt that AIDS can be prevented (see Table 7.13). It is evident that a high percentage of the subjects are aware of AIDS and HIV infection. This level of AIDS awareness is maintained from the time of the pre-test up and to the time of the post-test. The Experiment group and Control group were equally informed about AIDS because there is no significant difference between the means of the groups (see Table 7.1). It was concluded that the Barth package had no significant impact on the subjects' knowledge about AIDS and HIV infection (see 7.2.1).

Other factors may have contributed to the subjects'knowledge about AIDS and HIV infection. Discussions with the guidance teachers at the high schools revealed that most of the subjects were exposed to another AIDS awareness programme. This programme was conducted two years prior to the present study. The awareness programme informed the pupils about AIDS, HIV risk behaviours and safer sexual behaviours that do not place one at risk of contracting the virus. The Guidance curriculums of all the different standards also contained lessons on AIDS and sex education. Discussions with the subjects revealed that some of them were also exposed to AIDS prevention programmes conducted at youth meetings of there respective churces.

In conclusion, one can argue that the subjects were already knowledgeable about AIDS and HIV infection and that the Barth package further contributed to the knowledge of the subjects in the Experimental group. This contribution was, however, not statistically significant (see 7.2.1).

Table 7.13 AIDS Knowledge reported in the questinnaire

AIDS KNOWLEDGE	PRE-TEST (%) (n = 90)	POST-TEST (%) (n = 83)
Knew someone with AIDS/HIV	20	10
Aware that people may be HIV infected and yet have no symptoms	42	56
Knew that a healthy person with HIV can still pass it to other people	80	73
Transmission risks:		
Touching body of AIDS person	1	2
Kissing	8	8
Sharing food or cups	7	6
Contaminated needles	92	86
Prostitutes	91	84
Sex with many people	92	91
Mosquito or blood-sucking insect	18	19
Sex with a man who has AIDS	98	91
Sex with a woman who has AIDS	98	90
Blood transfusion from an infected person	96	88
Wearing clothes of a person with AIDS	1	2
Toilet seats	10	4
Knew a woman with AIDS can pass it to her baby	93	87
Cure for AIDS	14	7
All infected with AIDS will die	50	48
AIDS is preventable	80	77

*Percentages rounded to the nearest integer

Results of the frequency data of the perceived threat to AIDS and HIV infection revealed that 68% of the subjects at pre-test and 56% at post-test felt that AIDS is a serious threat to the school community (see Table 7.14). A significant 82% of the subjects at pre-test and 67% at post-test indicated that they intend to make behaviour changes as a result of AIDS, while 41% at pre-test and 44% at post-test indicated that their friends changed their behaviour as a result of AIDS (see Table 7.14). A detailed

study of the frequency data of the perceived threat of AIDS revealed that a high percentage of the subjects see AIDS as a threat to the school community at present and in the future, and that most of them indicated there intention to make behaviour changes as a result of AIDS (see Table 7.14).

Table 7.14 Perceived threat to AIDS reported in the questionnaire

PERCEIVED THREAT TO AIDS	PRE-TEST (%) (N = 90)	POST-TEST (%) (N = 83)
Think AIDS is a serious threat to school community now	68	56
Think AIDS is a serious threat to school community in the future	73	72
Avoid AIDS by changing behaviour	59	57
Friends change their behaviour as a result of AIDS	41	44
Have you change behaviour as a result of AIDS	62	53
Intention to make behaviour changes as a result of AIDS	82	67
Inform partner if you had AIDS	88	81

*Percentages rounded to the nearest integer

Although the frequency data of the attitude and behaviour toward condoms showed that 98% of the subjects at pre-test and 86% at post-test have heard of condoms, only 17% at pre-test and 20% at post-test actually used a condom (see Table 7.15). A high percentage of subjects (63% at pre-test and 62% at post-test), however, indicated that they would use a condom if they were made available to them (see Table 7.15). One can conclude that most of the subjects attitude and behaviour were positive toward condoms. Only 35% at pre-test and 26% at post-test, for example, thought that condoms make sex less enjoyable (see Table 7.15). An insignificant 30% at pre-test and 16% at post-test also felt that the use of a condom make them feel uncomfortable or Embarrassed in front of their partner (see Table 7.15).

The central hypothesis of the present study, however, was that subjects participating in the Experimental group, would differ from the subjects in the Control Group in the use of condoms. This hypothesis was not supported (see 7.2.3). There was, thus, no significant difference between the subjects attitude and behaviour toward condoms. The

Barth package, therefore, had no significant impact on the outcome of the use of condoms among the subjects. A possible explanation could be the all the subjects were knowledgeable about AIDS and HIV infection. Literature on AIDS also indicate that individuals who knew about AIDS and HIV infection, usually displayed a positive attitude and behaviour toward condoms (Gard et al., 1991). The present study found that all the subjects were highly informed about AIDS (see Table 7.13) and that most of them held positive attitudes and behaviours toward condoms (see Table 7. 15). Condom useage, therefore, did not differ among the different groups.

Table 7.15 Condom Attitude and Behaviour reported in the questionnaire

ATTITUDE AND BEHAVIOUR TOWARD CONDOMS	PRE-TEST (%) (N = 90)	POST-TEST (%) (N = 83)
Heard of condoms	98	86
Used a condom	17	20
Use a condom if they were made available	63	62
Condoms make sex less enjoyable	35	26
Condom use with casual partners are most appropriate	67	68
Condom use is against my religion	20	14
Price of condoms is too high to use regularly	9	9
Condoms are/would be offensive to my sexual partners	33	20
Condoms are appropriate for use with spouse or regular partner	56	52
Condom use cause distrust with partner and thoughts that they dirty	33	22
Condom use make me feel uncomfortable or embarrassed in front of my partner	30	16
Getting a condom is/would be embarrassing	42	29
Condoms are a plot by the goverment to control the size of the blacks	26	22

*Percentages rouded to the nearest integer

Evaluation of the frequency data of the subjects' sexual practices indicated that only 10% of the subjects at pre-test and 20% at post-test had a sexual partner (see Table 7.16). Of the 10% sexually active subjects at pre-test, 13% indicated that they have a regular sexual partner (see Table 7.16). Of the 20% sexually active subjects at post-test, 19% indicated that they have a regular sexual partner (see Table 7.16). The number of sexual partners had during the past year ranged from 1 (11% pre-test and 9% post-test), 2 (3% pre-test and 10% post-test), 3 (3% pre-test and 9% post-test), 4 (1% pre-test and 3% post-test), 5 (1% pre-test and post-test) to 7 (2% pre-test and 1% post-test). 9% of the subjects indicated at pre-test that they always used a condom with these partners, while 7% were reported for the post-test.

The hypothesis of the present study was that the experiment and the Control Group differ in the number of sexual partners. This hypothesis was, however, not supported (see 7.2.4). Overall, one can conclude that the subjects' sexual practices did not differ significantly. While relative few subjects reported to be sexually active, most of them, however, displayed sexual practices that were of a high risk (for example, low condom use).

Table 7.16 Sexual practices reported in the questionnaire

SEXUAL PRACTICES		PRE-TEST (%)	POST-TEST (%)
Have a sexual partner		10	20
Regular sexual partner		13	19
Number of sexual partners:	1	11	9
	2	3	10
	3	3	9
	4	1	3
	5	1	1
	7	2	1
Always used a condom with this/these partners		9	7

*Percentages rounded to the nearest integer

7.5 **Conclusion**

One can conclude that the Barth assertiveness training package did not significantly influence the subjects' knowledge of AIDS, perceive threat of AIDS, attitude and behaviour toward condoms and sexual behavioural patterns. Examination of the frequency data showed that the subjects in the Experiment as well as the Control group were well informed about AIDS and HIV infection and that they perceived AIDS and HIV infection to be threat. This high knowledge about AIDS and perceived risk about AIDS, however, did not lead to safer sexual behaviours such as higher condom useage and fewer sexual partners. It was found that the subjects condom attitude and behaviour as well as their number of sexual partners did not significantly differ at the time of the pre-test and post-test. It is argued that a number of psychosocial factors seem to intrude upon the effectiveness of AIDS education programmes (Perkel, 1992). It is, however, beyond the scope of the present study to include these psychosocial factors in the data analysis. The present study is an exploratory study; it is therefore recommended that future studies should include these psychosocial factors in their analysis in order to examine their role in AIDS intervention programmes.

CHAPTER 8

CONCLUSION AND RECOMMENDATIONS

8.1 Introduction

The present study has demonstrated that AIDS prevention programmes which focus on the provision of information as well as skills training do not always have the desired outcome of reducing unsafe sexual practices. From the results of the study it is clear that the subjects of Group 1 or the Experiment group were ineffective in intergrating the information and skills presented in the Barth package. It is also possible that other factors could have contributed to the outcome of the results. We will, therefore, consider these factors to help explain the outcome of the results. Recommendation for future studies are also provided, along with conclusions derived from the study.

8.2 Shortcomings of the study

A major obstacle of the study was that with the presentations of every class, an average of three to four pupils were absent from the Experiment Group. Halfway through the study two of the subjects also dropped out of school and consequently out of the Experiment Group. A high number of the subjects were, therefore, not exposed to all the classes of the Barth package. Barth (1993) argued that for the package to be effective, the active participation of the subjects in each class was necessary. The acquisition of knowledge were probably even more difficult for those subjects who missed a few classes. Furthermore, behavioural change is a complex process which involves a series of interactive stages (Freimuth et al, 1992). It is, thus, clear that the subjects needed to attend all the classes if they were to display safer sexual behaviours and a higher level of knowledge about AIDS and HIV infection.

A number of subjects in the control group also left school during the course of the study. It was learned from the pupils that three of these subjects were pregnant and had to leave school. The present study was unable to measure the behaviour of these subjects after the implementation of the Barth package. It is questioned whether the inclusion of these subjects could have significantly influenced the outcome of the results of the present study. Furthermore, the study did not seem to have the mechanisms to stimulate and encourage the subjects to stay within the programme for its full duration.

Although the subjects were enthusiastic about the study, it seemed to disappear as the study progressed. The subjects started to become preoccupied with their final examination. This contributed to a lack of interest in the study. The guidance teacher, who was responsible for the presentation of the classes, was struggling to motivate the pupils. This lack of interest, coupled with the fact that the pupils did not trust the teacher's level of information about AIDS as well as his discretion on the topic, prevented the pupils from spontanously talking to the teacher. Mansfield et al., (1993), for example, showed that school-based prevention programmes have difficulty in demonstrating behavioural changes in adolescents and that many adolescents felt that personal interaction with a primary health care provider might stimulate them to adopt positive sexual behavioural patterns.

Another concern of the present researcher was that 29 of the subjects in the Experiment group were Afrikaans-speaking and the Barth assertiveness package was conducted in their second language (English). Although some of the subjects participated with ease, a vast majority appeared to be unresponsive. The language barrier could have been one of the reasons why the Barth package had no significant impact on the subjects' knowledge of AIDS and sexual behavioural patterns. It is also questionable whether the subjects understood the questions, because several missing values were reported for a number of items at pre-test as well as post-test. Possible explanations could be the fact that the questionnaire was originally used in a study conducted on university students and that it was not translated from English to Afrikaans. A future study on the effectiveness of the Barth assertiveness package needs to develop its own questionnaire which should take into consideration the subjects' academic levels as well as their language preference.

One of the aims of the Barth package is to increase parent/child communication about abstinence, contraception (such as condoms) and AIDS. Subjects were given homework assignments where they had to discuss these topics with their parents. Only five of the subjects indicated that they initiated discussions with their parents, while the others were either too shy to talk about it or simply did not attempt to do the assignments. Although the subjects viewed their parents and guardians as important, they questioned their parents' knowledge about AIDS. Peterson (1989) also found that parents often lack the knowledge to teach their children about sex. It appears that the package should look at alternative ways of encouraging parent/child communication about sex and AIDS.

8.3 **Recommendations for future research**

Research have showed that it is difficult to change the behaviour of a person that already has a well-established set of values, attitudes and beliefs (Smith, Minden & Lefevbre, 1993). Barth (1993) also indicated that "Reducing the Risk Curriculum" did not significantly reduce the frequency of sexual intercourse or use of condoms among those adolescents who had initiated intercourse before the implementation of the curriculum. The present study also showed no improvements in the subjects' level of AIDS knowledge, sexual behavioural patterns, perceived risk of AIDS and HIV infection and attitude and behaviour toward condoms. It is, thus, fair to recommend that future AIDS education programmes such as the Barth assertiveness package be implemented at a younger age to adopt and maintain healthy behavioural patterns that help reduce the risk of becoming HIV infected.

The present study acknowledges that HIV infection are not prevented only by increasing adolescents' knowledge and in avoiding situations that might involve unprotected sex. The study recommend that prevention efforts should be comprehensive and include all the different agents concerned with youth development. The Barth package should be used to complement other organisations such as the church, sports clubs and other community activities. The present study, therefore, recognizes that an individual's behaviour is not only determined by internal processes (like the person's attitude toward behaviour), but also through external processes (like peer pressure) (Ajzen & Fishbein, 1980). One, therefore, needs a comprehensive and coordinated structure to support behavioural change efforts.

The study also suggest that the adoption of safer sexual behaviours (such as condom usage and fewer sexual partners) will only be effective if adolescents are given the opportunity to prepare themselves for request to engage in sex. Furthermore, that these safer sexual behaviours will only be maintained, if practice and rehearsal with difficult situations occur at regular intervals. The present study, therefore, recommend that prevention programmes of these nature be implemented at an early age and maintained throughout the later developmental stages (for example, adolescence and adulthood).

Although every effort was made to make the dialogue of the role plays culturally and/or regionally appropriate, it appeared that the American culture conflicted with the culture of the subjects in the study. The subjects values, beliefs, opinions and norms about sex and activities related to sex, seemed to be inconsistent with those expressed in the Barth assertiveness package. Prevention programmes should take these norms, values, opinions and beliefs into consideration because research has indicated that they may influence the effectiveness of these programmes (Williams et al., 1992). McCusker et. al., (1992), for example, found that social norms and perceived peer pressure play an important role in sexual behaviour change. The present study recommend that AIDS prevention programmes conducted in South Africa should be sensitive to the cultural diversities of the South African society. Further, that researchers need to develop AIDS and HIV intervention campaigns which are relevant to the South African context.

The present study acknowledges its inability to examine the influence of psychosocial factors on AIDS prevention programmes. It therefore recommend that valid instruments need to be developed, which could provide evidence that psychosocial variables mediate between knowledge and behaviour. The AIDS Psychosocial Scale (APPS) have been developed by Perkel (1992) to examine the importance of psychosocial factors in the mediation between knowledge and behaviour. The findings of the present study could be discussed in the light of this model.

8.4 **Conclusion**

Although tremendous research has been done in the area of AIDS and HIV infection, it is doubtful whether researchers will find a cure in the near future. Prevention seem to be the only alternative to stop this disease from spreading.

The present study has indicated that programmes which focus on information and assertiveness skills are ineffective in reducing AIDS and HIV infection. It appeared that psychosocial factors intrude upon the effectiveness of these AIDS interventions. The present study were, however, unable to show the influence of these intervening variables on the effectiveness of the Barth assertiveness package. It is hoped that a study following on the present one will examine these psychosocial factors.

Finally, this study has attempted to reduce the risk of becoming HIV infected by teaching high school adolescents refusal and delaying skills to effectively deal with request for sex. The Barth assertiveness package appeared to have limited success in this regard. It was, however, suggested that AIDS prevention programmes of this nature be implemented at an early age before a person has a well-established set of values, attitudes and behaviour. In conclusion, one can argue that although the Barth package is limited in its potential to effect behavioural change, it does not mean that it is worthless. The package, for example, prevented the subjects' sexual behaviour from becoming worser over time. Overall, the results of the study are particularly satisfactory given that most of the subjects maintained a high level of AIDS knowledge, a high perceived risk of AIDS, and a positive condom attitude and behaviour.

The number of sexual partners also did not differ significantly between the Experiment and Control group. In sum, although this package is not a total solution to the AIDS pandemic, it can be an effective component of a more comprehensive community approach.

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APPENDIX A

TEST FOR KNOWLEDGE

Combined Observed Means for COND1

Variable .. **T1KNOW**

COND1		
1	**WGT.**	**1.76812**
	UNWGT.	1.76812
2	**WGT.**	**1.79705**
	UNWGT.	1.79705

Variable .. **T2KNOW**

COND1		
1	**WGT.**	**1.75155**
	UNWGT.	1.75155
2	**WGT.**	**1.74830**
	UNWGT.	1.74830

* * * * * * Analysis of Variance -- design 1 * * * *

Tests of Between-Subjects Effects.

Tests of Significance for T1 using UNIQUE sums of squares

Source of Variation	SS	DF	MS	F	Sig of F
WITHIN+RESIDUAL	1.14	63	.02		
COND1	**.00**	**1**	**.00**	**.27**	**.605**

(MAIN EFFECT FOR CONDITION)

******Analysis of Variance -- design 1******

Tests involving 'FACTOR1' Within-Subject Effect.

Tests of Significance for T2 using UNIQUE sums of squares

Source of Variation	SS	DF	MS	F	Sig of F
WITHIN+RESIDUAL	1.15	63	.02		
FACTOR1	**.03**	**1**	**.03**	**1.73**	**.193**

(MAIN EFFECT FOR REPEATED MEASURES)

COND1 BY FACTOR1	**.01**	**1**	**.01**	**.42**	**.519**

(INTERACTION EFFECT - TRUE REPEATED MEASURES EFFECT)

TEST FOR THREAT

******Analysis of Variance -- design 1******

Combined Observed Means for COND1

Variable .. T1THREAT

COND1		
1	WGT.	1.85859
	UNWGT.	1.85859
2	WGT.	1.87111
	UNWGT.	1.87111

---------- Variable .. T2THREAT

COND1		
1	WGT.	1.81818
	UNWGT.	1.81818
2	WGT.	1.72889
	UNWGT.	1.72889

* * * * * * Analysis of Variance -- design 1

Tests of Between-Subjects Effects.

Tests of Significance for T1 using UNIQUE sums of squares

Source of Variation	SS	DF	MS	F	Sig of F
WITHIN+RESIDUAL	1.61	34	.05		
COND1	.02	1	.02	.48	.495

Adjusted and Estimated Means

Variable .. T1

CELL	Obs. Mean	Adj. Mean	Est. Mean	Raw Resid.	Std. Resid.
1	2.600	2.600	2.600	.000	.000
2	2.546	2.546	2.546	.000	.000

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* * * * * * Analysis of Variance -- design 1

Combined Adjusted Means for COND1

Variable .. T1

COND1		
1	UNWGT.	2.59987
2	UNWGT.	2.54558

******Analysis of Variance -- design 1******

Tests involving 'FACTOR1' Within-Subject Effect.

Tests of Significance for T2 using UNIQUE sums of squares

Source of Variation	SS	DF	MS	F	Sig of F
WITHIN+RESIDUAL	2.91	34	.09		
FACTOR1	.13	1	.13	1.49	.231
COND1 BY FACTOR1	.04	1	.04	.46	.501

Adjusted and Estimated Means

Variable .. T2

CELL	Obs. Mean	Adj. Mean	Est. Mean	Raw Resid.	Std. Resid.
1	-.029	-.029	-.029	.000	.000
2	-.101	-.101	-.101	.000	.000

******Analysis of Variance--design 1

Combined Adjusted Means for COND1
Variable .. T2
COND1
1 UNWGT. -.02857
2 UNWGT. -.10057

TEST FOR CONDOM

******Analysis of Variance--design 1******

Combined Observed Means for COND1
Variable .. T1CONDOM
COND1
1 WGT. 1.47273
UNWGT. 1.47273
2 WGT. 1.53810
UNWGT. 1.53810

---Variable .. T2CONDOM
COND1
1 WGT. 1.52727
UNWGT. 1.52727
2 WGT. 1.55556
UNWGT. 1.55556

---******Analysis of Variance--design 1******

Tests of Between-Subjects Effects.

Tests of Significance for T1 using UNIQUE sums of squares

Source of Variation	SS	DF	MS	F	Sig of F
WITHIN+RESIDUAL	.81	62	.01		
COND1	.06	1	.06	4.82	.032

Adjusted and Estimated Means

Variable .. T1

CELL	Obs. Mean	Adj. Mean	Est. Mean	Raw Resid.	Std. Resid.
1	2.121	2.121	2.121	.000	.000
2	2.188	2.188	2.188	.000	.000

******Analysis of Variance -- design 1******

Combined Adjusted Means for COND1

Variable .. T1

COND1		
1	UNWGT.	2.12132
2	UNWGT.	2.18754

******Analysis of Variance -- design 1******

Tests involving 'FACTOR1' Within-Subject Effect.

Tests of Significance for T2 using UNIQUE sums of squares

Source of Variation	SS	DF	MS	F	Sig of F
WITHIN+RESIDUAL	1.08	62	.02		
FACTOR1	.04	1	.04	2.15	.148
COND1 BY FACTOR1	.01	1	.01	.57	.453

Adjusted and Estimated Means

Variable .. T2

CELL	Obs. Mean	Adj. Mean	Est. Mean	Raw Resid.	Std. Resid.
1	.039	.039	.039	.000	.000
2	.012	.012	.012	.000	.000

******Analysis of Variance--design 1******

Combined Adjusted Means for COND1
Variable .. T2

COND1		
1	UNWGT.	.03857
2	UNWGT.	.01235

NUMBER OF SEXUAL PARTNERS

******Analysis of Variance--design 1******

Combined Observed Means for COND1
Variable .. T1SEX3

COND1		
1	WGT.	4.50000
	UNWGT.	4.50000
2	WGT.	1.50000
	UNWGT.	1.50000

Variable .. T2SEX3

COND1		
1	WGT.	2.00000
	UNWGT.	2.00000
2	WGT.	2.33333
	UNWGT.	2.33333

******Analysis of Variance--design 1******

Tests of Between-Subjects Effects.

Tests of Significance for T1 using UNIQUE sums of squares

Source of Variation	SS	DF	MS	F	Sig of F
WITHIN+RESIDUAL	16.67	6	2.78		
COND1	5.33	1	5.33	1.92	.215

Adjusted and Estimated Means

Variable .. T1

CELL	Obs. Mean	Adj. Mean	Est. Mean	Raw Resid.	Std. Resid.
1	4.596	4.596	4.596	.000	.000
2	2.711	2.711	2.711	.000	.000

******Analysis of Variance--design 1******

Combined Adjusted Means for COND1

Variable .. T1

COND1		
1	UNWGT.	4.59619
2	UNWGT.	2.71058

******Analysis of Variance -- design 1******

Tests involving 'FACTOR1' Within-Subject Effect.

Tests of Significance for T2 using UNIQUE sums of squares

Source of Variation	SS	DF	MS	F	Sig of F
WITHIN+RESIDU AL	8.67	6	1.44		
FACTOR1	2.08	1	2.08	1.44	.275
COND1 BY FACTOR1	8.33	1	8.33	5.77	.053

Adjusted and Estimated Means

Variable .. T2

CELL	Obs. Mean	Adj. Mean	Est. Mean	Raw Resid.	Std. Resid.
1	-1.768	-1.768	-1.768	.000	.000
2	.589	.589	.589	.000	.000

******Analysis of Variance -- design 1******

Combined Adjusted Means for COND1

Variable .. T2

COND1		
1	UNWGT.	-1.76777
2	UNWGT.	.58926

Q206	Do you think that one can get AIDS by:	Yes	No	Do not know
a.	Touching the body of a person who has AIDS	1	2	3
b.	kissing a person who has AIDS	1	2	3
c.	sharing food or cups with a person who has AIDS	1	2	3
d.	Using needles used by a person who has AIDS	1	2	3
e.	having sex with prostitutes	1	2	3
f.	having sex with many people	1	2	3
g.	being bitten by a mosquito or other blood-sucking insect	1	2	3
h.	having sex with a man who has AIDS	1	2	3
i.	having sex with a woman who has AIDS	1	2	3
j.	blood transfusion from a person who has AIDS	1	2	3
k.	wearing clothes used by a person who has AIDS	1	2	3
l.	from toilet seats	1	2	3

Q207	Do you think that a woman who has AIDS can pass it on to her baby?	Yes	1
		No	2
		Do not know	3
Q208	Do you think that a person who has AIDS can be cured?	Yes	1
		No	2
		Do not know	3
Q209	Among people who get AIDS, how many do you think will die of this disease?	None of them	1
		Some of them	2
		Most of them	4
		All of them	5
		Do not know	3
Q210	Do you think that AIDS can be prevented?	Yes	1
		No	2
		Do not know	3

please turn over...

SECTION 3

Q301	How much of a threat do you think AIDS is to the health of the school community now?	No threat at all Some threat Serious threat	1 2 3
Q302	How about the next few years. Is AIDS going to be a threat to the health of this community?	No threat at all Some threat Serious threat	1 2 3
Q303	What are the chances that you yourself might catch AIDS?	Not likely at all Somewhat likely Very likely	1 2 3
Q304	Can a person avoid getting AIDS by changing his or her behaviour? That is by doing certain things and not doing other things?	Yes No Do not know	1 2 3
Q305	Have any of your friends changed their behaviour as a result of hearing about AIDS?	Yes No Do not know	1 2 3
Q306	Have you made any changes in your own behaviour or way of life as a result of what you have heard about AIDS?	Yes No	1 2
Q307	Do you intend to make any changes in your behaviour as a result of what you have heard or learned about AIDS?	Yes No	1 2
Q308	What kind of changes have you made/ do you intend to make in your behaviour and way of life?	_____ _____ _____ _____	
Q309	If you had AIDS, would you inform your partner(s)?	Yes No	1 2

SECTION 4

Q401	Men can wear a condom (rubber or FL) during sex to prevent pregnancy. Have you heard of this method?	Yes No	1 2
Q402	Have you ever used a condom?	Yes No	1 2
Q403	If condoms were made readily available to you, would you use them?	Yes No	1 2

please turn over...

5

People say many things about condoms. Below is a list of some of the things they say. Read each statement and decide whether you agree or disagree with that statement. Make a circle around the response of your choice that you believe to be true or untrue.

		Agree	Disagree
Q404	Condoms make/would make sex less enjoyable	1	2
Q405	Condoms are most appropriate for use with casual partners	1	2
Q406	Condom use is against my religion	1	2
Q407	The price of condoms is too high to use regularly	1	2
Q408	Condoms are/would be offensive to my sexual partners	1	2
Q409	Condoms are good at preventing pregnancy if used properly	1	2
Q410	Condoms can prevent venereal diseases (VD) if used properly	1	2
Q411	Condoms are most appropriate for use with spouse or regular partner	1	2
Q412	Condom use may make my partner(s) think that I don't trust them or think they're dirty	1	2
Q413	Using a condom makes/would make me feel uncomfortable or embarrassed in front of my partner	1	2
Q414	Getting a condom is/would be too embarrassing	1	2
Q415	Condoms are a plot by the government to control the size of the black population	1	2

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SECTION 5

Q501	Have you ever had a sexual partner?	Yes	1
		No	2

If you answered "No" to the above question Q501, then skip straight to Q601 of the next section. If you answered "Yes" to Q501, then carry on and answer Q502 and all the following questions.

Q502	Do you have a regular sexual partner?	Yes	1
		No	2
Q503	Have you had sex with someone other than your regular partner in the past year?	Yes	1
		No	2
Q504	How many sexual partners have you had in the past year (include regular partner in total)	Number_____	
Q505	Did you ever use a condom with this/these partner(s)?	Yes, each time	1
		Yes, sometimes	2
		Never	3
Q506	Generally, who provides the condoms? Yourself or your partner?	Myself	1
		My partner	2
		Sometimes myself, sometimes my partner	3
Q507	Have you given anyone money in return for sex in the past year?	Yes	1
		No	2
Q508	Have you received money in return for sex during the past year?	Yes	1
		No	2
Q509	If you answered "Yes" to either Q507 or Q508, did you ever use a condom on these occassions?	Yes, each time	1
		Yes, sometimes	2
		Never	3
Q510	Have you ever been treated for a sexually transmitted disease? (e.g., VD, syphilis, "the drop", etc)	Yes	1
		No	2
Q511	If you answered "Yes" to Q510, was this once, or more than once?	Once	1
		More than once	2

APPENDIX C

CODEBOOK FOR THE AIDS SURVEY 1993

VARIABLE NAME	VARIABLE RESPONSE CODE
Age	Section 1 Question 101 Self-coding question: the age provided by the respondent will be the code.
Sex	Question 102 Close-ended question: codes below will be used 1 = Male 2 = Female
Language	Question 103 Close-ended question: language categories were provided in the questionnaire. Codes below will be used. 1 = English 3 = Xhosa 2 = Afrikaans 4 = Other
Religion	Question 104 Close-ended question: religion types were provided in the questionnaire. Codes below will be used. 1 = Muslim 3 = Other 2 = Christian 4 = None
Importance of religion in daily problems	Question 105 Close-ended question: codes below will beused. 1 = Very important 2 = Somewhat important 3 = Not important
Years at this school	Question 106 Self-coding question: the number of years provided by the respondent will be the code.
Grow up	Question 107 Close-ended question: codes below will be used 1 = City; 2 = Town; 3 = Village 4 = Farm

VARIABLE NAME	VARIABLE RESPONSE CODE
AIDS knowledge	SECTION 2 Question 201
	Close-ended question: codes below will be used 1 = A great deal; 2 = A moderate amount 3 = Just a little 4 = Nothing
Ever known someone with AIDS	Question 202 Close-ended question: codes below will be used 1 = Yes 2 = No
Can have the AIDS virus but no symptoms.	Question 203 Close-ended question: codes below will be used 1 = Yes 2 = No 3 = Do not know
How long for a person with AIDS virus to develop symptoms.	Question 204 Close-ended question: the codes below will be used. 1 = Days 3 = Do not know 2 = months 4 = years
Can a healthy person with AIDS pass it to others	Question 205 Close-ended question: codes below will be used. 1 = Yes 2 = No 3 = Do not know
Contract AIDS From Scale (12 items) forms	Question 206 (a - j) Likert-type scale: the encircled number the code. Below is the codes that will be used 1 = Yes 2 = No 3 = Do not know

VARIABLE NAME	VARIABLE RESPONSE CODE
AIDS person can be cured.	Question 208 Close-ended question: codes below will be used. 1 = Yes 2 = No 3 = Do not know.
How many people who gets AIDS will die.	Question 209 Close-ended question: codes below will be used. 1 = None of them 2 = Some of them 3 = Do not know 4 = Most of them 5 = All of them.
Can AIDS be prevented	Question 210 Close-ended quetion: codes below will be used. 1 = Yes 2 = No 3 = Do not know.
How much threat is AIDS to the school community now.	SECTION 3 Question 301 Close-ended question: codes below will be used. 1 = No threat at all 2 = Some threat 3 = Serious threat.
How much threat is AIDS to the school community future	Question 302 Close-ended question: codes below will be future. used. 1 = No threat at all 2 = Some threat 3 = Serious threat.
Chances of you to get AIDS.	Question 303 Close-ended question: codes below will be used. 1 = Not likely at all 2 = Somewhat likely 3 = Very likely

VARIABLE NAME	VARIABLE RESPONSE CODE
Avoid AIDS by changing behaviour	Question 304 Close-ended question: codes below will be used. 1 = Yes 2 = No 3 = Do not know.
Your friends change behaviour because of AIDS.	Question 305 Close-ended question: codes below will be used. 1 = Yes 2 = No 3 = Do not know.
Have you change your behaviour because of AIDS.	Question 306 Close-ended question: codes below will be used. 1 = Yes 2 = No
Do you intend to change your behaviour because of AIDS.	Question 307 Close-ended question: codes below will be used. 1 = Yes 2 = No
What kinds of behaviour changes do you intend to make or did you make.	Question 308 Open-ended question. The researcher decided to group the responses into the following categories: Abstinence Condoms Other protection No behaviour change Unsure Abstinence and condoms With this approach the responses of the respondents will be summarised according to these conceptual categories. 1 = ABSTINENCE : not having sexual intercourse saying no 2 = CONDOMS: use condoms, FL and rubber 3 = OTHER PROTECTION: pill,

	withdrawal, contraceptive foam and contraceptive sponge 4 = NO BEHAVIOUR CHANGE: no need to change behaviour not sexually active, therefore no change 5 = UNSURE : do not know thinking about change 6 = ABSTINENCE AND CONDOMS: the responses of abstinence and condoms combined.
Inform partner if you had AIDS.	Question 309 Close-ended question: codes below will be used. 1 = Yes 2 = No
Heard about condoms	SECTION 4 Question 401 Close-ended question: codes below will be used. 1 = Yes 2 = No
Used a condom.	Question 402 Close-ended question: codes below will be used. 1 = Yes 2 = No
Use a condom if it were made available.	Question 403 Close-ended question: codes below will be used. 1 = Yes 2 = No
Attitudes Towards Condoms Scale. (12 items)	Question 404 - Question 415 Likert-type scale: the encircled number formsthe code. Note the codes: 1 = Agree 2 = Disagree
Ever had a sexual partner.	SECTION 5 Question 501 Close-ended question: codes below will be used. 1 = Yes 2 = No
Had sex with a person other than your regular partner	Question 503 Close-ended question: codes below will be used. 1 = Yes 2 = No

How many sexual partners in the past year.	Question 504 Self-coding question: the number provided by the respondent will be the code.
Use a condom with this/these partner(s).	Question 505 Close-ended question: codes below will be used. 1 = Yes, each time 2 = Yes, sometimes 3 = Never.
Who provides the condoms	Question 506 Close-ended question: codes below will be used. 1 = Myself 2 = My partner 3 = Sometimes myself, sometimes my partner.
Give money for sex in the past year.	Question 507 Close-ended question: codes below will be used 1 = Yes 2 = No
Receive money for sex in the past year.	Question 508 Close-ended question: codes below will be used. 1 = Yes 2 = No
Use a condom if you said yes to either Q507 or Q508.	Question 509 Close-ended question: codes below will be used. 1 = Yes, each time 2 = Yes, sometimes 3 = Never
STD treatment	Question 510 Close-ended question: codes below will be used. 1 = Yes 2 = No
If yes to Q510, was this once or more than once	Question 511 Close-ended question: codes below will be used. 1 = Once 2 = More than once

APPENDIX D

RECORD LAYOUT FOR THE QUESTIONNAIRE

(FIELDS FOR) CARD 1	COLUMN	LENGTH	MIN	MAX
1. Record or subject number	1 - 3	3	001	120
2. Group number	2	1	1	2
3. Age	5 - 6	2	01	99
4. Sex: 1 = Male 2 = Female	7	1	1	2
5. Home language	8	1	1	4
6. Religion	9	1	1	4
7. Importance of religion in daily problems.	10	1	1	3
8. Years at this school	11	1	1	9
9. Grow up	12	1	1	4
10. AIDS knowledge	13	1	1	4
11. Ever known someone with AIDS.	14	1	1	2
12. Have the AIDS virus but no symptoms.	15	1	1	3
13. How long for a person AIDS virus to develop symptoms.	16	1	1	4

(FIELDS FOR) CARD 1	COLUMN	LENGTH	MIN	MAX
14. Can a healthy person with AIDS pass it to others.	17	1	1	3
15. Contract AIDS From Scale (12 items) Question 206 a - j.	18 - 29	12	1	3
16. Can a woman with AIDS pass it to her baby.	30	1	1	3
17. AIDS person can be cured.	31	1	1	3
18. How many people who gets AIDS will die.	32	1	1	5
19. Can AIDS be prevented.	33	1	1	3
20. How much threat is AIDS to the school community now.	34	1	1	3
21. How much threat is AIDS to the school community in future.	35	1	1	3
22. Chances of you to get AIDS.	36	1	1	3
23. Avoid AIDS by changing behaviour.	37	1	1	3
24. Your friends change behaviour because of AIDS.	38	1	1	3

25. Have you changed your behaviour because of AIDS.	39	1	1	2
26. Do you intend to change your behaviour because of AIDS.	40	1	1	2
27. What kinds of behaviour changes did you make or intend to make.	41	1	1	6
28. Inform partner if you had AIDS.	42	1	1	2
29. Heard about condoms.	43	1	1	2
30. Used a condom.	44	1	1	2
31. Use condoms if it were made available.	45	1	1	2
32. Attitudes Toward Condoms Scale. (12 items) Question 404 - Question 415	46-57	12	1	2
33. Ever had a sexual partner.	58	1	1	2
34. Regular sexual partner.	59	1	1	2
35. Had sex with a person other than your regular partner.	60	1	1	2
36. How many sexual partners in the past year.	61 - 62	2	01	99
37. Use a condom with this/these partner(s).	63	1	1	3

38. Who provided the condoms.	64	1	1	3
39. Gave money for sex in the past year.	65	1	1	2
40. Received money for sex in the past year.	66	1	1	2
41. Used a condom, if you said yes to either Q507 or Q508.	67	1	1	3
42. Have you ever been treated for a STD.	68	1	1	2
43. If yes to Q510, was this once or more than once.	69	1	1	2