PSYCHOSOCIAL VARIABLES IN THE TRANSMISSION OF AIDS

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ABSTRACT

In the decade since first identified, the Acquired Immunodeficiency Syndrome (AIDS) has become a serious global disease. The nature of the Human Immunodeficiency Virus (HIV) that causes AIDS, whereby a carrier may be asymptomatic yet remain infectious, has enabled its dramatic spread. The number of AIDS cases is increasing exponentially, averaging a doubling time of between 8-15 months in different countries. Of the millions of HIV carriers, it is now estimated that all will eventually go on to develop full-blown AIDS and probably die within 15 years.

Unlike other infectious diseases, there is currently no known vaccine or cure. Further, HIV is now virtually completely dependent on volitional sexual behaviours for transmission to occur. It is therefore an entirely preventable disease. However, since the behaviours that contribute to HIV-transmission are influenced by biological, psychological, and social factors, their alteration in line with safer sexual practices has been shown to be considerably complex and difficult. Intervention strategies that have relied on imparting knowledge about the disease have achieved limited success in influencing behaviour change. Unsafe sexual practices, and the risk of HIV-infection, often continue even when knowledge regarding prevention is adequate. It has therefore become apparent that other variables intrude which may mediate between knowledge acquisition, attitude formation, and consequent sexual behaviours.

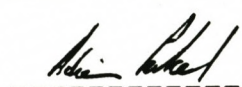
There appear to be no models which adequately explain the complexities in this area, and which enable adequate intervention strategies to be developed. The present study was undertaken to redress this problem, and to explore those variables that mediate in the area. Various psychological and social factors appear to be implicated in influencing sexual attitudes and behaviours. In order to adequately test the impact of psychosocial variables that were found to have significant associations in an exploratory study, a measuring instrument was developed. The AIDS Psychosocial Scale was statistically validated using content, frequency, factor, and reliability analyses and included psychological factors of self-concept, defenses of denial, repression, and rationalisation, perceived empowerment in the form of locus of control and self-efficacy, and the social factor of peer pressure susceptibility.

The impact of these psychosocial variables on indices of knowledge, condom attitude, and sexual practices, and on other epidemiological variables was tested using a sample of students at the University of the Western Cape (n=308). Results indicated a number of correlational and causal links between variables, confirming the mediational role psychosocial factors have in influencing knowledge acquisition, attitude formation, and behaviour outcome. A profile of lower self concept, higher defenses, lower self-efficacy, more external locus of control, and higher peer pressure susceptibility emerged which was associated with poorer knowledge, more negative

attitudes, and higher unsafe sex. Based on this study, a model of psychosocial mediation is developed and its implications for intervention strategies discussed.

DECLARATION

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



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The author claims all responsibility, however, for the opinions, ideas, findings and flaws that may be reflected in this study.

A. Perkel
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"We must never forget that we may also find meaning in life even when confronted with a hopeless situation, when facing a fate that cannot be changed. For what then matters is to bear witness to the uniquely human potential at its best, which is to transform a personal tragedy into a triumph, to turn one's predicament into a human achievement".

Viktor E. Frankl

INTRODUCTION

Barely a decade ago, the Acquired Immunodeficiency Syndrome (AIDS) was as yet unknown and the Human Immunodeficiency Virus (HIV) responsible for it as yet unidentified. Within a short space of time, these terms have become synonymous with a deadly global pandemic that has begun to cause immense suffering to great numbers of people everywhere. It is a disease that may incubate after infection for years without manifest symptoms, during which time it can be spread unknowingly to other people. Accordingly, the exponential spread of this disease has been dramatic and apart from the high numbers of those already diagnosed with full-blown symptoms, are a huge number of asymptomatic carriers. For every diagnosed case of full-blown AIDS, it is estimated that 100 may be infected yet asymptomatic. Each one of these carriers will eventually become symptomatic and probably die within a few years.

It is now clear that AIDS is primarily a sexually transmitted disease, dependent on volitional sexual behaviour for transmission and infection to occur. As yet, there is no known medical cure or vaccine for HIV or AIDS. In the absense, therefore, of a technological solution for this disease, breaking the chain of transmission must rest on altering those human sexual behaviours conducive to its spread. Such an endeavour, however, has been shown throughout the world to be a complex and difficult task. Since sexual behaviours are influenced by biological, attitudinal,

social, and psychological factors, and are pleasurable and reinforcing, developing adequate models of understanding in this area remains a difficult task.

Research and experience around the world has demonstrated that solely imparting knowledge in intervention strategies has been inadequate and largely ineffective. It has become increasingly clear that various psychological and social factors influence knowledge acquisition and attitude formation and mediate in these areas and ultimately effect how sex is practiced. Accordingly, developing adequate intervention strategies for the alteration of sexual attitudes and behaviours must rest on researching and understanding how these psychosocial factors operate to mediate in this area. This thesis represents an attempt to achieve this understanding and through it to develop a model of psychosocial mediation that may be useful in improving intervention strategies for the control of HIV transmission.

In Chapter 1, the history of AIDS and its spread is explored in order to locate the epidemic in its historical context. Further, the exponential spread of the disease, together with its characteristics are discussed, and the shifts from an originally homosexual problem to a primarily heterosexual one demonstrated.

Social and political factors that impinge on this disease and how these may effect the disadvantaged are discussed in order to broaden an understanding of those factors contributing to the spread of AIDS.

In Chapter 2, the discussion is taken further into the realm of psychosocial dimensions that effect AIDS-related knowledge, attitudes and behaviours. The insufficiency of knowledge as a sole variant in combatting the problem is explored and mediating psychosocial factors that relate to this issue discussed. Research and experience have appeared to implicate various psychological variables such as sexual self-concept, various defense mechanisms of denial, repression and rationalisation, social norm influences, and perceived empowerment in the form of locus of control and self-efficacy. These variables are discussed with regard to their importance, with particular attention being given to their exclusion as significant dimensions in other social psychological models.

In Chapter 3, an exploratory study that attempts to illuminate how specific psychosocial dimensions influence AIDS-related knowledge, attitudes and behaviour is reported. This study represents a first step in researching and developing a model of psychosocial mediation. The procedure and results of this study (based on odds ratios) are reported together with the implications of the study.

In Chapter 4, this process is taken forward into developing an appropriate instrument to measure these factors. Generation and refinement of items for the AIDS Psychosocial Scale (APSS) are reported. A pilot study (n=206) designed to validate the psychometric properties of the APSS is explained, together with the various statistical analyses undertaken to achieve this. Content and face validity, frequency distribution, factor analysis, reliability analysis and sub-scale correlations are reported and the implications of these for the main study discussed.

In Chapter 5, the main study is reported. In this study (n=308), two phases of research are undertaken. Firstly, the APSS is refined and re-validated according to various statistical procedures, including factor analysis, reliability analysis, split-half reliability, and sub-scale correlations. This phase of the study confirms the psychometric reliability and validity of the APSS and verifies its use for analysing how psychosocial factors mediate in the area of sexuality and AIDS. In phase two of the main study, indices of knowledge, attitudes and sexual practices, as well as various epidemiological factors, are correlated with the various psychosocial dimensions of the APSS. Statistical procedures using multiple regression and path analysis are employed to increase the explanatory power of the links between variables and to identify those with causal rather than correlational properties. These are reported, together with a discussion of results.

In Chapter 6, the results of the main study are discussed in order to support the development of a model of psychosocial mediation. Firstly, the significance of the relationships of the sub-scale factors of the APSS are discussed and a psychological profile established. Secondly, the impact of these psychosocial factors on indices of knowledge, attitudes and sexual behaviours and on various epidemiological variables are discussed together with the implications these have as mediational variables. Finally, this chapter reports on the development of a model of psychosocial mediation and the implications this may have in the AIDS area.

Finally, Chapter 7 takes an exploratory look at the implications a mediational model of psychosocial factors has for intervention strategies designed to alter AIDS-related attitudes and behaviours. Whilst a fuller exploration of intervention strategies remains beyond the scope of this thesis, this discussion attempts to synthesise the implications of the research undertaken in the present study. It highlights those issues that require attention in designing and implementing appropriate intervention strategies for the control and prevention of HIV transmission. It is hoped that this discussion may improve understanding of how to better intervene for the reduction of HIV-transmission and thereby help in the combatting of this destructive global pandemic.

CHAPTER 1

BACKGROUND TO THE AIDS PANDEMIC

1.1. History

The phenomenon of AIDS is a recent one. In 1981, the Morbidity and Mortality Weekly Report (MMWR) of the Centers for Disease Control (CDC) in Atlanta, Georgia included reports of a new and strange clinical picture emerging among certain patients (Friedman, Felman, Rothenberg, Dritz, Braff, Fannin, Heindl, Sikes, Gunn & Roberts, 1981). Incidents of rare skin cancers (such as Kaposi's Sarcoma) and lung infections (such as Pneumocystis Pneumonia) in previously healthy young men were reported. By August of that year it was becoming clear that a new clinical syndrome was emerging (Chirimuuta & Chirimuuta, 1987).

It was evident that severe immune suppression was accompanying the range of bizarre symptoms presenting in these cases and concern mounted about the steady increase of this previously unknown syndrome. In 1982, it was named the Acquired Immunodeficiency Syndrome (AIDS) by the CDC (Shilts, 1987). A year later, in August 1983, the viral agent responsible for AIDS was identified. This was the virus that would later be termed the Human Immunodeficiency Virus (HIV), a reference to its virulent attack on the body's immune system.

1.2. AIDS Spread

Subsequent to its identification, it became evident that AIDS was spreading at an alarming rate. Within eight years of the first identified case of AIDS in the United States, it was reported that 167 373 cases had been identified the world over (World Health Organisation, 1989). The disease had spread to at least 149 countries and was estimated to be doubling at an average rate of every year (Panos, 1988). The global nature of HIV and AIDS spread placed the disease beyond the confines of a local epidemic and placed it within the realm of a worldwide pandemic.

It was estimated that for every diagnosed case of AIDS there were ten people with AIDS Related Complex (ARC)(symptomatic but not yet in the full-blown AIDS phase of the disease), and a probable 100 who were HIV-positive yet remained asymptomatic (Whiteside, 1988). The asymptomatic yet infectious carrier nature of this virus, extending to a period of up to ten or more years, is what appeared to contribute to its rapid and effectively silent spread around the world. It is this tip-of-the-ice-berg phenomenon that makes AIDS such a devastating problem (Perkel & Strebel, 1989).

1.3. **Africa**

By April 1989, more than 23 000 cases of AIDS were reported by 47 African countries, although estimates are that these reported cases may represent only one-tenth of actual cases (Kingman, 1989). Reported cases indicate that Africa as a whole has 16% of world cases, mostly in Central, Eastern and Southern Africa (Dlamini, 1989). However, given poor health facilities, educational infrastructure, and poor living conditions in much of Africa, the spread may increase considerably. Some countries have reported marked infection rates. Uganda, for example, has reported over 7000 AIDS cases with estimates of a 25% infection rate among the sexually active adult population. In Harare, the primary cause of infant mortality is now assumed to be AIDS and estimates are that 500 000 people may be infected in that country. Malawi probably has the highest rate of infection (Panos, 1988; Stone, 1989). The WHO estimated that already in early 1987, two million or more Africans out of a world-wide rate of 5-10 million may have been infected with the virus (Mann, 1987).

1.4. **South Africa**

Despite the late entrance of AIDS into South Africa, it is evident that the number of cases is rising sharply. The first two cases were diagnosed in December 1982. By 14 April 1989, seven years later, 200 cases had been identified. By 22 June 1989, 231 cases

were reported, an increase of 31 cases over barely two months. By 31 July 1989, 244 cases had been diagnosed, a further increase of 13 cases in little over a month. If non-South Africans diagnosed in the country are included, these figures rise to 271 as of 31 July 1989 (National Institute for Virology, 1989). South Africa, like most of Africa, is estimated to have a doubling time of AIDS cases of eight-and-a-half months (Padayachee & Schall, 1990), this being less than that of the USA with a doubling time of 15 months (Ijsselmuiden, Steinberg, Padayachee, Schaub, Straus, Buch, Davies, De Beer, Gear & Hurwitz, 1988). It is apparent that unless this doubling time is increased and infection rates reduced, the societal consequences of this pandemic may be catastrophic.

1.5. **Exponential Spread**

The primary issue that prioritises the need for rapid and effective intervention to reduce the incidence of HIV transmission, is the exponential nature of its spread. Unlike other illnesses which are relatively confined and curable, AIDS is incurable and indiscriminate. Its continued spread may mean that large proportions of the population will become infected, and given the nature of the disease, eventually die. The ramifications regarding the social fabric of society, the economic productivity of a largely infected workforce, and the psychological and medical implications of dealing with these cases, may mean a fundamental eroding of the structure of society. In addition, since the HIV

virus is predominantly sexually and pre-natally transmitted, the consequences for future generations may be particularly detrimental. Large numbers of infants may be born infected and die in childhood, thereby increasing the spiral of a breakdown of the reproductivity of society.

Present case reports inadequately represent the future direction that may ensue. Projections of future trends may provide a more complete picture of what may be expected. Based on a regression derived from the number of South African cases reported since 1983, a worst case scenario shows a doubling time of eight months (Whiteside, 1988). Present trends appear to indicate that this is already occuring (Padayachee & Schall, 1990). By 1995, a best case scenario will produce 3634 cases and a worst scenario 176 128. If a 50% mortality rate per annum is assumed, it would mean that by 1991, 1375 people will die of AIDS in South Africa. By 1996, AIDS could be the single most important cause of death with a total of 88 064 fatalities.

1.6. Heterosexual Spread

Whilst initial identification of AIDS was principally amongst homosexual men, trends have indicated that heterosexual spread is now predominant, particularly in Africa. It is estimated that heterosexual transmission accounts for 75% of infections of HIV among adults in Africa (Mann, 1987; Sherr, 1987).

AIDS is therefore not a sub-group phenomenon. It is of global concern. The tendency to view AIDS in terms of high risk groups rather than high risk behaviour has become obsolete (Jones, Waskin, Gerety, Skipper, Hull & Mertz, 1987; Sherr, 1987).

Intervention needs to be directed at reducing risky behavioural practices amongst all people since it is not membership of particular groupings that increase transmission risk, but the practice of unsafe sex.

Further, since the majority of people aged 16 and older appear to be, or to have been, sexually active (Kegeles, Adler & Irwin, 1988; Mathews, Kuhn, Metcalf, Joubert & Cameron, 1990; Perkel, Strebel & Joubert, 1991), it is essential to analyse those psychosocial variables that mediate in the area of sexual attitudes and behaviour in order to increase understanding of factors that contribute to high-risk practices.

1.7. Effect on the Disadvantaged

Arguments regarding the need to prioritise research, intervention, and social organisation regarding AIDS have been challenged on the grounds that other diseases (often preventable) infect great numbers of people, particularly in the third world context.

As Panos (1988), for example, has argued:

> "If 75 000 people have died of AIDS since the pandemic began, a quarter of a million children die each week from the quiet carnage of undernourishment and preventable infection" (p.32).

Whilst the importance of other diseases should not be ignored, it is necessary to view the AIDS pandemic both in its historical and predicted future context. Firstly, the spread of HIV may lead to a major increase in the number of secondary and opportunistic infections that are already common in Africa. Since immuno-resistance to common diseases like malaria and tuberculosis will be compromised as AIDS takes hold, so too may these previously controlled illnesses become increasingly widespread.

Secondly, in the Third World those who are less well-nourished, more prone to other diseases, or subject to social stressors (such as migrant labour) that may lead to greater numbers of sexual partners, increase their exposure to risk factors associated with HIV transmission and infection.

Thirdly, since access to condoms and curative and preventative medical care may be limited, control of opportunistic infections secondary to HIV may be compromised and Third World mortality rates may therefore be greater.

Finally, in South Africa the link between the conditions created by Apartheid and the spread of HIV must be noted. According to Ijsselmuiden et al., (1988), the situation in South Africa is compounded by various social, political and economic factors that may impact on HIV spread. Included among these is the preponderance of men in urban centers, the migrant labour system which separates men and women from their spouses, the size of the migrant labour population, the large number of single-sex dwellings, political tensions, and the state induced fragmentation of curative and preventative health services. Since socio-economic conditions do not allow for healthy living, the virus may spread more rapidly among disadvantaged people. Limited access to help may aggravate the problem.

These issues raise the need to address AIDS as a priority concern. Strategies for appropriate intervention need to be explored and a sophisticated understanding of the variables that impede behaviour-change developed.

CHAPTER TWO

PSYCHOSOCIAL DIMENSIONS IN HIV TRANSMISSION

2.1. Psychosocial Nature of AIDS

In the absence of prospects of a cure or vaccine for AIDS, it has become increasingly clear that this disease is not simply a bio-medical problem (Whiteside, 1988). Nelkin (1987) argues that in the absence of short-term technological solutions, containment of the disease will rest on our ability to affect changes in behaviour and life-style so as to break the chain of transmission.

> "Since AIDS was first identified in 1981, a great deal has been learned about the genetic structure of the virus, the route of viral transmission, and the course of the disease. However, AIDS is far more than a medical and biologic problem. Finding workable and reasonable means of controlling this disease will require dealing with its critically important social dimensions" (Nelkin, 1987, p. 980).

Nelkin (1987) further argues that the forces that shape human behaviour, and the ability to modify high-risk health behaviour, are extra-ordinarily complex and difficult. Psychosocial research is therefore urgently needed, argue Ijsselmuiden et al., (1988),

and given the importance of furthering this dimension with regard to the AIDS issue, the traditional tendency for the "Lion's share" of research finance to go to the biomedical sciences needs to be addressed.

AIDS may be viewed as a problem of attitudes and behaviour. Since it is a disease that is principally transmitted though unsafe sexual practices, the primary effective route to reducing HIV transmission may be through changing sexual behaviour. In this regard, sexual abstinence, a mutually faithful and HIV-free monogomous relationship, or barrier protection that prevents the exchange of body fluids remains the only effective method for the prevention of sexually transmitted HIV. As mentioned above, since the majority of people over 16 years appear to be sexually active, condom use during sexual activity remains one of the most important prevention methods available. However, resistance to condom use appears to remain high. Against this background, Becker and Joseph (1988), Fisher (1988), and Judson (1989), for example, argue that attention must focus on the only available measure to tackle the disease - alteration of those human behaviours essential to transmission of HIV. Such an endeavour must be based on a thorough understanding of prevailing knowledge, attitudes and practices related to HIV infection in diverse societies and subgroups (Cominos, Gottschang & Scrimshaw, 1989).

Various critical dimensions of health-behaviour need to be understood. At one level, it is important to analyse social, cultural and political variables that interface with individual psychological factors to effect knowledge, attitudes and consequential behavioural patterns. Particularly in the arena of AIDS, attention is drawn to sexual, reproductive and addictive behaviours, comparatively sensitive and problematic areas for intervention (Becker & Joseph, 1988).

Moreover, present understanding of these dimensions remains inadequate. Judson (1989) and Nelkin (1987) have argued that research into this area is scant and that the psychological and social aspects of the disease remain poorly understood. Whilst some studies have begun to provide preliminary pointers regarding psychological and social variables (for example, Archer, 1989), understanding of mediational factors continues to be inadequate, pointing to the need to further develop insight into those factors that mediate attitudinal and behavioural resilience and change.

Leventhal and Cleary (1980), in addressing the problem of cigarette smoking, have argued that despite intensive research efforts of epidemiologists, health educators, physicians, physiologists, psychologists, and sociologists on the origins and nature of smoking and on ways of modifying it, the procedures for bringing about smoking reduction and cessation are still imperfect. They argue that clarity on the mixture of social, psychological, and

pharmacological factors that account for the apparent strength of smoking dependence remain elusive. It is argued that a greater understanding is needed regarding the dialectic between social and psychological factors in order to facilitate more sophisticated and effective approaches to intervention in risk-reducing life-style behaviours.

Coates, Temoshok and Mandel (1984) have argued that it is crucial that psychological research be undertaken to develop an understanding of why psychological factors may increase susceptibility to disease, influence the course of disease and contribute to health-promoting or health-damaging behaviours. In AIDS, the pandemic nature of HIV spread makes this need even more pressing since unlike personal-risk behaviours such as smoking, HIV is a transmittable disease with social consequences. In this regard, Becker and Joseph (1988) argue that various attempts are required to better understand the determinants of AIDS-related behavioural change.

2.2. Knowledge is Insufficient

Numerous studies in both AIDS and other areas have demonstrated that appropriate and adequate knowledge does not correlate with a corresponding positive behaviour change (Archer, 1989; Nelkin, 1987). Leventhal and Cleary (1980), for example, demonstrated that despite the fact that most smokers believe smoking is hazardous,

and are aware of its risk, they continue to practice what are health-risk behaviours by continuing to smoke.

In the arena of AIDS the problem is similar. Becker and Joseph (1988) argue that there is little evidence that either knowledge or attitudes significantly shape behaviour. It seems that whilst knowledge is important for behaviour change, beyond a certain level, further increments in knowledge or improved attitudes no longer influence behaviours. It is therefore hypothesised that a "threshhold" effect may occur whereby increases in appropriate knowledge no longer have any influence on behaviour. Judson (1989) argues that in general, human behaviour is weakly driven by knowledge, and strongly driven by values, beliefs and instinct. Particularly in the area of sexuality, the instinctual and pleasurable aspects make it inaccessible to educational influence or moral persuasion. The vast majority of new cases of HIV infection, Judson argues, will occur in individuals who possess all the information they need to prevent infection.

This research trend has been corroborated by numerous authors. Archer (1989) points out that public education has been shown in some studies to have little effect on sexual behaviour, leaving both low- and high-risk groups vulnerable to HIV spread. It is well known, he argues, that knowledge alone does not cause sufficient change in behaviour to control an epidemic of sexually transmitted disease. A study by Temoshok, Sweet and Zich (1987) found that

knowledge about AIDS was not significantly correlated with change in sexual practices for any of the groups under study. Merely presenting accurate information, they argue, is not enough, in that irrational fears and prejudices (or other mediational variables) may be obstacles to utilising this information.

Kegeles, Adler and Irwin (1988) in a study of adolescent sexuality in the United States, found that although sexually active adolescents report placing high value and importance on using contraceptive devices to prevent sexually transmitted diseases, and have appropriate knowledge in this regard, most continued to intend to not use condoms and continued to have multiple sexual partners, thus maintaining high-risk behaviours, including those conducive to HIV infection. Solely providing information is argued by Kegeles et al., (1988) to not substantially effect actual practices. In a similar vein, Mathews et al., (1990), have argued on the basis of a South African schools study, that knowledge, whilst necessary to achieve behaviour change, is insufficient for it. As an example, the authors found that of all respondents who had had sex and who knew that condoms prevent AIDS, only 15,4% had ever used a condom.

It is apparent, therefore, that knowledge of AIDS and methods of protection remains insufficient as a modifier of health-risk behaviours. Other psychosocial variables appear to intrude which

reduce the impact of educational programmes, impede behaviour change in the presence of adequate knowledge, and influence the continued practice of high-risk behaviours.

2.3. Mediating Variables

It seems clear that mediating variables that mitigate against, or contribute to behaviour change, require investigation. Since adequate information does not produce corresponding alterations in high-risk practices, it may be assumed that other variables intrude which influence the internalisation and pursuit of knowledge, the formation of attitudes and beliefs, and the consequential outcome in intended and actual behavioural practices.

It appears that mediating variables impact in this area from both the external systemic environment and from internal psychological and personality factors. According to Martin and Vance (1984), pursuing a model that includes such aspects would permit the determination of factors relevant to the AIDS health-crisis and enable a more sophisticated understanding to be developed of these determinants. A methodologically sound approach to researching complex human behaviours in this area, is a prerequisite to developing adequate models of AIDS-related behaviour, and thereby enabling appropriate intervention strategies to be created.

Whilst investigations into psychosocial dimensions have been undertaken, adequate theoretical models have remained scant. Those models that have been proposed have not produced sufficient explanatory power to fully understand AIDS-related attitudes and behaviours. An important example of a model that has been proposed to provide broad descriptions of the links between knowledge, attitudes, beliefs and practices (in particular Ajzen & Fishbein, 1980) will be reviewed below in Section 2.3.3.

2.3.1. Political Factors

A full understanding of those variables that impact on sexual practices, requires that the dialectical interplay between systemic factors and internal psychological factors be explored. Political, cultural and social dimensions in the external system affect patterns of behaviour through both structural conditions (such as the migrant labour system which separates people from their spouses), and cultural pressures which influence the formation of attitudes and beliefs.

In the first instance, whilst the legal foundation of Apartheid has been largely eradicated in South Africa, its legacy continues to have an impact in maintaining conditions anathema to both psychological and physical well-being (for example, Vogelman, 1986). Given poor living conditions, inadequate nutrition, and impaired family and community structures, health-affirmative

practices are often impossible. Ijsselmuiden et al., (1988) argue that these factors, together with the size of the migrant labour population, the large number of densely populated single-sex dwellings (situations conducive to prostitution and promiscuity), political tensions in the townships, the large number of language groups (which makes educational intervention more complex), and the fragmentation of curative and preventative health services, may impact on the nature and extent of HIV spread. All these factors may impede concerted and effective action.

At an ideological and cultural level, it appears that socialisation may influence the way that attitudes and behaviours develop. Social pressures may have some impact in determining which behaviours are considered acceptable and affirming for men and which for women. Sexual patterns, attitudes towards sexuality, and affirmation of masculine and feminine behaviour may be substantially influenced not only by individual psychological factors, but by gender socialisation (Eichenbaum & Orbach, 1986). Money and Erhardt (cited in Eichenbaum & Orbach, 1986), have argued on the basis of research into hermaphrodites, for example, that notions of masculinity and femininity are derived not so much from biological bases, but more importantly, from social and cultural constructions. Socialisation into gender-specific roles may therefore have an important impact not only on what behaviours are gender-affirming (and potentially high or low-risk in terms of HIV infection) but also on beliefs

about factors related to monogamy, prostitution, condom usage and numbers of sexual partners, all significant dimensions related to HIV transmission.

Whilst an understanding of the influence of political and economic dimensions is therefore important, it is also clear that HIV spread is a universal phenomenon, the causal factors of which appear to largely cut through many of the factors outlined above. The legacy of Apartheid may be linked to the exacerbation of HIV spread among previously oppressed and currently still disadvantaged communities, but such spread may be found in chronic proportions in other historically Apartheid-free societies. It is therefore crucial that an understanding of HIV spread not be limited to an exploration of its political, economic, and social contributing factors, but includes salient psychological variables that interface with these dimensions to produce high or low-risk sexual behaviours. It may be argued on the basis of epidemiological evidence from diverse societies around the world, that these latter dimensions remain primary.

2.3.2. **Psychological Factors**

The area of sexuality is complex and nuanced. Since it derives from psychological needs related to intimacy, nurturance, and affirmation of self, and biological factors related to physical and procreational needs, its behavioural manifestation may be

individually determined, given specific personality and psychological dynamics. These dynamics may influence and be influenced by individual values held, needs related to sexual affirmation, and how sexuality is expressed. Various psychosocial factors have emerged in the literature in this regard, many of which appear to play a significant role in sexual attitudes and behaviour.

2.3.2.1. Locus of Control

Some authors have begun to provide some tentative pointers towards psychological variables that appear to be implicated in the AIDS area. Locus of control, a notion developed by Rotter (1966), relates to the perception a person has of his or her ability to affect and influence the outcome of events. The ability to retain a perception of control, whereby the person believes an event to be contingent on his or her own behaviour and ability, is termed internal locus of control. Internals, unlike externals, have been found to be superior in the utilisation of information in problem-solving, and tend to more actively seek, acquire, utilise, and process information that is relevant to their manipulation and control over the environment than do externals (Phares, 1978). On the other hand, externals are more susceptible to social influences, and are more persuadable, conforming, and accepting of information from others. Whilst abhoring manipulation from others, however, if the internally oriented person perceives it to be to

his or her advantage to conform, he or she may do so consciously and willingly without actually yielding any of his or her control (Rotter, 1966).

Locus of control is not an objectively functional construct, but rather depends on the individual's internal cognitive and psychological functioning. In this regard, the perceived capacity to influence events takes precedence over the objective reality of actual control. In reviewing studies in support of this notion, Glass and Singer (1972) and Geer, Davidson and Gatchel (1970), conclude that even where objective control is not actually possible, subjects who perceive that they do exercise control (even where this perception is incorrect) experienced reduced stress to aversive stimuli than those who perceive themselves to be void of control.

Further, perceived locus of control is not homogenous across situations (Phares, 1978), nor is it purely dichotomous (Phares, 1978; Rotter, 1975). People's locus of control perception may vary across different contexts and situations so that someone internally oriented in one situation may be more externally oriented along the continuum in another. In this regard, when testing for locus of control and its pliability as a construct, it is important to measure perception not as a generalised measure, but as a perception related specifically to the area under consideration. In the area of health and health behaviour, numerous studies have

demonstrated that an internal locus of control tends to reduce the impact of situational stress (Johnson & Sarason, 1978; Kobasa, 1979), as well as life stress (Sarason, Johnson & Siegel, 1978). Such a finding relates to psychological health (Feather, 1967; Lefcourt, Miller, Ware & Sherk, 1981) as well as reported physical symptoms (Pennebaker, Burnam, Schaeffer & Harper, 1977) and susceptibility to actual physical illness (Seeman, Seeman & Sayles, 1985).

With specific regard to AIDS, perceived locus of control has been associated with both psychological reaction to AIDS information and hence alteration of AIDS related behaviour, as well as physical reactivity and health to persons infected with the HIV virus. Those more active in their coping style (internal locus) have been shown to demonstrate higher levels of immune functioning and disease resistance than those who displayed helplessness, anxiety and depression (external locus)(Smith, 1989). Regarding the former, Allard (1989) found in a study that preventative practice was associated with, amongst other things, perceived susceptibility to the HIV virus and high general health motivation (although knowledge itself was not a determinant). In this respect, it was concluded that a strong belief in the preventability of AIDS (i.e. a perceived sense of empowerment) was associated with having adopted at least one AIDS-preventive practice.

Information seeking around AIDS has also been found to be related to locus of control with internally oriented subjects displaying higher attendance at AIDS information seminars and greater pre-session information (Trice & Price-Greathouse, 1987). Thus internally oriented subjects may more actively seek information and utilise such information in health and AIDS-related behaviour.

These studies, therefore, point to the usefulness of including perceived locus of control as a mediating variable in the study of AIDS-related psychosocial variables and determing both its mediational significance across different dimensions (such as knowledge, attitude to condoms, and sexual practices), and its modifiability in AIDS-related intervention strategies.

2.3.2.2. **Defense Mechanisms**

Perceived locus of control, derived from a social learning perspective, has been argued to remain compatible with the notion of defenses, derived from a psycho-analytic theoretical framework. Locus of control has been identified as a mediating variable between a variety of external stressors and situations and the individual, rather than simply as a reinforcement variable (see for example, Johnson & Sarason, 1978; Kobasa, 1979; Revicki & May, 1985). Locus of control is therefore a descriptive concept of the broad cognitive, emotional and behavioural mechanisms used by the

individual to translate external environmental stimuli via internal mediating processes (Kobasa et al., 1981). In this sense it may be understood as a broad umbrella description of the intrapsychic processes that underly how an individual deals with external stress and internal anxiety and the active or passive strategies that may emerge for this purpose. Reappraising an event as "interesting", for example, (demonstrating an internal locus), may be regarded as derived from a process of rationalisation (a defense). It may be argued, therefore, that different defense mechanisms give rise to a broad psychological approach that is either internal or external in locus of control orientation. Research into locus of control appears to support the compatibility of locus of control with the notion of defenses (Chan, 1977; Tudor, 1970 cited in Houston, 1972).

The concept of defense mechanisms derive from a psychoanalytic framework and refer to the psychological style the individual uses to deal with intrapsychic anxieties and external threat. These psychological threats are refered to by Freud as Neurotic and Moral anxiety derived from intrapsychic conflict, and Objective anxiety derived from real external threat (Liebert & Spiegler, 1982). The mechanisms that develop in the psyche to ward off such threat and thereby maintain the integration of the psyche, are refered to as defense mechanisms.

> "What Freud meant by the term mechanism is that there are certain discernible patterns of thought which people manifest in seeking to adapt their internal (psychic) reality to the external (factual) reality of their experience" (Cameron & Rychlak, 1985, p.134).

Initially, Freud viewed the defense mechanism of repression as the main process used by the psyche to protect itself from anxiety-related threat. In this process, stimuli that are potentially overwhelming to consciousness are pushed into the unconscious sphere where they are "prevented" (in the immediate present) from threatening conscious ego functioning. Despite its cornerstone in psychoanalytic theory, repression is not unique in its role of defending the conscious sphere of the psyche. Denial, a primitive mechanism that serves not to push reality into the unconscious as does repression, but to contradict ego threatening realities, is a significant mechanism that emerges in the developing personality and is never lost to the psyche, even in adulthood (Cameron & Rychlak, 1985).

Whilst Freud's early conceptualised notion of these mechanisms implicated repression and denial as principal factors in personality functioning, he later identified a number of other significant processes that develop for the purpose of protecting the psyche. Amongst these were included projection and rationalisation, both important factors that appear to emerge in

relation to sexuality and AIDS. Particularly salient with respect to AIDS-related knowledge, attitudes and practices, seem to be defenses of denial, rationalisation and repression, where denial serves as the agent to ward off perceived risk (and hence anxiety), rationalisation as a mechanism to explain away attitudes or behaviours that may be of a high-risk nature (and hence anxiety producing), and repression that assists in pushing out of awareness provoked anxiety that may emerge from internalising a personal threat from AIDS or sexual practices that give rise to this threat.

Whilst it is possible that a given personality style including these mechanisms surfaces prior to the onset of sexual maturity, their generalised use may have implications in adulthood in dealing with threat and anxiety and accordingly, sexuality and AIDS-related attitudes and behaviours. Without addressing the nature of these processes, intervention to change attitudes and practices may be ineffective.

2.3.2.2.1. **The Role of Defenses in the Context of AIDS**

The defense mechanism of denial appears to surface repeatedly in the literature on AIDS as a way of avoiding the anxiety associated with perceived risk, and hence seems to block positive intention or actual behaviour change. Particularly where shock tactics have been used to increase anxiety in educational intervention programmes, the need to defend against this anxiety has increased

and hence so has denial. This has served to reduce stress, enable inoculation against the message, and lead to desentisisation against the fearfulness of the message (Leventhal & Cleary, 1980 cited in Coates, Temoshock & Mandel, 1984).

Denial in the form of stereotyping and projection has also been noted. Many sectors of the population appear to attribute the AIDS problem to "other" groups, whether homosexual, prostitutes, Haitians, Blacks, Whites, men etc. This enables a member of an "uninfected" group to assume that he or she is not at personal risk and therefore does not need to be concerned with behaviour change. Mathews et al., 1990 argue the point regarding such defenses:

> "That AIDS is seen as a problem only in other races or supposedly morally inferior people and in other geographical areas is a form of denial which poses considerable problems for achieving recognition of the immediacy of the problem for the individual, and leads to blaming others" (p. 515).

Archer (1989) has argued strongly for the need to take cognisance in AIDS work of the dimensions of individual psychological processes in contaminating responses to AIDS intervention and behaviour change. As an example, he argues that defensive processes of repression and denial, culminating in avoidance strategies, appear to contaminate volunteer programmes related to learning of

individual HIV status. In this regard, many people will avoid participation in any programme which might discover their HIV status (or lead them to discover or recognise their risk). This "avoidance-denial" mechanism may prompt some to reject behavioural changes.

It seems clear that these defenses also incur the consequence of lower perceived risk for self. Temoshok, Sweet and Zich (1987) report that a study revealed that in San Fransisco, for example, the US city with the highest HIV-prevalence per capita, individuals were significantly less concerned about AIDS as a personal health problem than was true for the nation as a whole, thus reflecting a tendency towards denial and repression.

Neubauer (1989) also includes the notion of personality variables in influencing behaviour and argues that belief structures of what he terms dogmatic persons may allow them to deny negative self-attitudes and to be unaware of self-destructive behaviours which are inconsistent with their spoken beliefs. Denial, necessary to avoid extreme anxiety, can result in an unrealistic optimism and a continuation of dangerous practices. On this basis, campaigns need to focus on the alleviation of guilt, the moderation of fear, and the addressing of those mechanisms that retard behavioural changes, even where knowledge is adequate.

Authors such as Temoshok et al., (1987) and Brandt (1988) corroborate this by arguing that merely presenting accurate information is not enough. Irrational fears and prejudices may be obstacles to utilising this information since these may constitute a form of denial whereby others are blamed for their own, or the spread of HIV infection, and in this way attribution for infection is projected onto others, and self-risk is denied. Without perception of self-risk, effective utilisation of knowledge and behaviour change is unlikely.

What constitudes appropriate education, however, needs to be better understood, and together with a fuller intervention effort (given the limited effectiveness of simple education for knowledge), psychological nuances that impede or enhance these efforts need to be incorporated. Such incorporation, however, will rest on research efforts to uncover their role in the intervention process.

2.3.2.3. **Peer Pressure**

Another variable that appears to mediate in the area of sexuality and AIDS, is that of peer and community influence on health-affirmative or health-destructive behaviours. Understanding the impact of this variable on AIDS-related attitudes and behaviour, and incorporating it into intervention efforts through the building of health-affirming social support, seems important (Morin, 1988).

On the basis of various studies used in the controlling of other health problems, Nelkin (1987) argues that although people do seek information through the media to guide personal behaviour, this information is only used when it corresponds to prior inclinations or when it is reinforced by their social situation and the beliefs and attitudes of their reference groups. In this regard, Martin and Vance (1984) argue that both external factors (social support) and internal factors (personality characteristics and coping styles) need to be examined. The former has been demonstrated in studies to include both social contact within and between groups, and to have an impact on the individual in terms of the social norms and values that prevail in his or her reference group. In an empirical study assessing the psychosocial predictors of reported behaviour change in homosexual men at risk for AIDS, one of the variables that emerged indicated that individuals with strong social ties are more likely to alter health-threatening behaviours than those with weaker social connections, and their health behaviours may be influenced by the behaviours and values within their network (Emmons, Joseph, Kessler, Wortman, Montgomery & Ostrow, 1986).

The belief that one's peers were adopting recommended behavioural changes was found in a further study by Joseph, Montgomery, Emmons, Kessler, Ostrow, Wortman, O'Brien, Eller and Eshleman (1987), to be positively and consistently related to subsequent behavioural risk reduction. Longitudinal analysis of behavioural risk reduction

in a high risk cohort of homosexual men examined variables of knowledge, perceived risk, perceived efficacy, difficulties with impulse control, belief in biomedical solutions, and social norms as predictors of behavioural risk reduction. Multiple regression analysis revealed that a number of significant associations between variables measured cross-sectionally, were less significant when measured longitudinally. The only exception to this trend related to the influence of supportive social norms which did not diminish longitudinally according to the analysis. The authors' conclusion regarding this particular variable, is that the norms shared within a network appear to be important in influencing the adoption of behaviours consistent with risk reduction. Whilst the employed sample may represent a biased grouping in terms of its generalisability, these findings do appear to have broader implications.

This is corroborated by Fisher (1988), who argues that attitudes of significant others towards particular behaviours are important in determining the individual's own behaviour. This may rest on people's need to be liked and accepted by significant others which often requires them to avoid appearing dissimilar. Fisher (1988) argues that the reason people adhere to group norms and espouse group values, even where these may be health-destructive, is that they fear "sanctions" for non-conformity. Citing various studies, including those documented by Fishbein and Ajzen (1975) where group norms were found to affect individuals' behavioural choices

regarding prevention, Fisher makes the point that attitudes, expression of beliefs, and determination of practices tend to conform to peer norms. In this regard, intervention will not be effective unless it takes cognisance of such norms and attempts not to give messages contrary to them, but rather reframes these values in terms of health-affirmative behaviours.

Fisher (1988) argues:

> "Research evidence corroborates the claim that social influence from the network or reference group can constitute a significant predisposing factor for members' behaviour... A major reason why group influence is so powerful is people's motivation to be liked and accepted by significant others, which often requires them to avoid appearing to be dissimilar... Frequently, the mere anticipation of rejection for engaging in network-inconsistent behaviours is sufficient for one to abandon them" (p.915).

The references in the literature to social norms and peer influence (for example, Emmons et al., 1986; Fisher, 1988; Vance, 1984) provide important evidence for its influence in the area of AIDS-related attitudes and behaviour. However, its insufficiency as the sole mediating construct warrants comment. Although more than a dozen models have been proposed to predict health behaviour, it has been argued that they share six core conceptual elements, including

knowledge, perception of vulnerability, beliefs about efficacy and accessibility of health care, social network, and demographic characteristics (Emmons et al., 1986). It is not clearly explained, however, why individuals who share common features, such as adequate knowledge or similar peer norms, exhibit variable responses to them and thereby also demonstrate variable behavioural change outcomes. Predictors of risk-reduction may be reliant on other mediating influences such as core personality features which include the defensive styles used by individuals in dealing with these factors. Studies such those outlined above, whilst providing descriptive associations between variables, insufficiently address the issue of what makes these variables important (albeit given the statistical significance of some associations), or why these variables may be susceptible to individual personality influences. In this regard, why some people are more influenced by social norms and pressure, for example, remains inadequately explained.

It may be argued from a psychodynamic perspective, that individual defensive styles based upon personality development may effect the extent to which an individual is reliant on affirmation from significant others (whether the peer-norm or some other significant reference source such as family or a friend). It is therefore theoretically imperative to extend the scope of psychological exploration in order to increase the explanatory power of psychosocial variables that mediate in the area of sexuality and AIDS.

Nevertheless, evidence does indicate that peer pressure influence may impact on the individual's reactivity and absorption of knowledge, as well as its seeking out, the formation of attitudes to various aspects of health, and AIDS in particular (such as attitude to condom use), and consequent behavioural modifications or lack thereof. It may further be argued that peer pressure is one variable that interacts with other psychological variables, such as defenses which derive from the person's style of dealing with anxiety, in influencing behaviour. Its inclusion as a mediating factor is therefore warranted.

2.3.2.4. Self-Concept and Self-Efficacy

Self-concept refers to the beliefs and evaluations an individual has about himself or herself, these determining not only who the individual is as a person, but also how the self and future potential are perceived (Burns, 1982). The belief knowledge or cognitive component of the self-concept rerpesents a proposition about, or a description of, the individual irrespective of whether the knowledge is true or false, and the evaluation component refers to the subjective interpretation and evaluation of attributes and feelings. According to Burns (1982), psychologists have become increasingly aware that an individual's self-concept, or his or her attitudes to and perception of himself or herself, is intimately related to how he or she learns and behaves.

Whilst different terms have surfaced in the literature to describe this concept (amongst others self-esteem, self-acceptance, self-respect, self-image), these may be regarded as synonymous with a broader umbrella description of self-concept since self-esteem, for example, has been used to describe the evaluative component of the self-concept and is therefore subsumed under it.

Burns (1982) argues,

> "A positive self-concept can thus be equated with positive self-evaluation, self-respect, self-esteem, self-acceptance; a negative self-concept becomes synonymous with negative self-evaluation, self-hatred, inferiority and a lack of feelings of personal worthiness and self-acceptance" (p.7).

It seems that the level of defensiveness and the need for social norm affirmation depends to some extent on the individual's perceived sense of self. Self-concept, particularly in the area of sexuality, may affect the need for external affirmation. The lower an individual's self-concept in the area of sexuality, the greater may be the need for conformity and through such conformity the attainment of external acceptance. Since self-concept is forged out of the influences exerted on the individual, particularly from significant others, it may interact with other psychological components of personality, such as defenses used, to achieve internal consistency, appropriate interpretation of events for the

self, and in providing a set of expectancies (Burns, 1982). This makes it an important component of psychological functioning, and hence too of attitude formation and consequent behavioural outcome.

However, like locus of control, the application of self-concept as a generalised component of psychological functioning in relation to self and the environment is inappropriate. Each individual possesses a plethora of self-concepts, some relating to general behaviour, others to specific areas of endeavour (such as sexuality). The self-concept contains many different self-attitudes which form a meaningful, integrated system and the positive or negative inclination of any one of these may depend not on any objective criteria, but on the specific nature of the context. Hence an individual positive in his or her self-concept in one area (for example, work achievement), may be negatively inclined in another (for example, his or her sexuality). The context specific nature of the concept, therefore, requires that its appropriate application be measured in a context specific manner. Exploration of self-concept in relation to AIDS, therefore makes the development of an AIDS- specific measure of self-concept imperative since a global measure (as with locus of control), may lead to misleading results.

According to Burns (1982), where dissonance arises through uncomfortable psychological feelings or thoughts, action may be initiated to restore inner consistency. If, for example, perceived

attractiveness is low at a particular point in an individual's life, he or she may become sexually promiscuous as a mechanism to boost self-concept and restore a sense of perceived consistency. Unsafe sexual practices, derived from non-monogamous or multiple sexual relationships, or resistance to condom use, may derive in part from the need to boost or maintain self-concept or from a hypersensitive concern to what others may think. In this regard, even where knowledge regarding AIDS and safe sexual practices is adequate, maintenance or restoration of self-concept may mediate to override the effects of knowledge and lead to negative attitudes (to condoms for example) and high-risk behaviour.

Further, perceived risk for HIV infection, necessary for alteration of attitudes and behaviour, may be affected by defense mechanisms that evolve to maintain self-concept. Burns (1982) argues that a discrepant experience can be made potentially capable of being assimilated through defense mechanisms, such as rationalisation. Such mechanisms help to maintain a consistent self-concept even in the face of objective evidence to the contrary. It is in this context that denial of risk, or repression of anxiety associated with it, may exacerbate the tendency to initiate or maintain behaviours consistent with self-concept but inconsistent in relation to knowledge about AIDS and methods of protection against it.

As a filter through which experience is interpreted, self-concept is not easily changed. It also contains a set of expectancies about behaviour of both self and others. Unless the basis upon which interpretations and expectancies are made become reframed, so that having intercourse with multiple partners, for example, is associated not with enhanced self-concept but the opposite, can the manifestation of core beliefs about self be altered in a health-affirming rather than health-destructive manner. In connection with defenses and the individual's perceived sense of empowerment to effect changes, self-concept may be a central variable that mediates in the area of sexuality and AIDS. Since sexuality may relate to affirmation of self, this in turn connected with a person's level of defensiveness and style of defensive system, the interactive nature of these variables would require investigation.

According to Bandura (1984, cited in Stretcher, De Vellis, Becker & Rosenstock, 1986), an important distinction needs to be made, however, between self-concept, and the frequently confused notion of self-efficacy (Bandura, 1977).

> "Self-esteem refers to a liking and respect for oneself that has some realistic basis. Thus self-esteem is concerned with an evaluation of self-worth, while self-efficacy relates to an evaluation of specific capabilities in specific situations" (Strecher et al., 1986, p.143).

In reviewing some of the seminal works of Bandura, Strecher et al., (1986) argue that essentially, efficacy expectations refer to beliefs about how capable one is of performing a behaviour that leads to anticipated outcomes, and appears to play a critical role in the intitiation and maintenance of behaviour change. It also refers to specific behaviours in specific situations rather than a global personality trait or characteristic. In this regard it does not operate independently of contextual factors and requires measurement in relation to the specific behaviour under investigation. Further, according to Strecher et al., (1986), Bandura asserts that efficacy expectations reflect a person's perceived, rather than actual capabilities, and it is these perceptions and not one's true abilities that often influence behaviour.

Perceived self-efficacy is argued by Bandura to influence all aspects of behaviour, including the acquisition of new behaviours, inhibition of existing behaviours, and disinhibition of behaviours. It also effects choices of behavioural settings, amount of effort an individual will expend on a task, and the time he or she will persist in the face of obstacles. Self-efficacy also effects people's emotional reactions and thought patterns. In this theoretical framework, numerous empirical studies have tested the efficacy of the construct. Strecher et al., (1986) cite various studies of cigarette smoking to indicate that efficacy expectations influence both cessation and maintenance processes, relapse rates,

and intended behaviour changes (such as intention to quit). In studies of weight reduction, efficacy was associated with initial and follow-up weight loss and has been implicated as a positive component of contraceptive skill acquisition and use.

However, in certain of these studies the statistically significant effects of self-efficacy were found to be contaminated by locus of control. Despite finding a significant main effect of efficacy in a study of cigarette smoking reduction (Chambliss & Murray, 1979, cited in Strecher et al., 1986), it was noted that this effect was largely due to a significant interaction between locus of control and the efficacy manipulation with the self-efficacy manipulation only being effective among subjects with an internal locus of control.

This finding is important in that perceived empowerment and perceived capacity to act on intended behaviour change may relate to a core construct of empowerment which may be made up of the overlapping concepts of self-efficacy and locus of control. Locus of control has been argued above to be a broad umbrella concept that describes a perceived orientation made up of underlying defenses, personality structure, and current emotional state. The employment of the self-efficacy construct as a main variable is therefore problematic. Its interactiveness with other concepts (such as locus of control), and its possible derivation from other psychological constructs (such as defenses), means that its use in

empirical investigation in the AIDS area must be part of a broader psychosocial investigation. As Stretcher et al., (1986) argue:

> "Other findings suggest that certain psychosocial constructs interact with or influence self-efficacy... The cross-sectional association between anxiety and self-efficacy found in a number of studies examined may reflect Bandura's assertion that physiological arousal influences self-efficacy... Interactions between locus of control, anxiety, self-efficacy, and other psychosocial constructs must be carefully examined and delineated" (p.88).

It is thus plausible that together with an external locus of control, a perception of the inability to do anything to combat the threat of HIV infection may lead to reduced behavioural modification towards safer sexual practices even where knowledge of how to employ such practices is present. Nevertheless, self-efficacy as a construct has not been well researched in the AIDS literature and its capacity to inform intervention strategies remains uncertain.

The interactive nature of psychological constructs appears to inform the nature of individual knowledge, attitudes and behaviour. Response to AIDS education and intervention, perceived risk, and intended and actual behaviour change, appear to derive not simply from one or two constructs, but from a combination of psychosocial

factors. The enigmatic finding, as described in section 2.2., that knowledge does not seem to correspond with appropriate behaviour change and that persistent high-risk practices continue in the presence of adequate knowledge to prevent HIV-infection (for example, Archer, 1989; Becker & Joseph, 1988; Judson, 1989; Kegeles et al., 1988; Mathews et al., 1990; Nelkin, 1987), indicates the need to examine those psychosocial variables that influence personal response and that appear to make AIDS intervention so difficult.

2.3.3. Social Psychological Models

Social psychological theory has also attempted to explain the links between knowledge, attitudes and beliefs, and consequential behavioural outcome. In particular, Ajzen and Fishbein (1980) have theorised on these links and provide a model they term "the reasoned action model". This social psychology model has been employed as a basis of research into AIDS-related knowledge, attitudes, and behaviour by the World Health Organisation and remains one of the more important theoretical frameworks that has been developed to explain these links. Given the lack of well developed theoretical models available to explain AIDS-related knowledge, attitudes and behaviour and their capacity to inform practical intervention strategies, and given the importance of the Ajzen and Fishbein model in its representativeness of a social

psychology approach and its disregard for intrapsychic mediating variables, specific attention will be given to its evaluation in order that better developed conceptual theory may be pursued.

2.3.3.1. **The Reasoned Action Model**

Ajzen and Fishbein (1980) set out to develop a model that predicts the relationships between beliefs, attitudes and behaviour. This they do by arguing that various kinds of behaviour can be accounted for with reference to a small number of concepts embodied in a single theoretical framework. Underlying their framework, however, is the fundamental premise that people are rational and make systematic use of information available to them. In this regard, they disregard unconscious factors in human behaviour and the psychological implications these bring to bear.

> "Rather, we argue that people consider the implications of their actions before they decide to engage or not engage in a given behaviour. For this reason we refer to our approach as "a theory of reasoned action"" (Ajzen and Fishbein, 1980, p.5).

As has been argued previously, extensive research, particularly in the AIDS area, has shown that awareness and rational intent of the possible implications of a given behaviour (for example, practising unsafe sex), and actual behaviour outcome, does not necessarily

correspond. Ajzen and Fishbein's (1980) assumption that "barring unforseen events, the person will usually act in accordance with his or her intention" (p.5), appears to underestimate the complexity of interactive variables that impinge on and influence various behaviours. Biological, psychological and social factors may have a profound conscious and unconscious influence on behaviour, even in the presence of adequate knowledge and rational intent to not engage in a given behaviour.

Observation regarding smoking habits and sexual behaviour, to isolate two such examples, are obvious contradictors of this argument. Persistent smoking habits, unwanted pregnancies, and unsafe sexual practices across all strata of society, appear to implicate other processes that are not strictly rational or intended in the actual outcome of particular behaviours. Unlike Ajzen and Fishbein (1980), the sentiment "that behaviours are not really difficult to predict" (p.5), does not seem consistently borne out by research.

More useful in the Ajzen and Fishbein theory, is their intent not to simply predict behaviour, but to identify the determinants of intentions. This derives from two basic determinants, one personal in nature, the other reflecting social influence. The adequacy of what is implied in either concept will be examined later. The

authors explain that the personal factor relates to the individual's positive or negative evaluation of performing a behaviour, which they term "attitude towards the behaviour". This refers to the person's judgement that performing a behaviour is "good" or "bad", that he or she is in favour of or against performing the behaviour.

The second determinant of intention is the person's perception of the social pressures put on him or her to perform or not perform the behaviour in question. This they term the subjective norm. Whilst this notion appears to argue that peer pressure is a variable in influencing behaviour outcome, it does not adequately address the question why some people are more susceptible to social pressure, nor how specific psychological factors that influence the need to conform or not conform may contaminate expected outcomes. Whilst they acknowledge that the relative influence of these two variables may be individually determined, they understate the psychological significance of what gives rise to the relative weights of attitudinal and normative factors in determining behaviour.

In acknowledging the inadequacy of this basic notion, Ajzen and Fishbein go on to provide further levels of explanation. According to their theory of reasoned action, attitudes are themselves a function of beliefs. These refer to the belief that performing a

given behaviour will lead to positive or negative outcomes. Such belief will determine whether attitude formation will be positive or negative. These they term behavioural beliefs.

Subjective norms, on the other hand, are also influenced by beliefs, to the extent that the individual believes social norms are in favour of or against the performance of the behaviour. These are termed normative beliefs. The subjective norm may thus exert pressure to perform or not perform a given behaviour, "independent of the person's own attitude towards the behaviour in question" (Ajzen & Fishbein, 1980, p.7). As stated previously, why some people are more susceptible to subjective norm pressure is not clear. The notion that this may override the person's own attitude, and the separation of the individual's attitude as an independent (though susceptible) factor, appears to weaken their explanatory power. At a descriptive level it may be true that the subjective norm appears to exert pressure to perform or not perform a given behaviour, "independent of the person's own attitude towards the behaviour in question" (Ajzen & Fishbein, 1980, p.7), but the underlying explanatory basis of this apparent phenomenon may be regarded as inadequate.

Their initial model thus appears as follows:

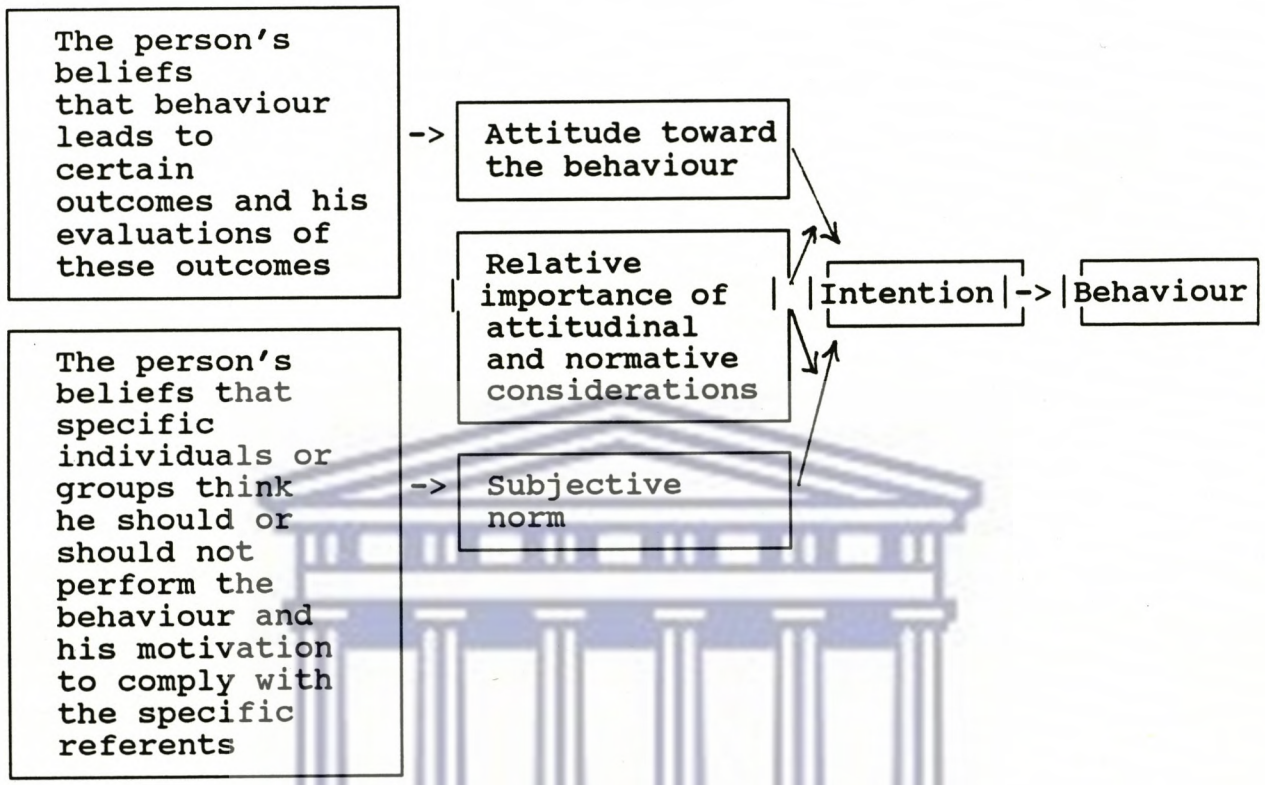


Fig. 2.1 Factors determining a person's behaviour
The theory of reasoned action (Ajzen & Fishbein, 1980)

Ajzen and Fishbein further acknowledge that their model makes no reference to various factors other than attitudes. They disregard personality characteristics (and other psychological factors), demographic variables, and other social factors related to socialisation, intelligence and cultural influences. These they term "external variables" and despite recognising their potential importance, do not investigate them as part of their theoretical

model. They further acknowledge that these "external variables" may influence beliefs or the importance a person attaches to attitudinal and normative considerations. Their dismissal of these variables is tautologous and based on the assertion that "there is no necessary relation between any given external variable and behaviour" (Ajzen & Fishbein, 1980, p.9). However, their failure to test for, or explain these connections seems insufficient grounds for their exclusion as having no necessary relation. Their acknowledgement of this exclusion leads to a descriptive model of the links between the factors specified in figure 1, rather than an explanatory model of the underlying factors that give rise to knowledge and attitude formation, and therefore of behavioural outcome itself.

Research has tended to demonstrate the weakness, even on unidimensional linkage, of attitudes to behaviour (see for example, Ehrlich, 1969; Wicker, 1969, cited in Ajzen & Fishbein, 1980). Thus the relation of attitudes to behaviour is moderated, according to Ajzen and Fishbein, by other variables. These include an uncomprehensive list of presence of others, skill required to perform the behaviour, internal consistency of the attitude, confidence with which the attitude is held, and occurence of unforeseen extraneous events.This understanding appears to invoke a rationale for examining the impact of other factors; including an individual's psychological approach to dealing with the world. Amongst these factors may be the person's defensive style and other

personality characteristics, and the dialectical interaction of these with social or systemic factors that may exert mutual influence.

Intention to perform a behaviour may relate to the likelihood of that behaviour being performed, but of significance for understanding and influencing behaviour change, is the underlying basis of the determinants of intent to perform a given behaviour. Further, the notion of "choice" invoked by Ajzen and Fishbein, whereby a person chooses to perform or not perform a behaviour, or chooses various alternatives, is insufficiantly broad. A person may choose not to get AIDS, for example, yet may still perform behaviours that place him or her at risk for HIV contraction. The important point, however, is not only whether a person chooses to practise safe or unsafe sex, but why the breakdown occurs between a rational choice of desired outcome (not getting AIDS) and a choice of performing unsafe sexual behaviours.

The contention is that the latter is not based on simple knowledge or rational choice, but on psychosocial variables that impede the linkage between intent and actual practice, and known consequences that are undesirable. The notion of choice, therefore, is not unidimensional but derives from factors (related to, inter alia, psychosocial variables, sexuality, impulsivity, peer pressure) that influence both the individual understanding of what a given choice means, and how intent to a given behaviour does or does not

correspond with this understanding. Since intention to behave in a particular way may not be stable over time and circumstance, the only effective link may be made if measured intention is obtained immediately prior to actual behaviour. This is acknowledged by Ajzen and Fishbein.

In the area of sexual behaviour, however, it is precisely this correspondence between intention (to use condoms, for example) and actual behaviour, that is most markedly affected in the actual context of sexual behaviour. Good intention to use condoms may be rapidly discarded when an opportunity for expressive sexual activity occurs in the absence of access to them. Further, conscious intent to use condoms (rational choice) because of their capacity to protect against HIV infection, may not correspond to actual use even if available because other psychological variables, such as embarrassment or anxiety around using them, may lead to a need to defend against such anxiety. This anxiety may derive from, for example, an individual's passivity in the face of social pressure, or from a poor self-concept whereby use of a condom may be felt to evoke concerns regarding what partners may think of him or her. The intention to behave in a particular way may therefore be undermined in the actual situation where the behaviour is performed due to social and psychological influences. Since measuring intent just prior to sexual activity is difficult, the explanatory reliance on a person's intent and behaviour outcome is weak.

In addition, a person's attitude towards the desirability of a given behaviour may not be directly related to his or her own intention to pursue such a course. An attitude related to the general desirability of condom usage does not reflect accurately on the individual's personal intention to use condoms. In this regard, Ajzen and Fishbein make the separation of perceptions, beliefs, motivations, and intentions from the notion of attitude. Problematic with this separation, however, is the difficulty of providing an explanatory basis for the constitution and evolution of any particular attitude.

A significant theoretical inclusion, however, is that the subjective norm (or the individual's perception of social desirability of performing a behaviour), may influence the degree of intent of performing a behaviour, and thereby its outcome. The strength of influence of the normative versus attitudinal components may vary. Further, the effects of attitude and subjective norm on behaviour will be mediated by the behavioural intention. If Ajzen and Fishbein acknowledge that intention is not an accurate predictor of actual behaviour, and that attitudes and subjective norms do not assist in such prediction, it must surely be expected that other intervening variables serve to mediate between attitude and subjective norm, and behaviour. However, they argue that the observation of the poor link between these variables is nevertheless theoretically consistent because of their accountability to the intent-behaviour link.

In essence, then, the model assumes that behaviour is determined by intention, and that intention is determined by the individual attitude and the subjective norm. The determination of attitudinal and normative components is then explained according to the functional beliefs the individual holds regarding self and the environment. Beliefs are thus viewed as underlying a person's attitudes and subjective norms, and as ultimately determining intentions and behaviour. Whilst not a direct link between beliefs and behaviour, the former (beliefs) are ultimately considered in the theory to determine the latter (behaviour). The capacity to influence behaviour change, then rests on the capacity to alter beliefs according to the theory of reasoned action. Even here, though, the authors acknowledge that changing beliefs will not necessarily affect behaviour.

Whilst the theory of reasoned action does provide descriptive links between the variables of beliefs, attitude formation, behavioural intent, and behavioural outcome, it fails to account for salient psychological dimensions that mediate between the individual and the individual formation of each of these variables. It is contended that the weakness of each of these relationships to each other is derived from the lack of accountability for psychological dimensions that influence their formation. Factors of anxiety regarding a specific behaviour or non-behaviour, the defensive style of the individual in dealing with these, the susceptibility

of the individual to peer pressure (or the subjective norm in Ajzen & Fishbein's terms), itself based on the person's sense of self and the need for external recognition, and the perceived sense of empowerment to influence and control various outcomes, may influence the beliefs that develop and hence behavioural outcome as well. Where beliefs are not consistent, cognitive dissonance may result (Festinger, 1957), which may pressurise their readjustment in line with the psychological needs and self-concept of the individual (Burns, 1982). Since beliefs may influence attitude formation, in turn affecting behavioural intent and thereby behaviour itself, the first step in building an appropriate model of knowledge, attitudes, beliefs, and behavioural outcome must be to examine the mediating variables that influence their formation. Since psychosocial factors may provide a more coherent basis for explaining why knowledge, beliefs and behaviour do not necessarily follow in an expected way, it is necessary to include these in an investigation of AIDS-related attitudes and behaviour and on this basis build a theoretical model that is coherent in terms of its explanatory, rather than descriptive power. This would also assist in the development of more appropriate intervention strategies through a deeper understanding of how the manipulation of these psychosocial variables may better influence belief and attitude formation and therefore also behaviour outcome.

Important to note is that these psychological variables are not assumed to be fixed personality traits. Rather, they are modifiable psychological dimensions that relate to psychological functioning. In this regard, they are not unconnected to personality, but derive from the notion that personality is not unmodifiable, built upon the combined influence of different psychological constructs. It is the measurement and manipulation of these constructs that forms the basis of this study.

In conclusion, it may be argued, therefore, that internalisation of knowledge and attitude formation, may be determined by internal psychological factors and that an exploration of these factors is needed if intervention strategies are to be made more effective. Experience in AIDS intervention around the world and preliminary research into this area, appears to implicate certain psychological variables as mediating factors in the sequential links between knowledge, attitude formation, and consequential behavioural outcome (for example, Archer, 1989; Perkel, Strebel & Joubert, 1990; Trice & Price-Greathouse, 1987). Exploration of these factors will follow in chapter 3.

CHAPTER 3

PSYCHOSOCIAL VARIABLES AS MEDIATING FACTORS

3.1. Psychosocial Variables as Mediating Factors

A number of psychological variables appear to be implicated in knowledge and attitude formation and consequential behavioural outcome. Included are variables such as locus of control (Allard, 1989; Smith, 1989; Trice & Price-Greathouse, 1987), denial (Coates et al., 1984; Mathews et al., 1990), defense mechanisms of repression (Archer, 1989; Neubauer, 1989; Temoschok et al., 1987), self-concept (Strecher et al., 1986), and self-efficacy (Bandura, 1977; Smith, 1989; Strecher et al., 1986).

In a preliminary study designed to test these and other mediational variables, the author, together with co-researchers, found significant associations between self-concept, locus of control, peer pressure and defense mechanisms of denial, repression and rationalisation, and knowledge, attitude and behaviour formation (see Perkel, Strebel & Joubert, 1991).

3.1.1. Sample

Using a psychological scale developed by the authors, sub-scale items presumed to tap these factors were administered to a stratified random sample of 668 students at the University of the

Western Cape, South Africa. The strata included equal numbers of hostel males, hostel females, non-hostel full-time males, non-hostel full-time females, part-time male and part-time female students, and were considered important in terms of later intervention strategies. Ages ranged from 18 to 65 years with a mean age of 24.8 years. Of the total sample, 28% were English-speaking, 41% Afrikaans speaking, and 31% spoke an African language. Equal numbers of males and females participated.

3.1.2. **Research Tool**

Two questionnaire forms were administered. First, a modified form of the World Health Organisation (WHO) Global Programme on AIDS (GPA) Survey of Knowledge, Attitudes, Beliefs and Practices was used. This part of the study was intended to elicit basic information that would provide comparable variables with which psychosocial aspects could be compared. Information elicited included knowledge and awareness of AIDS, sources of information, beliefs, attitudes and behaviour regarding AIDS and condom use, sexual practices, and intravenous drug abuse. The original questionnaire consisted of identifying characteristics and 12 sections, and is intended for face-to-face administration. Substantial changes to the original format were made to allow for South African circumstances, and the specific characteristics of the student population. For example, it appears that the rate of

intravenous drug use is low. The section on these practices was therefore substantially cut. Questions were included to tap the impact of on-campus media and the section on alcohol practices was dropped since alcohol abuse does not appear to be a problem on the campus and is not a direct source of HIV transmission. Such regional modifications are encouraged by the designers of the survey.

Secondly, a section on psychological dimensions designed by the author was included. This contained various items that were clustered together to form sub-scales which were hypothesised to measure certain psychological dimensions. The choice of measuring specific dimensions rested on factors that have appeared to be significant in other research and intervention efforts, and dimensions that the author hypothesised to be important from a psychological and social point of view. The variables chosen were also considered important in the specific area of sexuality and AIDS-related attitudes and behaviour. The sub-scales covered intrapsychic psychological defenses including denial, repression and rationalisation; related social factors included peer pressure and sexual self-concept; and perception of empowerment and control (locus of control) related to the perceived capacity to actively play a role in health-related problems. The items were rated on an 'Agree', 'Disagree', and 'Not Sure' scale.

3.1.3. **Analysis**

Frequencies and percentages were tabulated for the total sample, as well as for each stratum. These stratum-specific percentages were weighted proportional to the stratum size within the total student population. To investigate the association between any two factors, a loglinear model containing the two factors and the stratum variable was fitted, and odds ratios and their 95% confidence intervals were calculated, with factors categorised into two groups wherever possible. Indices were calculated for knowledge, condom attitude, and unsafe sex, and categorised into high (above median) and low (below median) groups for knowledge, unsafe sex, positive, negative and uncertain condom attitude.

The scores of the psychological scale indices were categorised into above and below median. For each of the psychological scales, the associations with demographic variables, the other psychological scales, the indices and various other variables were investigated.

3.1.4. Results

The following associations, based on odds ratios, were noted:

3.1.4.1. Peer Pressure

Those who regard religion as important are more likely to be high on peer pressure than those for whom it is somewhat important (Odds Ratio (OR): 1,9; Confidence Interval (CI): 1,3 2,8). Those who disagree that condom use may be offensive to their partner are more likely to be high on peer pressure than those who agree (OR: 1,7; CI: 1,05 2,8). Those who disagree that condom use might make their partners think they don't trust them are more likely to be high on peer pressure (OR: 1,9; CI: 1,2, 2,9), and those who think their friends have changed their sexual behaviour are more likely to have changed their own sexual behaviour (OR: 6,9; CI: 4,4, 10,9).

3.1.4.2. Denial

Those who think they are not at risk for AIDS are more likely to be high on denial (OR: 1,8; CI: 1,2, 2,7). Those who agree that condom use means that they don't trust their partner are more likely to be high on denial (OR: 2,3; CI: 1,6, 3,4). Those who agree that using condoms is embarrassing are more likely to be high on denial (OR: 2; CI: 1,3, 3,1), with those high on denial more likely to have a negative attitude to condoms (OR: 1,6; CI: 1,1,

2,3) and more likely to be high on rationalisation (OR: 3,2; CI: 2,2, 4,7), more likely to have a low self-concept (OR: 3,2; CI: 2,1, 4,7) and more likely to be high on repression (OR: 1,8; CI: 1,2, 2,6).

3.1.4.3. **Repression**

Those for whom religion is somewhat important are more likely to be high on repression than those for whom religion is very important (OR: 1,9; CI: 1,3, 2,8). Those who have not known anyone with AIDS are more likely to be high on repression (OR: 2; CI: 0,98, 4,1). Those whose friends have not changed their behaviour are more likely to be high on repression (OR: 1,7; CI: 1,1, 2,6). Those who have not changed their own behaviour are more likely to be high on repression (OR: 1,5; CI: 1,0, 2,2). Those who agree that obtaining a condom is embarrassing are more likely to be high on repression (OR: 1,7; CI: 1,1, 2,6). Those who are high on repression are more likely to have had sex with more than one partner (OR: 2,1; CI: 1,2, 3,8). Those high on repression are more likely to be low on knowledge about AIDS (OR: 1,5: CI: 1,02, 2,0), and more likely to have a negative attitude to condoms (OR: 1,7; CI: 1,2, 2,4). Those high on repression are more likely to have an external locus of control (OR: 1,7; CI: 1,2, 2,4), more likely to be high on rationalisation (OR: 1,8; CI: 1,2, 2,6), and more likely to have a low self-concept (OR: 2,9; CI: 1,9, 4,5).

3.1.4.4. Rationalisation

Those who think they are not at risk for contracting AIDS are more likely to be high on rationalisation (OR: 1,7; CI: 1,1, 2,6). Those who feel embarrassed using a condom are more likely to be high on rationalisation (OR: 1,9; CI: 1,2, 3,0), with those high on rationalisation being more likely to have a negative condom attitude (OR: 1,6; CI: 1,1, 2,2) and less likely to have high knowledge about AIDS (OR: 0,63; CI: 0,44, 0,90).

3.1.4.5. Sexual Self-concept

Those who think that condoms are offensive to their partners are more likely to have a poor self-image (OR: 2,5; CI: 1,5, 4,2) and those that think that using condoms may make their partners think that they are dirty are more likely to have a poor self-image (OR: 2,7; CI: 1,7, 4,2). This also applies to people who feel embarrassed using a condom, who are more likely to have a poor self-image (OR: 3,5; CI: 2,2, 5,9). Those with a poor self-image are more likely to have had sex (OR: 3,6; CI: 2,0, 6,4), more likely to have had sex with more than their regular partner (OR: 1,9; CI: 1,1, 3,5), and more likely to have a high unsafe sex score (OR: 1,6; CI: 1,02, 2,6). Those with a poor self-image are less likely to have a high knowledge about AIDS (OR: 0,67; CI: 0,44, 0,97) and more likely to have a negative condom attitude (OR: 4,0; CI: 2,5, 6,2). Those who have not made behaviour changes are more

likely to have a poor self-image (OR: 1,6; CI: 1,1, 2,4). Those with poor self-image are more likely to be high on repression (OR: 2,9; CI: 1,9, 4,5) and more likely to be high on rationalisation (OR: 3,2; CI: 2,1, 4,7).

3.1.4.6. **Locus of Control**

Those who think they are at risk are more likely to have an external locus of control (OR: 2,2; CI: 1,5, 3,3). Those who are externally oriented are also less likely to have used a condom (OR: 0,43; CI: 0,28, 0,66), and more likely to have had four or more partners (OR: 2,0; CI: 1,03, 3,7). They are also less likely to have high knowledge (OR: 0,48; CI: 0,34, 0,68).

3.2. **Implications**

This study was of an exploratory nature and employed measuring instruments as yet not fully developed psychometrically. Subsequent psychometric refinement and validation was undertaken in further studies (see chapter 4) to validate the scales for subsequent use. Nevertheless, the above results do appear to provide preliminary empirical support for the role played by these psychological variables in mediating between knowledge, attitudes and beliefs, and corresponding behaviour change, given the fact that later studies followed the patterns reported above and therefore provided

support for these associations. They further appear to implicate deeper psychological processes in the formation of knowledge, attitudes and beliefs.

Whilst this phase of investigation remains exploratory, some initial discussion of the results appears warranted. Since it is a difficult task to tie together the findings outlined above, fuller discussion will be covered following the description of the psychometric validation of the scales used, as well as later studies exploring the mediational significance of the psychosocial variables under study (see Chapter 6).

It seems clear that the social context, as well as people's intrapsychic styles of dealing with it and their own internal anxieties, are important in related sexual attitudes and behaviour. High risk behaviour appears to be related to a number of personality variables and may therefore provide a tentative explanation why the presence of knowledge about AIDS is poorly correlated with safer sexual practices and behaviour change.

From a psychological point of view, people's defensive styles serve the purpose of containing anxiety that may emerge at both conscious and unconscious levels. They also appear to provide compensatory mechanisms for underlying inadequacies and conflicts. In this regard, the association of self-concept to a number of variables appears relevant. For example, those with a low self-concept in the

area of sexuality are more likely to have had sex, are more likely to have had sex with someone other than their regular partner, and more likely to have an unsafe sex score. They are also less likely to have good knowledge about AIDS and more likely to have a negative attitude to the use of condoms. Poor self-concept also links to a lower likelihood of behaviour change in the area of sexual practices.

The association of poor self concept with various defense mechanisms is of interest. Poor self-concept associates with high repression and rationalisation mechanisms. Denial features strongly, with those poor in self-concept tending to be high on denial and thereby having a lower perceived risk for self. Lower perceived risk is clearly associated with poor behaviour change. Further, an external locus of control appears to be associated with low self-concept.

The implications of this are that those with a poor self-concept tend to feel less empowered to effect change in themselves or the environment. One can speculate that this sense of helplessness leads to a heightened sense of anxiety which in turn induces helplessness because of the inability to effect change and thereby reduce this anxiety. The intrapsychic protective mechanisms to cope with this anxiety may revolve around the use of defense mechanisms in the form of increased denial, higher levels of repression, and the tendency to rationalise.

It is also possible to speculate that high numbers of sexual encounters may serve the role of boosting self-concept where this is low. An unfortunate aspect of this, however, is that those with poor self-concept are also more likely to have a negative condom attitude. This may derive from the concern of what partners may think. For example, those with low self-concept are more likely to be embarrassed using condoms, more concerned that using condoms may be offensive to their partners, and more likely to feel that using them may make their partners think they are "dirty". It is also apparent that those who had not been treated for sexually transmitted diseases (STD's) in the past year were more likely to have a positive or uncertain condom attitude (Strebel, Perkel & Joubert, 1991). Since STD's are known to correlate with HIV-risk and infection, it is obvious that those who are avoiding the use of condoms, and are therefore at higher risk for STD's, are also at greater risk for HIV-infection.

Present explanatory models may therefore not be adequate in their explanatory power if they fail to account for mediational processes that mitigate against appropriate behaviour change, and an attempt needs to be made to increase insight into the complex web of variables that appear to influence behavioural practices, particularly in the area of sexuality. This exploration will be pursued in the studies described below.

CHAPTER 4

DEVELOPMENT AND TESTING OF THE AIDS PSYCHOSOCIAL SCALE

4.1. Introduction

In order to be able to provide empirical validation of theoretical constructs hypothesised to mediate between knowledge and behaviour, and specifically in the area of AIDS, valid measuring instruments need to be developed. Previous exploratory research undertaken by the author appeared to indicate that hypothesised associations between psychosocial variables and aspects of knowledge, attitudes, beliefs and practices related to AIDS and sexuality were significant, in line with proposed theory (Perkel, Strebel, & Joubert, 1991). These results have been reported above (see Chapter 3).

Reliability analysis of the AIDS Psychosocial Scale (APSS) developed by the author in this exploratory phase indicated, however, that some aspects of the scale were inadequate and poorly correlated and that other psychological dimensions should be included. To satisfy the demand for psychometric validity and reliability of the scale, reconstruction was undertaken, and a new sample administration completed to enable statistical analysis as a pilot stage of the scale development. This chapter describes this pilot study.

4.2. METHODOLOGY

4.2.1. Aims

(i) To establish the psychometric reliability and validity of the AIDS Psychosocial Scale (APSS). The APSS was developed to provide a psychometrically reliable and valid instrument for the measurement of various psychosocial dimensions hypothesised to mediate in the area of sexuality and AIDS.

(ii) To enable the APSS as a valid measuring instrument to be used in the main study of psychosocial mediation.

(iii) To check preliminary hypotheses regarding the correlational significance of theorised connections amongst the sub-scale variables. In this regard, higher defenses of denial, repression and rationalisation would be expected to correlate with each other and with higher peer pressure susceptibility, more external locus of control, lower self-efficacy, and lower sexual self-concept.

4.2.2. Apparatus

4.2.2.1. Generation of the APSS

A scale covering various psychological and social dimensions hypothesised by the author to be important in the AIDS area was developed. The choice of measuring specific dimensions rested on factors that have at a theoretical level appeared to play a role in other research and intervention efforts, (for example, denial, locus of control), and dimensions that the author hypothesised to be important in the AIDS area (for example, peer pressure, self-efficacy, self-concept). Some of these psychological and social variables were included as part of a previous exploratory study described in Chapter 3, undertaken to test hypothesised connections of sub-scale dimensions to each other and to composite variables of knowledge, beliefs, attitudes and practices (see Perkel, Strebel, & Joubert, 1991; Strebel, Perkel, & Joubert, 1991). These variables were considered important in the specific area of sexuality and AIDS and included self-concept, denial, repression, rationalisation, peer-pressure and locus of control.

Based on social and clinical theory (for example, Bandura, 1977; Burns, 1982; Cameron & Rychlak, 1985; Fisher, 1988; Freud & Breuer, 1974; Martin & Vance, 1984; Phares, 1978; Rotter, 1966, 1975; Stretcher et al., 1986), the sub-scale items were generated for empirical use and ambiguous or unclear items were discarded prior

to empirical administration. This was based on the "rational approach" to test construction (Golden, Sawicki & Franzen, 1984), whereby items are originally generated on the basis of a coherent theory but are retained on the basis of their psychometric properties and empirical relationships. According to Golden et al., (1984), because of its flexibility and applicability, this sequential model is the method most often used today in scale construction. Some items for the locus of control sub-scale were taken from a World Health Administration (WHO) scale designed to test locus of control and were modified to suit local purposes and to be specific to the area of AIDS.

In addition to sub-scale variables employed in the preliminary study, additional factors were included that appeared to be potentially significant factors in AIDS-related behaviour. In this regard, a sub-scale measuring self-efficacy was generated and added to the preliminary sub-scale, given its inclusion as a health-related mediating variable in other research efforts (Bandura, 1977; Stretcher et al., 1986).

Based on this preliminary sub-scale development, a 36-item scale emerged with seven sub-scale factors present (see Appendix A for full questionnaire). These factors included defense mechanisms of denial, repression and rationalisation, psychological factors of self-concept and self-efficacy, and social factors of peer-pressure and perceived empowerment in the form of locus of control. Sub-

scale items were randomly interspersed, with some items reversed to obviate recency effects.

4.2.2.2. Content and Face Validity

Preliminary investigation of the content validity of scale items was done in order to ascertain if any particular items were poor and detracting from the overall intent of the scale. van den Berg (1989) cites Guion (1977) as summarising the five prerequisite criteria for the acceptance of an operational definition of a variable based solely on its content. These include:

i. The content domain of the test must be based on behaviour with a generally accepted meaning.
ii. The definition of the content domain of the test must be clear.
iii. The content domain must be relevant to the purpose of measurement.
iv. Experts must agree that the test satisfactorily samples the content domain.
v. Reliable observations and evaluations of the testees' responses must be possible (where specific **behaviour** is being measured).

With regard to content validity, Nunnally (1978) argues that it inevitably rests mainly on appeals to reason regarding the adequacy

with which important content has been sampled and on the adequacy with which the content has been cast in the form of test items. Prior to statistical analysis of reliability, validity and factors represented in a scale, the available routes to assessing content rest on the basing of items in adequate theory and appropriately sampling the domain of enquiry, and external judgement of these. This refers to the "face validity" (Nunnally, 1978) of the scale, or the extent to which the instrument "looks like" it measures what it is intended to measure. Accordingly, any instrument that is intended to have content validity should meet this standard. Face validity refers, therefore, to judgements about the instrument after it has been constructed. According to Nunnally (1978), it can be considered as one aspect of content validity which concerns an inspection of the proposed final product and plays a part in the construction of its items.

Accordingly, the APSS was given to five independent judges. These judges represented a sample of psychology lecturers whose specialisations included either the area of clinical psychology, social psychology, or psychological research. Since workable definitions of the concepts under study have established meanings according to their theoretical foundations and considering that the judges were familiar with these concepts, operational definitions were not provided. Rather, sub-scale constructs were given to the judges and they were requested to assess each item in the overall scale and indicate whether the item measured one of the

psychosocial variables of the sub-scales, and if so which one or ones.

Following this procedure, their item judgements were analysed to assess whether there were acceptible correlations across their opinions. As can be seen in Table 4.1, Pearson correlations across all five judges revealed significant associations. Judge 1 correlated with Judge 2, Judge 3, Judge 4, and with Judge 5. Judge 2 correlated with Judge 3, Judge 4, and with Judge 5. Judge 3 correlated with Judge 4 and with Judge 5, and finally, Judge 4 correlated with Judge 5.

TABLE 4.1

PEARSON CORRELATIONS FOR FIVE JUDGES ASSESSING FACE VALIDITY OF THE APSS

	N	r	p
Judge 1 & Judge 2	36	0,55	p<0,001
Judge 1 & Judge 3	36	0,65	p<0,001
Judge 1 & Judge 4	36	0,86	p<0,001
Judge 1 & Judge 5	36	0,82	p<0,001
Judge 2 & Judge 3	36	0,46	p<0,01
Judge 2 & Judge 4	36	0,68	p<0,001
Judge 2 & Judge 5	36	0,70	p<0,001
Judge 3 & Judge 4	36	0,52	p<0,01
Judge 3 & Judge 5	36	0,58	p<0,001
Judge 4 & Judge 5	36	0,94	p<0,001

Face validity assessment of the five Judges across scale items therefore appeared to be satisfactory. Significant correlations across all Judges appeared to demonstrate that initial face validity of the overall scale was present and could be taken forward into the second phase of the pilot investigation for development of the APSS. In the second phase, dispersion of scores, factor analysis, internal reliability and consistency, and sub-scale correlations were assessed.

4.2.3. Subjects

A sample of 206 third year psychology students at the University of the Western cape was employed for this pilot study. Although the sample was not strictly randomised or stratified for race or gender, all races were represented and both men and women participated.

4.2.4. Procedure

The questionnaire was administered to a third year psychology class during a lecture break. Voluntary participation was invited and the study was explained as being about people's feelings and attitudes towards AIDS. Confidentiality was stressed and no identifying details were required. Instructions were provided for completing the questionnaire and time allocated for immediate completion.

The APSS included an introductory preamble which read as follows:

> "This survey has been designed by a research team of the department of Psychology at UWC. It is intended to study attitudes to AIDS and its problems. You are not obliged to participate in this study but we would very much appreciate it if you completed the questionnaire.
>
> This questionnaire is designed to be anonymous, so you should NOT write your name, student number or other identifying information anywhere on the questionnaire. If you have any doubts about any question, please remember that your first response is usually the most accurate.
>
> Below are a number of statements. You must read each item and decide where on the scale you fit. Remember, there are no right or wrong answers so answer to each item **as it applies to you.** Simply make a circle around the number that corresponds with your answer on the scale.

An example was provided to illustrate method of response.

Items were arranged into a statement with which the subject could agree or disagree based on a 5-point Likert scale from 1 ("strongly agree") to 5 ("strongly disagree"). This was done to allow for a

more nuanced reading of scale variance than a forced-choice format would have allowed (a forced-choice format was employed in the exploratory study - see Chapter 3). Following completion, questionnaires were collected for analysis.

4.2.5. **Results**

Particular sub-scales items were scored in the reversed direction so that lower scores on the Likert scale represented higher defenses on denial, repression and rationalisation, more external locus of control, lower self-efficacy, lower self-concept, and higher peer pressure susceptibility (for the sake of brevity, some references to peer pressure susceptibility have been shortened to peer pressure - all references to peer pressure should be taken to mean susceptibility to peer pressure). Various steps were then followed during statistical analysis of questionnaire results:

4.2.5.1. **Frequency Distribution**

Having assessed the face validity of APSS items, further statistical analysis was undertaken to establish the psychometric properties of the scale. The first step was to examine the frequency distributions of items. According to the Statistical Package for the Social Sciences Base Manual (SPSS, 1988b) frequency distibution can serve purposes other than summarising data. Unexpected codes may indicate errors in data entry or coding. As

a result, it is important to eliminate errors as early in data analysis as possible in order to avoid contamination of later statistical analysis, and running frequency tables as a first step in analysing data is suggested. This step also helps in the identification of cases with values that are unusual but possibly correct. Since incorrect data values distort the results of statistical analysis, and correct but unusual values may require special treatment, early identification is valuable. Further, survey data that rely on voluntary information are subject to many sources of error. According to SPSS (1988b), people may distort the truth, inadvertently fail to recall events, or refuse to participate, all potential sources of research error. In order to avoid these contaminants, analysis of frequency data and its distribution is useful. Comparison of attained frequencies relative to other sources of similar information (such as other records or studies) may also be helpful.

Frequencies of questionnaire items and dispersion of scores in the present study were therefore assessed to determine distribution of item scores across the sample (see Appendix B for frequency tables and dispersion of scores). It is unecessary to examine each item distribution here, suffice it to point out that all coding errors were corrected prior to further analysis. Certain items did show a skewed distribution. However, when compared to the previous study described above (see Chapter 3) and other research findings, these were consistent. For example, it was expected that most of the

sample would have had at least one sexual experience and hence a frequency distribution skew in this direction was acceptable. It would be expected at the stage of the study that virtually all of the sample would have heard of AIDS. It would be expected that certain attitudes to the use of condoms would be consistent through most of the sample. Hence skewed distributions in these areas was considered acceptable. Most items did, however, demonstrate a normal (symmetric) distribution of scores which indicated a normal distribution of responses throughout the sample. This was considered satisfactory for what the items of the scale were intended to measure.

4.2.5.2. **Factor Analysis**

Factor analysis is intimately involved with questions of validity (Nunnally, 1978) and basically involves finding clusters of related variables. Each such cluster, or factor, is denoted by a group of variables whose variables correlate more highly amongst themselves than they do with variables not included in the cluster. Each such cluster measures a unitary construct (in this case representing one psychosocial variable of the APSS).

Factor analysis provides helpful evidence regarding measures that are intended to have content validity and is regarded as being at the heart of measurement of psychological constructs. With regard to predictive validity, content validity, and construct validity,

all important components of test construction, factor analysis plays an important role by suggesting predictors that will work well in practice, ways of revising items, and determining internal structures and cross structures for sets of variables (Nunnally, 1978). In short, factor analysis helps identify the underlying, not directly observable, constructs used in identifying the underlying dimensions of complex phenomena (APSS, 1988a), in this case different items of the APSS sub-scales constructed to measure specific psychosocial variables.

The first step in this phase of analysis employed an exploratory factor analysis using an unrotated matrix in a principal-components procedure to establish whether items constructed in the APSS sub-scales held together empirically by clustering into the intended psychosocial factors (see Appendix C). In this procedure, the goal is to determine factors present and assess whether these represent the intended psychosocial variables of the instrument. Factor extraction, using a principal-components procedure, can be used when uncorrelated linear combinations of observed variables are desired since it transforms a set of correlated variables into a set of uncorrelated variables (SPSS, 1988a). This enables the emergence of discrete factors that cohere together but are divergent from other factors.

To determine how many factors are needed to represent the data, it is helpful to examine the percentage of total variance explained

by each factor, represented by the Eigenvalue. Since the variance indicates the descending order of the percentage of variance explained by each factor, an indication of how many primary factors emerge can be obtained by inclusion of those factors that account for a significant amount (or the majority) of the variance. One criterion for determining usable factors present suggests that only factors with Eigenvalues greater than 1 be included (since the proportion of variance accounted for by the common factors, or the communality of a variable, is 1 for all the variables) (SPSS, 1988a). Factors with a variance less than 1 are no better than a single variable since each variable has a variance of 1.

All items of the APSS were accordingly entered into the analysis which, as can be seen in Table 4.2., revealed 13 factors with an Eigenvalue of greater than 1. Among these were seven principal factors with Eigenvalues significantly greater than 1. As can be seen in the Eigenplot (Fig. 4.1), these seven factors emerged as principal factors in the extraction since a distinct break between the steep slope of the large factors in the plot and the gradual trailing off of the rest of the factors can be noted, this representing those principal factors that emerge (SPSS, 1988a). Analysis of these seven factors indicated that they corresponded approximately to the scales of the questionnaire representing measures of self-concept, denial, repression, rationalisation, locus of control, self-efficacy, and peer pressure.

TABLE 4.2. EXPLORATORY FACTOR ANALYSIS FOR THE APSS

```
*STEP TWO*
FACTOR variables=item1 to item36/format=blank(0.4)/
 criteria=factors(7)/plot=eigen.
```

---- FACTOR ANALYSIS ----

Analysis Number 1 Listwise deletion of cases with missing values

Extraction 1 for Analysis 1, Principal-Components Analysis (PC)

Initial Statistics:

Variable	Communality	*	Factor	Eigenvalue	Pct of Var	Cum Pct
ITEM1	1.00000	*	1	5.83996	16.2	16.2
ITEM2	1.00000	*	2	2.53265	7.0	23.3
ITEM3	1.00000	*	3	2.19513	6.1	29.4
ITEM4	1.00000	*	4	1.82220	5.1	34.4
ITEM5	1.00000	*	5	1.56671	4.4	38.8
ITEM6	1.00000	*	6	1.45485	4.0	42.8
ITEM7	1.00000	*	7	1.39523	3.9	46.7
ITEM8	1.00000	*	8	1.26543	3.5	50.2
ITEM9	1.00000	*	9	1.19016	3.3	53.5
ITEM10	1.00000	*	10	1.15877	3.2	56.7
ITEM11	1.00000	*	11	1.10117	3.1	59.8
ITEM12	1.00000	*	12	1.03876	2.9	62.7
ITEM13	1.00000	*	13	1.01302	2.8	65.5
ITEM14	1.00000	*	14	.91373	2.5	68.0
ITEM15	1.00000	*	15	.86911	2.4	70.4
ITEM16	1.00000	*	16	.81197	2.3	72.7
ITEM17	1.00000	*	17	.79004	2.2	74.9
ITEM18	1.00000	*	18	.75043	2.1	77.0
ITEM19	1.00000	*	19	.68274	1.9	78.9
ITEM20	1.00000	*	20	.67121	1.9	80.7
ITEM21	1.00000	*	21	.63978	1.8	82.5
ITEM22	1.00000	*	22	.60008	1.7	84.2
ITEM23	1.00000	*	23	.58506	1.6	85.8
ITEM24	1.00000	*	24	.57365	1.6	87.4
ITEM25	1.00000	*	25	.53179	1.5	88.9
ITEM26	1.00000	*	26	.50679	1.4	90.3
ITEM27	1.00000	*	27	.45430	1.3	91.5
ITEM28	1.00000	*	28	.41984	1.2	92.7
ITEM29	1.00000	*	29	.41120	1.1	93.8
ITEM30	1.00000	*	30	.39668	1.1	95.0
ITEM31	1.00000	*	31	.38846	1.1	96.0
ITEM32	1.00000	*	32	.35375	1.0	97.0
ITEM33	1.00000	*	33	.32103	.9	97.9
ITEM34	1.00000	*	34	.30277	.8	98.7
ITEM35	1.00000	*	35	.25202	.7	99.4
ITEM36	1.00000	*	36	.19954	.6	100.0

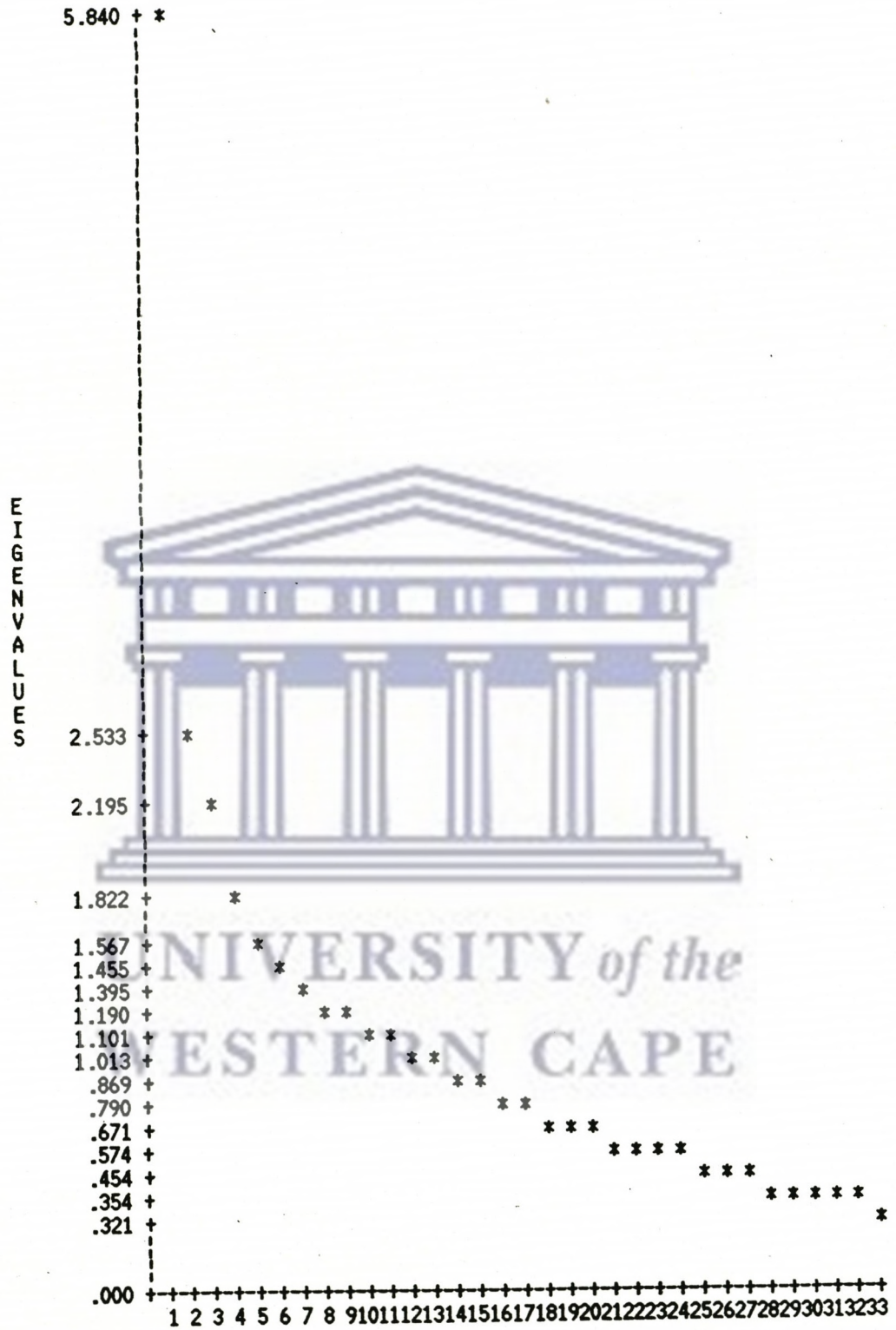


Fig. 4.1. Eigenplot of Extracted Factors (Pilot Study)

Although the factors obtained in the extraction phase described above indicated the relationship between the factors and the individual variables, it is usually difficult to identify meaningful factors based solely on this procedure. Often the variables and factors do not appear correlated in any interpretable pattern since most factors may correlate with many variables (SPSS, 1988a). Since one of the goals of factor analysis is to identify factors that are substantively meaningful (in the sense that they summarise sets of closely related variables) the rotation phase of factor analysis attempts to transform the initial matrix into one that is easier to interpet. The percentage of variance accounted for by each factor may change, redistributing the explained variance for the individual factors. Variables become more highly correlated with single factors and this assists in confirming and validating those significant factors that measure the intended APSS constructs.

Accordingly, subsequent to the exploratory factor analysis a confirmatory factor analysis using a forced factor rotated matrix was done forcing seven factors into the analysis (see Appendix D). As can be seen in Table 4.3., the results of this analysis were equivalent to the initial exploratory analysis, indicating concurrent validity for the theorised sub-scale factors designed in the scale. Those factors that emerged during the exploratory factor analysis were equivalent to those that emerged in the confirmatory analysis, indicating that intended sub-scale factors

were being measured in line with their underlying theoretical constructs.

TABLE 4.3.

CONFIRMATORY FACTOR ANALYSIS FOR THE APSS (PILOT STUDY)

---- FACTOR ANALYSIS ----

Final Statistics:

Variable	Communality	*	Factor	Eigenvalue	Pct of Var	Cum Pct
		*				
ITEM1	.38833	*	1	5.83996	16.2	16.2
ITEM2	.40777	*	2	2.53265	7.0	23.3
ITEM3	.38562	*	3	2.19513	6.1	29.4
ITEM4	.35753	*	4	1.82220	5.1	34.4
ITEM5	.27836	*	5	1.56671	4.4	38.8
ITEM6	.53878	*	6	1.45485	4.0	42.8
ITEM7	.56930	*	7	1.39523	3.9	46.7
ITEM8	.35681	*				
ITEM9	.31786	*				
ITEM10	.54503	*				
ITEM11	.35029	*				
ITEM12	.53074	*				
ITEM13	.48068	*				
ITEM14	.50880	*				
ITEM15	.55391	*				
ITEM16	.56660	*				
ITEM17	.49762	*				
ITEM18	.61597	*				
ITEM19	.53285	*				
ITEM20	.33620	*				
ITEM21	.40802	*				
ITEM22	.51174	*				
ITEM23	.41712	*				
ITEM24	.64123	*				
ITEM25	.51260	*				
ITEM26	.38268	*				
ITEM27	.52442	*				
ITEM28	.45152	*				
ITEM29	.45058	*				
ITEM30	.57105	*				
ITEM31	.43432	*				
ITEM32	.57348	*				
ITEM33	.43551	*				
ITEM34	.37180	*				
ITEM35	.49104	*				
ITEM36	.51057	*				

4.2.5.3. **Reliability Analysis**

Reliability is an important issue in the use of any measurement method and hence investigations of reliability should be made when new measures are developed (Nunnally, 1978). Reliability analysis is typically based on the average correlation among items within a test which concerns its "internal consistency" (Nunnally, 1978, p.229). Coefficient alpha (Cronbach's Alpha) is the basic formula for determining the reliability based on internal consistency. If the coefficient is too low, either the test is too short or the items have little in common. Whilst other tests of reliability may be persued, this can only be done once the level of consistency has proved sufficient.

Cronbach's Alpha provides a good estimate of reliability in most situations since it enables determination of whether the items of a scale or sub-scale are measuring a common entity (SPSS, 1988b). The average correlation of an item with all other items in the scale informs of the extent of the common entity. As a correlation coefficient its value ranges from 0 to 1, the higher the coefficient the more consistent the scale.

Since the coefficient is based both on the correlation of the items of the test and on the length of the test, lower correlations may be expected on a test consisting of a larger number of items. Further, where specific items correlate poorly with other items,

removal of such items may increase the alpha coefficient and thereby improve the reliability of the scale. This procedure may be neccesary in intitial stages of scale development.

Subsequent to the factor analysis, therefore, reliability analysis using Cronbach's Alpha was performed on each of the seven factored sub-scales (see Appendix E). Out of 36 items, 8 items were dropped because of poor inter-correlations with the other items, which increased the coefficient alpha of the sub-scales. The results of the final reliability, together with item composition, were found as follows (see Table 4.4.):

TABLE 4.4

INTERNAL RELIABILITY OF SUB-SCALES EMPLOYING CRONBACH'S ALPHA

SCALE	ITEMS	STANDARDISED ALPHA	N
Self-concept	10,13,15,20	0,67	153
Locus of Control	19,23,25,28 32,35	0,62	153
Denial	2,3,18,29	0,64	153
Rational-isation	22,24,31	0,46	153
Repression	4,21,26	0,35	153
Peer Pressure	6,12,17,30	0,45	153
Self-efficacy	7,14,27,36	0,58	153

Whilst there is no statistical cut-off point for what may be regarded as an adequate alpha coefficient in reliability analysis, a low coefficient, such as 0,30 for a 40-item test, may be regarded as inadequate and the scale or sub-scale would require refinement (Nunnally, 1978). A coefficient of 0,50 implies that at least half the items are consistent and, for the purposes of the APSS, a minimum criterion for acceptability. In this regard, therefore, it was aimed to achieve a minimum alpha coefficient of 0,50 for the APSS sub-scales with those achieving a lower coefficient being refined for further analysis. Sub-scales of self-concept, locus of control, denial, and self-efficacy were considered minimally adequate, and sub-scales of rationalisation, repression, and peer pressure inadequate.

For the main study, additional items were added to Rationalisation, Repression, and Peer Pressure to increase the reliability of these sub-scales. Subsequent analysis of these sub-scales will be included in the discussion of the Main Study (see Chapter 5).

4.2.5.4. Sub-scale Correlations

Further analysis of sub-scale correlations was done for two reasons: to achieve further confirmation of the psychometric properties of the sub-scale factors in their capacity to hold together in relation to each other; and to begin to empirically test the direction of sub-scale factors in relation to each other

in order to attain a psychosocial profile that would be usable in relation to the epidemiological data tested in the Main Study.

Preliminary testing of the theoretical constructs inherent in the scales revealed significant correlations across the different sub-scale factors. As can be seen in Table 4.5., external locus of control correlated significantly with low self-concept, high denial, high repression, high peer pressure, and low self-efficacy. Low self-concept correlated significantly with high denial, high rationalisation, high repression, high peer pressure, and low self-efficacy. High denial correlated significantly with high rationalisation, high repression, high peer pressure, and low self-efficacy. High rationalisation correlated significantly with high repression, high susceptibility to peer pressure, and low self-efficacy. High repression correlated significantly with high peer pressure and high peer pressure correlated significantly with low self-efficacy.

TABLE 4.5.
PEARSON CORRELATIONS FOR LOCUS OF CONTROL, SELF-CONCEPT, DENIAL, RATIONALISATION, REPRESSION, PEER PRESSURE & SELF-EFFICACY

	N	r	p
Locus of control & Self-concept	163	0,41	p<0,001
Locus of control & Denial	163	0,29	p<0,001
Locus of control & Repression	163	0,33	p<0,001

(cont. over)

TABLE 4.5. Continued

	N	r	p
Locus of control & Peer pressure	163	0,39	p<0,001
Locus of control & Self-efficacy	163	0,49	p<0,001
Self-concept & Denial	163	0,44	p<0,001
Self-concept & Rationalisation	163	0,24	p<0,01
Self-concept & Repression	163	0,26	p<0,001
Self-concept & Peer pressure	163	0,52	p<0,001
Self-concept & Self-efficacy	163	0,40	p<0,001
Denial & Rationalisation	163	0,27	p<0,001
Denial & Repression	163	0,21	p<0,01
Denial & Peer pressure	163	0,34	p<0,001
Denial & Self-efficacy	163	0,26	p<0,001
Rationalisation & Repression	163	0,24	p<0,01
Rationalisation & Peer pressure	163	0,34	p<0,001
Rationalisation & Self-efficacy	163	0,13	p<0,05
Repression & Peer pressure	163	0,34	p<0,001
Peer pressure & Self-efficacy	163	0,35	p<0,001
Locus of control & Rationalisation	163	0,09	p>0,05
Self-efficacy & Repression	163	0,09	p>0,05

Whilst interpretive discussion on these correlations may be premature in the pilot phase of development, the levels of significance did appear to indicate that sub-scale variables and their hypothesised relationships to each other were holding together. At this preliminary stage, a reasonably valid measure of mediational variables therefore seemed to be both theoretically and empirically consistent and the APSS appeared to be psychometrically useful as an instrument to test theoretical constructs hypothesised to mediate in the AIDS area. Whilst some sub-scales were regarded as inadequate with regard to their internal consistency, results of this stage of development did appear to provide initial validation for further developing the proposed model of psychosocial mediation that could be tested empirically in the main study.

4.3. DISCUSSION

An examination of the results of the pilot study appear to indicate that the AIDS Psychosocial Scale (APSS) may be regarded as tentatively valid as a measuring instrument for tapping into psychological and interactive social variables that may mediate between adequate knowledge and actual behavioural practices. Although further psychometric refinement of certain sub-scale items was indicated, it was evident that the scale could be taken forward

for further emprical validation and use. The use of such a scale would facilitate the empirical verification of hypothesised constructs being developed in this study and enable a valid model of psychosocial mediation to be built.

Initial analysis using a Principal-components Factor Analysis procedure, indicated that seven principal factors were extracted with a significant Eigenvalue of greater than 1. These seven principal factors were extracted in both the exploratory and forced factor solution and corresponded with the seven hypothesised sub-scale variables. These variables included defenses of denial, repression and rationalisation, psychological variables of self-concept and self-efficacy, perception of empowerment in the form of locus of control, and the related social variable of peer pressure. The sub-scales therefore appeared to be holding statistically in line with the theorised constructs.

Subsequent reliability analysis on each sub-scale, using Cronbach's-alpha coefficient, revealed that some items demonstrated poor inter-correlations with the others and were depleting the alpha coefficient. It was accordingly evident that some items needed to be discarded and new items added that would enable the reliability and consistency of all sub-scales to improve.

With specific item removal, the alpha coefficient of the sub-scales improved to a level considered satisfactory for the variables of locus of control, denial, self-efficacy, and self-concept, but unsatisfactory for the variables of rationalisation, peer pressure and repression. Items were added to these latter sub-scales to improve the alpha coefficient for the main study. Nevertheless, despite the alpha coefficient not being regarded as satisfactorily high for three of the sub-scales in this phase of development, all the coefficients did indicate that sub-scale variables were holding together and that valid sub-scale constructs were being measured. In this regard, the APSS was considered sufficiently reliable to be employed in the main study.

4.4. Concluding Comments

Initial statistical analysis examining face-validity, frequency distribution, factor extraction, internal consistency and reliability, and sub-scale correlations, appeared to indicate that the APSS was performing satisfactorily and could be taken forward for use in the main study. In this study, further analysis of the psychosocial variables and the sub-scale factors measuring them could be achieved through psychometrically revalidating the APSS subsequent to item refinement. Further, appropriate analysis of the psychosocial variables, and their statistical relationship to indices of knowledge, attitudes, beliefs and practices measured

through a questionnaire, could be done. This was hypothesised to provide empirical validation for the proposed theoretical constructs and assist in the verification of a model of psychosocial mediation. Based on this model, it would be possible for appropriate intervention strategies to be designed in the AIDS arena.

CHAPTER 5

REFINEMENT AND USE OF THE APSS: THE MEDIATIONAL ROLE OF PSYCHOSOCIAL VARIABLES IN RELATION TO AIDS-RELATED KNOWLEDGE, ATTITUDES, AND PRACTICES

The Main Study

5.1. Introduction

Preliminary development and testing of the AIDS Psychosocial Scale (APSS) revealed that psychometrically it showed sufficient adequacy for its further development and use in the main study where refinement of the scale, together with its hypothesised use in cross correlations of various knowledge, attitudes and practices variables and indices, could be undertaken. The main study was undertaken in two phases. Firstly, further development and item refinement was undertaken to improve the validity of the APSS. Secondly, further analysis of its mediational properties amongst different variables was done. This chapter describes both phases of the study, together with some preliminary discussion of the results.

5.2. METHODOLOGY

5.2.1. Aims

(i) To refine the APSS into a psychometrically valid and reliable measuring instrument of psychosocial variables.

(ii) To establish the correlational significance of sub-scale factors and their inter-relationships in order to determine a psychosocial profile that mediates between AIDS-related knowledge, attitudes, and practices.

(iii) To test the mediational capacity of psychosocial variables in relation to AIDS-related knowledge, attitudes, and practices in order to build a model of psychosocial mediation in line with theoretical dimensions discussed above.

5.2.2. Subjects

A sample of 308 third year psychology students at the University of the Western Cape was employed. Ages ranged from 19 years to 48 years with a mean age of 24.1 years (n=300: data for age was missing for eight subjects). Of the total sample, 36% were men and 63% women. Thirty-five percent of the sample spoke English as their

home language, with Afrikaans being the majority spoken language (50.3%). Xhosa accounted for 9.4% of the sample with 4.5% reporting their language as "other".

Regarding religion, 15.3% were Muslim, 79.2% Christian, 3.9% "other", and 1.3% reported having no religion. With regard to the importance of religion in helping subjects deal with problems of their daily life, 66.9% regarded religion as very important, 26.3% as somewhat important, and 6.8% as not important.

Subjects' reported period of enrolment at the University ranged from one to nine years, though most had been there for three years (51.6%). The mean time spent at UWC was 3.3 years (n=306). Most subjects grew up in the city (51.3%), though a substantial number had grown up in towns (36%), villages (9.1%) and farms (1.6%). Most subjects were single (78.2%), with 18.2% being married, 0.3% separated, 1.9% divorced, and 0.3% widowed. This demographic profile is consistent with the level of study of the sample and the demographic characteristics that may be expected from it since the sample consisted of third year students in an urban university. As the mean age of the sample was 24 years, it was expected that most would still be unmarried. Surprisingly, however, a frequency skew with regard to gender arose since nearly two-thirds of the sample consisted of women. This may have presented some data biases during analysis.

5.2.3. Apparatus

Two questionnaire forms were administered: Firstly, a considerably modified World Health Organisation survey measuring knowledge, perceived risk and attitude to behaviour change, condom knowledge and attitude, and sexual practices was employed (see Chapter 3). This schedule was further modified for use in the present study. It was shortened to make it more accessible, sections on media exposure were removed since this was not important for the aims of the present study, questions on alcohol abuse were discarded since such abuse is not a direct source of HIV transmission, and the section on intravenous drug abuse was removed since previous studies indicated that this was not a problem at UWC (see Strebel, Perkel, & Joubert, 1991).

Further, items were arranged to enable composite indices of knowledge, condom attitude, and sexual practices to be established. Secondly, a refined version of the APSS was administered. This scale covered psychosocial dimensions of denial, repression and rationalisation, peer pressure, sexual self-concept, self-efficacy, and locus of control as described in Chapter 4.

Both forms of the survey were self administered. An introductory preamble explained the nature of the survey as well as intructions for appropriate completion. Confidentiality was assured and no identifying information was required. The first form covering knowledge, attitudes, and practices (KAP) was divided into five sections covering demographic data, AIDS knowledge, perceived risk and attitude to behaviour change, condom knowledge and attitude, and sexual practices. All 53 questions required simple closed-ended coded responses (such as "Yes", "No", "Do not know", or "Agree", "Disagree") with one open-ended question regarding reported behavioural changes. Section six contained the APSS consisting of 36 items requiring rating on a five-point Likert scale from 1 ("Strongly Agree") to 5 ("Strongly Disagree").

Given the poor reliability of certain of the sub-scales derived from the pilot study, items were added to improve the alpha-coefficient. Two items measuring peer pressure, three measuring rationalisation, and three measuring repression were added to the original scale in place of previously dropped items that demonstrated poor intercorrelations with the other sub-scale items.

5.2.4. **Procedure**

The questionnaire was administered to a third year psychology class during a lecture break. Though voluntary participation was invited, virtually all students present agreed to participate. The study was explained as being about people's feelings and attitudes to AIDS.

Confidentiality was stressed and no identifying details were required. Instructions were provided for completing the questionnaire and time allocated for immediate completion. Upon completion, questionnaires were collected for analysis.

5.2.5. **Results**

Analysis of results was undertaken in two phases. First, it was necessary to ascertain the psychometric properties of the revised APSS, including its reliability and validity. Secondly, further analysis of the APSS and its capacity to measure mediational factors in relation to the variables of the KAP survey could be undertaken.

5.2.5.1. **Phase One**

Phase one involved statistical analysis of the APSS to ascertain the psychometric properties of the scale. Particular items were

scored in the reversed direction so that lower scores on the Likert scale represented higher defenses of denial, repression and rationalisation, more external locus of control, lower self-efficacy, lower self-concept, and higher susceptibility to peer pressure. As in the pilot study, various analytical steps were undertaken (see Appendix F for full questionnaire).

5.2.5.1.1. Factor Analysis

Confirmatory factor analysis using a rotated factor matrix was done, forcing seven factors into the analysis (see Appendix G). As can be seen in Table 5.1., seven principal factors were extracted with Eigenvalues significantly greater than 1. As can be seen in the Eigenplot (Fig. 5.1), these seven factors corresponded approximately to the seven theorised sub-scale factors. Although two other factors indicated an Eigenvalue of greater than 1, the distinct break between the first seven factors and these, as indicated on the Eigenplot (Fig. 5.1.), appears to indicate that these seven factors may be regarded as principal factors and the remaining two may be regarded as statistically too weak to indicate coherent factors. This finding emulated that of the pilot study and indicated concurrent validity for the sub-scale factors derived therein.

TABLE 5.1.

CONFIRMATORY FACTOR ANALYSIS FOR THE APSS (MAIN STUDY)

---- FACTOR ANALYSIS ----

PC Extracted 7 factors.

Final Statistics:

Variable	Communality	*	Factor	Eigenvalue	Pct of Var	Cum Pct
		*				
ITEM1	.50906	*	1	6.58958	18.3	18.3
ITEM2	.38764	*	2	2.50100	6.9	25.3
ITEM3	.49857	*	3	2.06747	5.7	31.0
ITEM4	.35359	*	4	1.82159	5.1	36.1
ITEM5	.46307	*	5	1.56383	4.3	40.4
ITEM6	.35625	*	6	1.36884	3.8	44.2
ITEM7	.68668	*	7	1.35153	3.8	48.0
ITEM8	.45374	*				
ITEM9	.41571	*				
ITEM10	.59341	*				
ITEM11	.41362	*				
ITEM12	.49665	*				
ITEM13	.59094	*				
ITEM14	.52784	*				
ITEM15	.39286	*				
ITEM16	.55964	*				
ITEM17	.56701	*				
ITEM18	.58886	*				
ITEM19	.30124	*				
ITEM20	.59985	*				
ITEM21	.46740	*				
ITEM22	.50007	*				
ITEM23	.50905	*				
ITEM24	.57428	*				
ITEM25	.48110	*				
ITEM26	.48768	*				
ITEM27	.51627	*				
ITEM28	.50074	*				
ITEM29	.41212	*				
ITEM30	.26146	*				
ITEM31	.50736	*				
ITEM32	.42638	*				
ITEM33	.54808	*				
ITEM34	.28386	*				
ITEM35	.50038	*				
ITEM36	.53140	*				

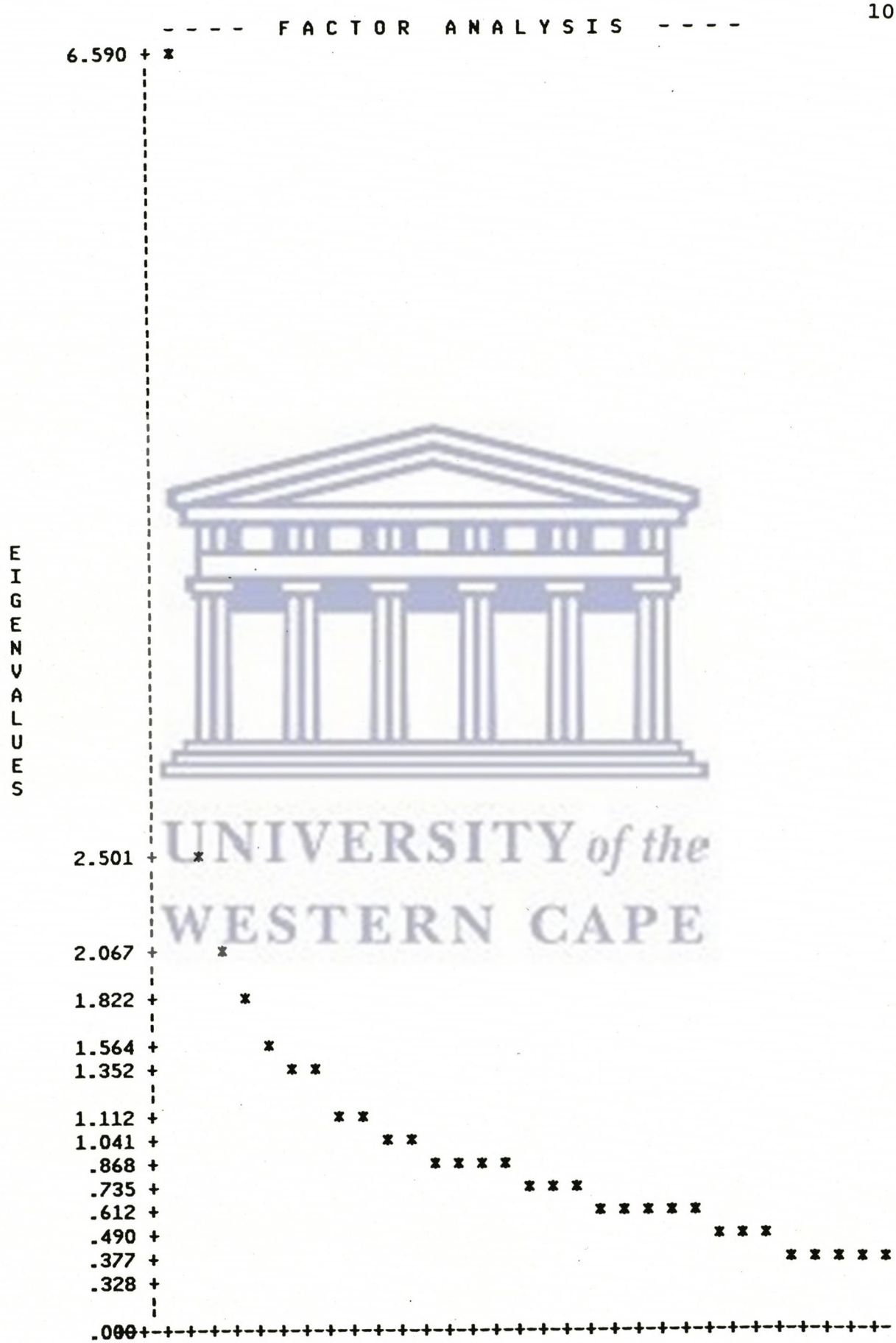


Fig. 5.1. Eigenplot of Extracted Factors (Main Study)

5.2.5.1.2. **Reliability Analysis**

Subsequent to the factor analysis, reliability analysis using Cronbach's-Alpha was done on each of the seven factored sub-scales. In addition to items omitted in the pilot study, seven items were subsequently dropped from the scale because of poor, or negative, intercorrelations with the other sub-scale items (the scale included those additional items mentioned in section 5.2.3.). The subsequent results of the final reliability analysis are given in Table 5.2.

TABLE 5.2.

INTERNAL RELIABILITY OF SUB-SCALES EMPLOYING CRONBACH'S-ALPHA

SCALE	ITEMS	STANDARDISED ALPHA	N
Self-concept	7,10,12,16	0,71	241
Locus of control	22,25,28,32	0,70	241
Denial	2,3,14,29	0,55	241
Repression	4,17,20,24,26	0,74	241
Self-efficacy	6,11,27,36	0,62	241
Rational-isation 1	21,23,31	0,60	241
Rational-isation 2	8,19,33	0,53	241
Peer pressure	1,13	0,50	241

It is important to note that, as can be seen in the above table, the rationalisation sub-scale revealed a further factor division during reliability analysis, thereby dividing the sub-scale into two sub-scale factors measuring different aspects of rationalisation. Rationalisation 1, measuring attitude to partner issues, consisted of items 21, 23, and 31, revealed a standardised alpha-coefficient of 0.60 (n=241). Rationalisation 2, measuring attitude to disease, consisted of items 8, 19, and 33, revealed a standardised alpha-coefficient of 0.53 (n=241). The differences in reliability across the pilot and main study can be seen in Table 5.3. below:

TABLE 5.3.

COMPARISON OF INTERNAL RELIABILITY OF SUB-SCALES FOR THE PILOT AND MAIN STUDIES EMPLOYING CRONBACH'S ALPHA

SCALE	STANDARDISED ALPHA (pilot)	N	STANDARDISED ALPHA (main)		N
Self-concept	0,67	153	0,71		241
Locus of control	0,62	153	0,70		241
Denial	0,64	153	0,55		241
Repression	0,35	153	0,74		241
Self-efficacy	0,58	153	0,62		241
Rational-isation	0,46	153	1	0,60	241
			2	0,53	241
Peer Pressure	0,45	153	0,50		241

Subsequent to sub-scale analysis, the entire 36-item scale was analysed using Cronbach's Alpha to determine internal reliability and item consistency. The alpha for the entire scale of usable items (including the items listed in Table 5.2) revealed a highly satisfactory standardised alpha-coefficient of 0.84 (n=241). This coefficient appeared to therefore provide concurrent reliability for the APSS since the overall alpha coefficient and sub-scale reliability was adequate. It appeared that items in the scale were internally consistent. This appeared to validate its use in the present study and in other studies of psychosocial mediation.

5.2.5.1.3. **Sub-scale Correlations**

Investigation of sub-scale correlations revealed that previously tested constructs were still holding in line with the hypothesised direction. As can be seen in Table 5.4, low self-concept correlated significantly with external locus of control, high denial, high interpersonal rationalisation, high health rationalisation, high repression, and with low self-efficacy. External locus of control correlated significantly with high denial, high health rationalisation, high repression and with low self-efficacy. High denial correlated significantly with high interpersonal rationalisation, high health rationalisation, high repression, high peer pressure, and with low self-efficacy. High interpersonal rationalisation correlated significantly with high health rationalisation, with high repression, and with high peer pressure.

High medical rationalisation correlated significantly with high repression and with low self-efficacy. Finally, high repression correlated significantly with low self-efficacy, and high peer pressure susceptibility correlated negatively with low self-efficacy.

TABLE 5.4.

PEARSON CORRELATIONS FOR SELF-CONCEPT, LOCUS OF CONTROL, DENIAL, INTERPERSONAL RATIONALISATION, MEDICAL RATIONALISATION, REPRESSION, PEER PRESSURE & SELF-EFFICACY

	N	r	p
Self-concept & Locus of control	247	0,43	p<0,001
Self-concept & Denial	247	0,41	p<0,001
Self-concept & Rationalisation 1	247	0,11	p<0,05
Self-concept & Rationalisation 2	247	0,42	p<0,001
Self-concept & Repression	247	0,26	p<0,001
Self-concept & Self-efficacy	247	0,40	p<0,001
Locus of control & Denial	247	0,35	p<0,001
Locus of control & Rationalisation 2	247	0,56	p<0,001
Locus of control & Repression	247	0,43	p<0,001
Locus of control & Self-efficacy	247	0,31	p<0,001

(continued over)

TABLE 5.4. (continued)

	N	r	p
Denial & Rationalisation 1	247	0,32	p<0,001
Denial & Rationalisation 2	247	0,41	p<0,001
Denial & Repression	247	0,32	p<0,001
Denial & Peer pressure	247	0,12	p<0,05
Denial & Self-efficacy	247	0,26	p<0,001
Rationalisation 1 & Rationalisation 2	247	0,13	p<0,05
Rationalisation 1 & Repression	247	0,28	p<0,001
Rationalisation 1 & Peer pressure	247	0,20	p<0,01
Rationalisation 2 & Repression	247	0,46	p<0,001
Rationalisation 2 & Self-efficacy	247	0,23	p<0,001
Repression & Self-efficacy	247	0,19	p<0,01
Peer pressure & Self-efficacy	247	-0,14	p<0,05
Self-concept & Peer Pressure	247	0,40	p>0,05
Locus of Control & Peer Pressure	247	-0,06	p>0,05
Rationalisation 1 & Self-efficacy	247	-0,10	p>0,05
Rationalisation 2 & Peer Pressure	247	0,07	p>0,05
Repression & Peer Pressure	247	0,06	p>0,05

It seems apparent that, for the most part, correlational significance followed the patterns that emerged in the pilot study. These findings appear to lend credibility to the refinement of the APSS and indicate that as an instrument testing psychosocial mediation, its use may be regarded as reliable and valid. Further, the significance of correlations attained appeared to provide support that hypothesised relationships of variables were being supported empirically.

5.2.5.1.4. **Split-half Reliability**

Coefficient alpha is a basic estimate of reliability. Other ways of estimating reliability which may serve a confirmatory purpose regarding the scale's reliability is to estimate reliability from various subdivisions of the test (Nunnally, 1978). The most popular method is the split-half approach, in which items within a test are divided in half and scores on the two half-tests are correlated. In this procedure, unequal parts are measured by the unequal-length Spearman-Brown coefficient, equal lengths by the equal-length Spearman-Brown coefficient, and the overall reliability by the Guttman-split-half coefficient.

Split-half reliability analysis of the APSS revealed satisfactory results. As can be seen in Table 5.5., split-half reliability analysis revealed a correlation between forms of 0.59 (n=241). Reliability using the equal length Spearman-Brown formula revealed

a coefficient of 0.75 (n=241), the Guttman split-half a coefficient of 0.74 (n=241), and the unequal-length Spearman-Brown a coefficient of 0.75 (n=241). The overall alpha coefficient for part 1 was 0.78 and the alpha for part 2 0.68 (n=241). These results indicated that reliability was satisfactory and that the APSS was maintaining its psychometric properties for use in analysing and interpreting the main study data.

TABLE 5.5.

SPLIT-HALF RELIABILITY FOR THE APSS

Formula	r	N
Correlation between Forms	0,59	241
Equal Length Spearman-Brown	0,75	241
Guttman Split-Half	0,74	241
Unequal-Length Spearman-Brown	0,75	241
Alpha for part 1 = 0,78	Alpha for part 2 = 0,68	

5.2.5.2. **Phase Two**

Correlations across the APSS sub-scale factors revealed a number of significant findings. These have been reported above (see Table 5.4.). In addition, correlations across other demographic, epidemiological, and attitudinal data revealed significant correlations (these will be reported below). Various indices were formulated for knowledge, condom attitude, and unsafe sexual

practices for use in cross correlations with the psychosocial variables measured by the APSS.

An AIDS knowledge index was derived from items Q203, Q204, Q205, Q206a to Q206l, Q207, Q208, Q209, and Q210 of Section 2 of the questionnaire (see Appendix F for full questionnaire). This index was calculated additively, with the presence of accurate information being accumulated into a knowledge score. A higher knowledge score indicated higher accurate knowledge. A condom attitude was derived from items Q402, Q403, and Q404 to Q415 of Section 4, and divided into negative and positive condom attitude, with positive attitude being calculated in the additive direction. A higher condom attitude score indicated a more positive attitude to condoms. Finally, an unsafe sex score was derived from items Q501 to Q511 of Section 5, with items divided into safe and unsafe sexual practices. The index was calculated additively with higher scores indicating higher unsafe sexual practices. Negative correlations are interpreted in the text to indicate the direction of significance.

As can be seen in Table 5.6., low self-concept correlated significantly with low AIDS knowledge, and with a negative condom attitude. External locus of control correlated significantly with low knowledge and with a negative condom attitude. High denial correlated significantly with low knowledge and with a negative condom attitude. High medical rationalisation correlated

significantly with low knowledge and with a negative condom attitude. High repression correlated significantly with low knowledge and with a negative condom attitude. Low self-efficacy correlated significantly with low knowledge, with a negative condom attitude, and with a higher unsafe sex score. Finally, low knowledge correlated significantly with a negative condom attitude, and a negative condom attitude correlated significantly with a higher unsafe sex score. Accurate knowledge did not, however, correlate significantly with safer sexual practices.

TABLE 5.6.

PEARSON CORRELATIONS FOR SELF-CONCEPT, LOCUS OF CONTROL, DENIAL, MEDICAL RATIONALISATION2, REPRESSION, PEER PRESSURE, SELF-EFFICACY AND AIDS KNOWLEDGE, CONDOM ATTITUDE, AND UNSAFE SEX

	N	r	p
Self-concept & Knowledge	247	0,14	p<0,05
Self-concept & Condom Attitude	247	0,48	p<0,001
Locus of control & Knowledge	247	0,16	p<0,01
Locus of control & Condom Attitude	247	0,23	p<0,001
Denial & Knowledge	247	0,26	p<0,001
Denial & Condom Attitude	247	0,24	p<0,001
Rationalisation 2 & Knowledge	247	0,21	p<0,001
Rationalisation 2 & Condom Attitude	247	0,26	p<0,001
Repression & Knowledge	247	0,20	p<0,01 (cont.)

TABLE 5.6. Continued

	N	r	p
Repression & Condom Attitude	247	0,18	p<0,01
Self-efficacy & Knowledge	247	0,21	p<0,01
Self-efficacy & Condom Attitude	247	0,33	p<0,001
Self-efficacy & Unsafe Sex	247	0,18	p<0,01
Knowledge & Condom Attitude	247	0,13	p<0,05
Condom Attitude & Unsafe Sex	247	0,34	p<0,001
Self-concept & Unsafe Sex	247	0,05	p>0,05
Locus of Control & Unsafe Sex	247	-0,10	p>0,05
Denial & Unsafe Sex	247	0,04	p>0,05
Rationalisation 1 & Knowledge	247	0,08	p>0,05
Rationalisation 1 & Condom Attitude	247	0,08	p>0,05
Rationalisation 1 & Unsafe Sex	247	-0,04	p>0,05
Rationlisation 2 & Unsafe Sex	247	-0,02	p>0,05
Repression & Unsafe Sex	247	-0,02	p>0,05
Peer Pressure & Knowledge	247	0,05	p>0,05
Peer pressure & Condom Attitude	247	0,08	p>0,05
Peer pressure & Unsafe Sex	247	-0,01	p>0,05

Further correlations were done for various individual items in order to assess their associations to other demographic, epidemiological, attitudinal, and psychosocial variables.

As can be seen in Table 5.7., those who perceive themselves to have good knowledge about AIDS display better knowledge ($r=-0.34$; $n=307$; $p<0.001$), and a lower unsafe sex score ($r=-0.13$; $n=307$; $p<0.01$). Those who reported knowing someone with AIDS displayed better knowledge about AIDS ($r=-0.10$; $n=308$; $p<0.05$) but not a more positive condom attitude or safer sexual practices. Gender revealed significant differences. Despite knowledge being similar across men and women, women displayed a significantly more negative attitude to condoms ($r=-0.18$; $n=306$; $p<0.01$) though men displayed a significantly higher unsafe sex score ($r=-0.35$; $n=306$; $p<0.001$). Men reported significantly more sexual partners than women ($r=-0.26$; $n=160$; $p<0.001$). Those who believe that AIDS can be prevented displayed significantly better knowledge ($r=-0.35$; $n=308$; $p<0.001$) and a more positive condom attitude ($r=-0.12$; $n=308$; $p<0.05$) but not safer sexual practices. Those who perceive AIDS to be a threat to the campus community, do not necessarily perceive themselves to be at risk. There is no correlation between perceived community risk and perceived self-risk ($r=0.03$; $n=304$; $p>0.05$). Those who do perceive themselves to be at risk display a significantly higher unsafe sex score ($r=0.13$; $n=304$; $p<0.05$) thus demonstrating realistic appraisal of high risk behaviours despite not necessarily

doing anything to alleviate this risk. Many of those who perceive themselves to be at risk for AIDS infection, report having made changes in their behaviour ($r=-0.13$; $n=298$; $p<0.05$), with those having made changes also intending to make future changes in their behaviour as a result of what they have heard about AIDS ($r=0.62$; $n=298$; $p<0.001$). Reported changes did not, however, always show evidence of realistic safer sexual practices. Reported changes included sticking to one partner (24.4%), using condoms (9.7%), and choosing one's partner carefully (3.2%). A small number of people reported educating themselves (1.3%), practicing "safe sex" (1.6%), avoiding contact with body fluid (2.6%), and no sex (4.9%) as behavioural changes made. A number of subjects reported making no changes at all (17.9%). Since this data rests on an n of 208, it may be possible to interpret the missing responses (32.5% of the sample) as indicating no active behavioural changes.

Those who report having made changes also demonstrate a higher unsafe sex score ($r=-0.15$; $n=306$; $p<0.01$), indicating that those who practice unsafe sex may be trying to alter high risk behaviour or alternatively that their reported changes have no basis in real safer practices. Those whose friends have made behaviour changes as a result of what they have heard about AIDS, also report having made changes ($r=0.18$; $n=305$; $p<0.01$), corroborating the notion that peer pressure has a positive influence on intention to practice safer sex, even when these intentions are not carried out in actual behaviour change.

Those who report that they would use condoms if they were readily available also report having used condoms with their partners ($r=0.35$; $n=161$; $p<0.001$). Those who have been treated for a sexually transmitted disease, whilst not correlating with knowledge or condom attitude, do demonstrate higher unsafe sex scores ($r=-0.61$; $n=166$; $p<0.001$). Those with higher numbers of sexual partners also demonstrate a significantly lower self-concept in the area of sexuality ($r=0.28$; $n=153$; $p<0.001$). Those who report using condoms with their partners display a significantly more positive condom attitude ($r=-0.38$; $n=157$; $p<0.001$), and those who have a higher self-concept also demonstrate a more positive condom attitude ($r=0.48$; $n=157$; $p<0.001$).

TABLE 5.7.

PEARSON CORRELATIONS OF INDIVIDUAL ITEMS WITH DEMOGRAPHIC, EPIDEMIOLOGICAL, ATTITUDINAL & PSYCHOSOCIAL VARIABLES

	N	r	p
Perceived knowledge & actual knowledge	307	-0,34	p<0,001
Perceived knowledge & Condom Attitude	307	-0,09	p>0,05
Perceived knowledge & Unsafe sex	307	-0,13	p<0,01
Knowing AIDS sufferer & Knowledge	308	-0,10	p<0,05
Knowing AIDS sufferer & Condom Attitude	308	0,06	p>0,05

(continued over)

TABLE 5.7. Continued

	N	r	p
Knowing AIDS sufferer & Unsafe Sex	308	0,05	p>0,05
Women & negative condom attitude	306	-0,18	p<0,01
Men & Unsafe sex	306	-0,35	p<0,001
Men & higher no. of sexual partners	160	-0,26	p<0,001
Belief in preventability & Knowledge	308	-0,35	p<0,001
Belief in preventability & Positive Condom Attitude	308	-0,12	p<0,05
Belief in preventability & Unsafe Sex	308	0,05	p>0,05
Perceived Self-risk & Higher Unsafe Sex	304	0,13	p<0,05
Perceived Self-risk & Knowledge	304	-0,01	p>0,05
Perceived Self-risk & Condom Attitude	304	-0,01	p>0,05
Perceives Self-risk & Reported Behaviour Change	298	-0,13	p<0,05
Reported Behaviour change and Positive Intention to make future changes	298	0,62	p<0,001
Reported Behaviour Change & Higher Unsafe Sex	306	-0,15	p<0,01
Friends' Behaviour Change & Self Behaviour Change	305	0,18	p<0,01
Prepared to use Condoms & Actual use	161	0,35	p<0,001

(continuedover)

TABLE 5.7. continued

	N	r	p
Treated for STD & Higher Unsafe Sex	166	-0,61	p<0,001
Treated for STD & Knowledge	166	-0,03	p>0,05
Treated for STD & Condom Attitude	166	0,03	p>0,05
Higher no's of Sexual Partners & Lower Self-concept	153	0,28	p<0,001
Reported Condom Use & Positive Condom Attitude	157	-0,38	p<0,001
Reported Condom Use & Self-concept	157	-0,08	p>0,05
Higher Self-concept & Positive Condom Attitude	157	0,48	p<0,001

In order to explore the predictive power of some of the variables considered in the study and their capacity to inform a model of psychosocial mediation, a number of multiple regression equations were computed. In the first, items 201, 202, 303, 210, self-concept, denial, rationalisation 1, rationalisation 2, repression, peer pressure, and locus of control were entered as the independent variables with knowledge entered as the dependent variable. As can be seen in Table 5.8., item 201, measuring self-perception of level of AIDS knowledge, item 210, measuring perception regarding

preventability of AIDS, and denial emerged as significant predictors of the knowledge index. Those who perceive themselves to have higher knowledge, those who believe that AIDS can be prevented, and those lower on denial display higher knowledge.

TABLE 5.8.
MULTIPLE REGRESSION OF PERCEIVED KNOWLEDGE, PERCEIVED PREVENTABILITY, AND DENIAL AS PREDICTORS OF KNOWLEDGE

DV	IV	STD Beta	t-value	p
Knowledge	201	-0,29	-4,94	p<0,01
	210	-0,27	-4,48	p<0,01
	Denial	0,16	2,38	p<0,05

R^2=0,25 n=244

Secondly, sex, items 304, 210, 306, 402, unsafe sex, self-concept, denial, rationalisation 1, rationalisation 2, repression, peer pressure, self-efficacy, locus of control, and knowledge were entered as independent variables with condom attitude entered as the dependent variable. As can be seen in Table 5.9., self-concept and item 402, measuring previous history of condom use, emerged as significant predictors of condom attitude. Those with higher self-concept and history of having used a condom significantly predicted a more positive condom attitude.

TABLE 5.9.
MULTIPLE REGRESSION OF SELF-CONCEPT AND CONDOM USE AS PREDICTORS OF CONDOM ATTITUDE

DV	IV	STD Beta	t-value	p
Condom Attitude	Self-concept	0,39	6,25	p<0,01
	402	-0,35	-5,11	p<0,01

R^2 =0,40 n=241

Thirdly, knowledge, condom attitude, self-concept, denial, rationalisation 1, rationalisation 2, repression, peer pressure, self-efficacy, locus of control, and items 210, 306, and 510 were enetered as independent variables with unsafe sex entered as the dependent variable. As can be seen from Table 5.10., item 510, measuring previous treatment for a sexually transmitted disease (STD), emerged as the only significant predictor of unsafe sex. The factors leading to high risk behaviour for contraction of an STD, such as negative condom attitude derived from poor knowledge related to a low self-concept, the non-use of condoms and high numbers of sexual partners, will be discussed in the next chapter.

TABLE 5.10.
MULTIPLE REGRESSION OF TREATMENT FOR A SEXUALLY TRANSMITTED DISEASE AS PREDICTIVE OF UNSAFE SEX

DV	IV	STD Beta	t-value	p
Unsafe Sex	510	-0,65	-9,45	p<0,01

R^2 =0,38 n=131

Fourthly, knowledge, self-concept, sex, and items 303 and 504 were entered as independent variables with item 504, measuring number of sexual partners, entered as the dependent variable. As can be seen in Table 5.11., self-concept and sex emerged as significant predictors of number of sexual partners. Men and those with lower self-concept tended to have higher numbers of sexual partners.

TABLE 5.11.
MULTIPLE REGRESSION OF SELF-CONCEPT AND SEX AS PREDICTORS OF NUMBER OF SEXUAL PARTNERS

DV	IV	STD Beta	t-value	p
504	Self-concept	-0,23	-2,77	p<0,01
	Sex	-0,22	-2,80	p<0,01

R^2=0,13 n=151

Following the multiple regression procedures, path analyis was also undertaken to establish predictive links within the proposed model. This analysis aimed to establish those psychosocial variables that were **causally** predictive rather than simply correlational in significance. Such a process would assist in confirming the strengths of specific aspects of the proposed mediational model, and in exposing those salient variables that exhibited not only correlational significance but direct causation.

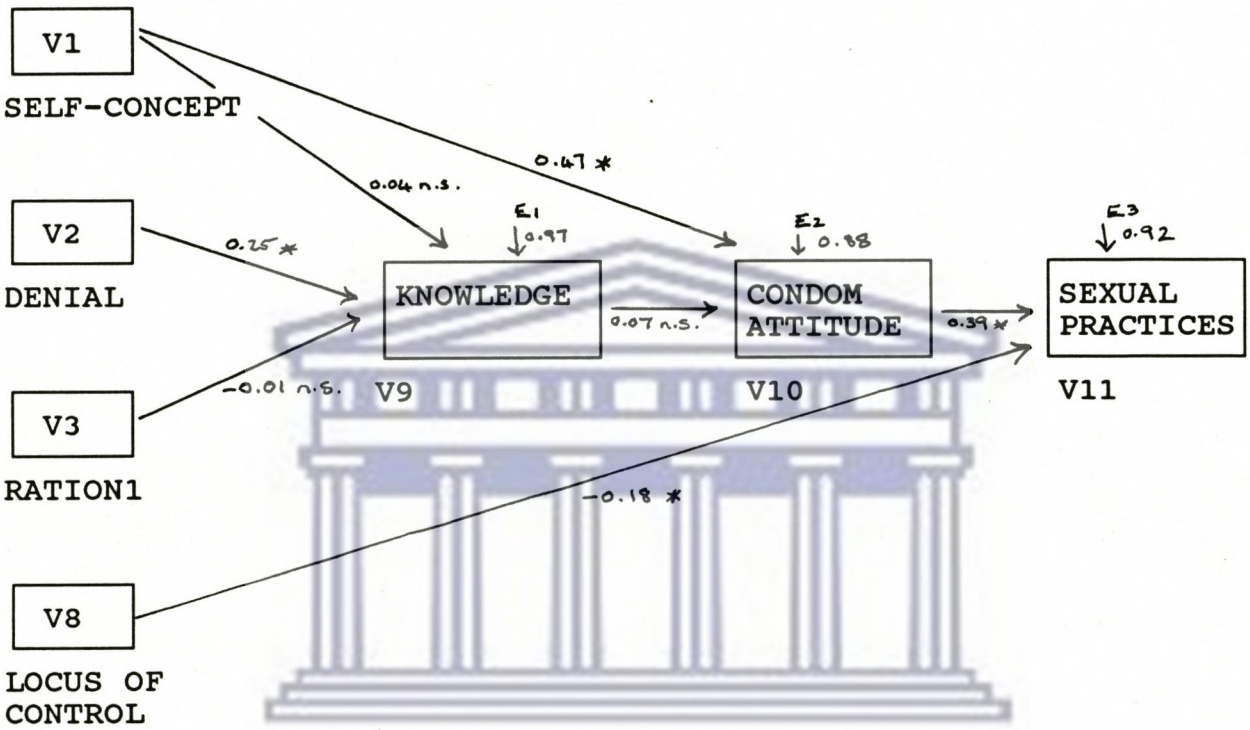
According to Pedhazur (1982), neither correlation nor any other index proves causation. Although significance in correlational procedures may be suggestive of causal linkages, direct causation can not be assumed. An explanatory scheme, such as the one explored in this study, is not arrived at on the basis of the data, but rather on the basis of knowledge, theoretical formulations and assumptions, and logical analysis (Pedhazur, 1982).

Statistical analysis of the associative or causative significance of variables serves to establish and confirm the explanatory power they have in relation to a theory. Where consistency of the model with the data is established, this lends support to it. Establishing direct causation between at least some of the variables, and doing so within a consistent model where variables are linked, assists in accepting the theoretical framework of the model and strengthening the statistical associations found. Path analysis assists in achieving this aim.

Pedhazur (1982) nevertheless cautions that path analysis is not a method for discovering causes per se, but a method applied to a model formulated by the researcher on the basis of knowledge and theoretical considerations. This is done in order to establish or confirm the causal links proposed within a model. The path coefficients derived during analysis indicate the direct effect of a variable hypothesised as a cause of a variable taken as an effect (Pedhazur, 1982).

In the present study, path analysis was undertaken using the EQS programme, with a criterion of estimation of the generalised least squares being employed. As can be seen in Figure 5.2., the chi-square was rejected and the Bentler-Bonett Fit Index was 0.99. This is a clear indication that the estimated model is consistent with the data. However, self-concept (V1) was a non-significant direct predictor of knowledge (V9), though it was a significant predictor of condom attitude (V10). Denial (V2) significantly predicted knowledge (V9), though rationalisation 1 (V3) was non-significant as a predictor of knowledge. Locus of control (V8) significantly predicted sexual practices (V11). Knowledge (V9) did not significantly predict condom attitude (V10), though condom attitude (V10) significantly predicted sexual practices (V11).

Thus, although the hypothesised relationships of variables were adding value to the model and maintaining its consistency overall, some specific relationships did not achieve statistical significance. It seems apparent, therefore, that self-concept predicts condom attitude directly and has some influence on the formation of knowledge. Denial significantly predicts the formation of knowledge which in turn affects condom attitude. Rationalisation 1 affects knowledge, though is not significant as a direct causal predictor of it. Locus of control directly predicts sexual practices (and unsafe sex in particular), with knowledge affecting condom attitude, and condom attitude significantly predicting sexual practices.



* - p<0,01

X^2 = 7,77
df = 10
p = 0,65
BENTLER-BONETT = 0,99

Fig 5.2. Path Analysis Considering Overall Fit of Significant variables

Overall, then, it seemed apparent that the overall theoretical model was consistent with the data. In this regard, those variables that were non-significant were still shown to be consistent within the theoretical model and related to the variables included in the model. Certain variables did not achieve statistical significance in their relationship to the model and were thus excluded as causal factors (for example, self-efficacy, repression, peer pressure, and rationalisation 2). This indicated that the directionality of these excluded variables was not necessarily causal as was indicated by those variables that were retained in the path analysis. That is, these excluded variables were found to be significant as correlations with other variables and indices, and therefore important in their function within the model of psychosocial mediation, but they could not be shown to demonstrate a cause-effect relationship.

Finally, the frequency data of items added some useful information with regard to the sample under study. These data will be reported for use in later discussions. Regarding AIDS knowledge, 21.1% of the sample perceived themselves to know a great deal about AIDS, with the majority (59.1%) perceiving themselves to know a moderate amount, and 18.8% perceiving that they knew just a little (see Table 5.12.). An insignificant 0.6% perceived themselves to know nothing at all about AIDS. It therefore appears as if knowledge about the disease has reached adequate levels since the epidemic

began. Although most people had themselves not known someone with AIDS (89.3%), a surprising 10.7% reported that they had. Most people knew that a symptom free carrier status of HIV was possible (70.5%) though over 29.3% of subjects were not aware of this or did not know. Most subjects knew that full-blown AIDS could take up to years to occur (65.3%) with the remainder believing it could take days, months or did not know. An encouraging 89.6% were aware that a person who looked healthy could still carry and transmit the virus.

Results regarding transmission routes indicated that on the whole information was good. Most people were aware that AIDS could be transmitted by using AIDS infected needles (96.4%), having sex with prostitutes (95.8%), through promiscuity (97.4%), through sexual contact with an infected male (99.4%), through sexual contact with an infected female (97.7%), and through blood transfusions (98.7%). Myths regarding AIDS were apparent in a minority of subjects, with those believing infection through touch was possible (1.3%), kissing an infected person (32.5%), sharing food or cups with an infected person (12%), through parasitic insects (20.5%), through wearing clothes of an infected person (3.9%), and from toilet seats (12.3%). Over 95% percent of subjects were aware of vertical mother-child transmission. Although 69.8% believed that AIDS was presently incurable, some 6.2% believed it was curable and 23.4% did not know. Virtually all subjects believed that either all AIDS infected people would die or nearly all would die (63.6% and 31.5%

respectively). An encouraging 88.3% believed that AIDS was preventable. These data indicated an encouraging level of accurate information, indicating that information campaigns may be achieving this objective. However, from the vantage point of attitudes to condoms, or actual behaviour change, the picture appears somewhat less optimistic.

TABLE 5.12.

AIDS KNOWLEDGE		%
Thought they knew a great deal about AIDS		21%*
Thought they knew a moderate amount		59%
Knew someone with HIV/AIDS		11%
Aware that asymptomatic people were infectious		71%
Aware that healthy looking person could still transmit the virus		90%
Transmission Risks:	Contaminated Needles	96%
	Prostitution	96%
	Promiscuity	97%
	Sex with infected male	99%
	Sex with infected female	98%
	Blood transfusions	99%
	Mother-child	95%
	Touch	1%
	Kissing	33%
	Sharing food/cups	12%
	Parasitic insects	21%
	Through clothes	4%
	Toilet seats	12%
Aware AIDS presently incurable		70%
Nearly all infected would die		32%
All infected would die		64%
Believed AIDS was preventable		88%

*Percentages rounded to nearest integer

The majority of subjects did see AIDS as a threat to the campus community (93.7%), but most did not perceive themselves to be at risk at all (63.3%), though some did see themselves as somewhat likely to be at risk for infection (32.1%) and a few very likely (3.2%). An encouraging 85.1% were aware that behaviour change could prevent AIDS, though the majority of the sample had not made any changes in their behaviour or way of life themselves (53.2%). Of note, however, is the number intending to make changes in the future (60.4%). Of the 46.1% who reported making changes, or intending to make changes, however, few of these reported changes were substantial in AIDS risk reduction. Only 9.7% of the sample reported using condoms, with other changes being vague or not helpful in actual behaviour (eg., choosing partners carefully, avoiding body fluids, or limiting partner numbers). Of note was the 24.4% who had decided to stick to one partner as a prevention strategy. Of interest is that 92.5% of subjects reported that they would inform their partner(s) if they had AIDS.

TABLE 5.13.

ATTITUDES AND BEHAVIOUR		%
AIDS current threat to campus community		94%*
AIDS threat to self:	Not likely at all	63%
	Somewhat likely	32%
	Very likely	3%
Believe behaviour can prevent AIDS		85%
Actually made behavioural changes themselves		46%
Intention to make future changes		60%
Actual reported condom use		10%
Sticking to one partner		24%

*Percentages rounded to nearest integer

As can be seen in Table 5.14., whilst 99.7% of subjects had heard of the condom, only 39.3% had ever used one, although 58.1% reported that they would use one if they were made readily available. The reality of reported intention however is not borne out in actual practice. For those who had had sexual partner(s) over the past year, actual reported condom use with these sexual partner(s) was low, with only 8.4% of the total sample using a condom each time, 22.4% sometimes (a poor risk reducer), and 22.7% never having used one with their partner(s). Regarding attitudes to condoms, 47.7% of people believe condoms make sex less enjoyable, with 76% believing them to be most appropriate for use with casual partners. Only 22.7% regard condom use as being against their religion, or as being too expensive to use regularly (10.4%). Twenty-five percent believed condoms would be offensive to their sexual partners though 90.6% and 92.2% believed that condoms were good at preventing both pregnancy and venereal diseases respectively. Thirty-nine percent believed condoms to be most appropriate for use with spouse or regular partner.

Other negative attitudes included the perception that condom use may make partner(s) think they are dirty or not trustworthy (27.3%), using a condom may induce discomfort and embarassment in front of their partner (24%), or getting a condom is/would be too embarrassing (26.3%). An alarming 9.5% of subjects still believe

that condoms are a plot by the government to control the size of the black population.

TABLE 5.14.

CONDOM ATTITUDES AND PRACTICES		%
Had heard of the condom		100%*
Had ever used one		39%
Would use one if made readily available		58%
Actual condom use:	Used each time	8%
	Used sometimes	22%
	Never used	23%
Condom Attitudes:	Make sex less enjoyable	48%
	Most appropriate for use with casual partners	76%
	Use against their religion	23%
	Too expensive for regular use	10%
	Offensive to sexual partners	25%
	Good at preventing pregnancy	91%
	Good at preventing STD's	92%
	Use may make partner think they are dirty/not trustworthy	27%
	Condom use embarrassing or uncomfortable in front of partner	24%
	Getting condom too embarrassing	26%
	Plot by government to limit size of black families	10%

*Percentages rounded to nearest integer

Regarding sexual practices, 55.2% reported having had a sexual partner. Of the sample, 43.2% had a regular sexual partner and 12.7% did not have a regular partner. An alarming 17.9% reported having sex with someone other than their regular partner in the past year. The number of sexual partners had during the past year ranged from 1 (28.9%), 2 (10.1%), and 3 (4.9%) to 9 or more (1%).

The mean number of reported partners during the past year was 1.8 (median=1; n=162). Only 8.4% of subjects reported using a condom each time with these partner(s).

Of the sample that used condoms at one time or another, 21% of subjects reported providing these condoms. Only one case of visiting a prostitute, and one case of prostituting was admitted. A history of treatment for a sexually transmitted disease (STD) was reported by 6.8% of the sample; 2.3% had been treated more than once and 4.5% only once. Obviously a history of STD treatment increases the risk factors associated with HIV infection.

TABLE 5.15.

SEXUAL PRACTICES		%
Had had a sexual partner		55%*
Had a regular sexual partner		43%
Had had sex with someone other than regular partner		18%
Number of sexual partners in past year:	1	30%
	2	10%
	3	5%
	4	0.6%
	5	1.6%
	6	0.6%
	7	0.3%
	8	0.3%
	9 or more	1.0%
Treated for STD		7%
Treated for STD more than once		2%

*Percentages rounded to nearest integer (except where below 2%)

5.3. Concluding Comments

This chapter has reported on the various results obtained through different statistical procedures employed to investigate various aspects of the study. Phase one involved refinement and development of the APSS for subsequent use in the main study. Since it appeared to achieve satisfactory psychometric properties, subsequent use was made of the scale in analysing the data. Various procedures were used to establish the correlational significance of variables, their predictive power, and the overall relationships different variables had to each other. In this regard, hypothesised relationships could be investigated in order to facilitate the development of a model of psychosocial mediation. Since tying these results together into a conceptual model is an enormous task, discussion and formulation will be presented in the following chapter.

CHAPTER 6

DISCUSSION: TOWARDS A MODEL OF PSYCHOSOCIAL MEDIATION

6.1. Introduction

Chapter 5 reported on various aspects of the current study. Phase one of the study set out to describe the validation process of the AIDS Psychosocial Scale (APSS), thereby providing a usable instrument for application in the main study exploring psychosocial mediation in the AIDS area. The results of the APSS development have been described in chapters 4 and 5, as have the results of the main study. This chapter sets out to synthesise these results into a coherent discussion of psychosocial mediation.

6.2. Step One - Interrelationships of the Psychosocial Variables

An attempt to develop a model of psychosocial mediation applicable in the AIDS area may benefit from a brief look at other models of health intervention efforts and to note their deficiencies. Health intervention efforts have been informed by various theoretical models, including the Health Belief Model, the Fear-Drive Model, and the Dual-Process Model (Bauman & Siegel, 1987). These models have attempted to approach health intervention efforts from

different angles. The Health Belief Model has tended to concentrate on notions of perceived susceptibility or vulnerability, perceived illness severity, perceived benefits of change, perceived barriers of possible negative effects of the change, and cues or a stimulus to change. It is clear that these factors represent cognitive perceptions, and in this regard the model, by not fully accounting for other psychosocial factors, may have limited explanatory power.

The Fear-Drive model, on the other hand, has relied on the notion of fear inducement as a motivator of positive action. It has become evident, however, that fear may also produce feelings of hopelessness which demotivate for positive action, especially where AIDS is concerned, given the life-threatening and socially stigmatising nature of the disease.

A third model, the Dual-Process Model, has attempted to account for this paradoxical phenomenon of duality by arguing that fear may be an effective motivating factor for health-changing behaviours but that under some circumstances behaviour may be directed in unexpected (i.e. demotivated) ways. As discussed previously, fear inducement in the AIDS area has been shown to have the potential to increase anxiety and therefore denial, a mechanism that reduces perceived vulnerability and thereby increases risk (for example, Leventhal & Cleary, 1980 cited in Coates, Temoshock & Mandel, 1984).

The most widely used model to explain health-related preventive behaviours is the Health Belief Model (Bauman & Siegel, 1987), which invites a conceptual skew in favour of descriptive cognitive factors. As discussed above, the theoretical notions of this model rely on perceptions of vulnerability, illness severity, benefits of change, barriers to change, and cues to change. However, since cognitive intentions and perceptions may not necessarily motivate for actual behaviour change, even in the presence of appropriate knowledge regarding what is health-affirmative change (Archer, 1989; Becker & Joseph, 1988; Leventhal & Cleary, 1980; Nelkin, 1987), focusing solely on cognitive perceptions or intentions may be inadequate. This approach fails to take account of the multiplicity of psychosocial variables, including personality, emotional, psychological, and social factors, that may impinge not only in health-related behaviours in general, but in the specific area of AIDS and sexuality. As a result, these models may be regarded as unsuitable, or at best insufficient, for use in AIDS-related intervention, an aspect of health behaviour noted for its particular resilience to change.

The present study has extracted various dimensions of psychological and social variables hypothesised to mediate in the area of behaviour and AIDS in particular. These variables, whilst significantly effecting the formation of knowledge, attitudes and sexual practices, also demonstrate important relationships amongst

themselves. They are important in explaining the formation of various cognitive processes and the effect they have on AIDS related behaviour. These relationships provide the basis upon which a proposed psychosocial theory of AIDS-related attitudes and behaviour may rest.

Significant relationships emerged across the sub-scale variables from which the psychosocial factors are derived. In line with hypothesised constructs, the overall picture that emerges is in the direction that empirically corroborates a theoretical analysis of psychological functioning that has an influence on attitude formation and behaviour change in this area (see Chapter 5). Whilst these relationships appear in part to bridge certain theoretical paradigms by, for example, including concepts derived from psychoanalytic theory and social learning theory, their compatability is argued to be both empirically and theoretically possible (Chan, 1977; Tudor, 1970 cited in Houston, 1972) and, as discussed in Chapter 2, necessary in order to explain a complex psychosocial phenomenon that influences sexuality in general and AIDS-related behaviour in particular.

The way that the psychosocial variables measured in the present study correlate with each other is important in establishing how pschosocial factors may combine in affecting attitudes and behaviour. It was indicated that low self-concept in the area of sexuality tends to correlate significantly with higher defenses,

a higher susceptibility to social and peer-pressure influences, and a lower perception of empowerment and self-efficacy to influence health-related and AIDS-related practices.

Specific correlations indicate that low self-concept correlated significantly with external locus of control, high denial, high interpersonal and health-related rationalisation, high repression and with low self-efficacy. In turn, external locus of control correlated significantly with high denial, high health-related rationalisation, high repression, and with low self-efficacy. High denial correlated significantly with high interpersonal rationalisation, high health-related rationalisation, high repression, high peer pressure, and low self-efficacy. High interpersonal rationalisation correlated significantly with high health-related rationalisation, with high repression, and with high peer presure. High health-related rationalisation correlated significantly with high repression and with low self-efficacy and high repression correlated significantly with low self-efficacy..

From a psychodynamic perspective, defenses play the role of containing anxiety that threatens the ego in the psyche structure of the personality (Cameron & Rychlak, 1985). In this regard, self-concept, specific to sexuality in this context, plays a salient role (Burns, 1982). This is so because protection and maintenance of ego or self-functioning is central to psychological survival and where this is threatened, defenses or behaviours may develop as

protective mechanisms (Cameron & Rychlak, 1985). Where self-concept is low, affirmation from external sources to maintain a functional level of perceived adequacy may be more necessary than where self-concept is high and there is greater independence from external affirmation.

If the need for affirmation from the external environment is a marked feature of the personality, then anticipated or actual rejection may lead to higher levels of anxiety and a lowered capacity for maintaining an independent sense of confidence and self. This anxiety may be experienced consciously in response to concern about how others may perceive the individual, or unconsciously in response to projections that induce a perception that others perceive one in a negative light (whether such perceptions exist in reality or not).

Further, such anxiety may be sublimated through behavioural patterns that serve to contain it, such as interacting with numerous sexual partners which may serve as a source of gratification and affirmation of self. As will be seen below, self-concept correlates directly with number of sexual partners, with those low in self-concept tending to have more sexual partners, as well as being a direct predictor of condom attitude, with those low in self-concept tending to have a more negative attitude to condom use.

Where self-concept is low and anxiety results, the need for enhanced defenses to contain it and maintain the integration of the ego and its self-perception, becomes greater. Since self-concept is a core feature of the personality and defenses secondary mechanisms that develop to maintain it, these defenses may have secondary consequences for the personality in the form of its relationship to different social dimensions. A heightened level of denial, repression and rationalisation, for example, which may have evolved to protect the ego, may have a secondary effect on openness to knowledge or the evolution of beliefs and attitudes.

If the acquisition or acceptance of knowledge in a particular area may threaten to undermine the ego, such knowledge may be defended against. Denial, for example, will feature if acceptance of AIDS-related messages is inconsistent with the patterns used to maintain ego functioning. In this case, a heightened level of denial may mean a lowered internalisation of knowledge, particularly where such knowledge may threaten to undermine familiar behavioural or attitudinal patterns. Where a situation precipitates anxiety that cannot be avoided, such as awareness of AIDS-related risks during sexual encounters, repression may come into play to push such anxiety out of awareness and maintain ego-protection.

Also consistent with this theoretical position, is the empirical finding that those with low self-concept tend to have a poorer perception of self in relation to their ability to alter

behavioural patterns or external environmental forces. Lower self-efficacy, the capacity to feel competent to carry out intended or desired behavioural changes, correlates significantly with lower self-concept, as does a more external locus of control, the tendency to feel less empowered in relation to the environment and its forces acting upon the individual.

The implications for sexual practices and behaviour change are clear. Those low in self-concept may be at greater risk for HIV-infection since affirmation through risky sexual practices, as well as a poorer capacity to effect behavioural changes in response to the disease (even where adequate knowledge of the disease is present), may lead to the continuance of high-risk practices.

The intercorrelational significance of the psychosocial variables measured by the APSS provides the foundation for the first premise of the proposed model based on empirical findings of this study (see Fig. 6.1.). A psychological profile of low self-concept, higher defenses of denial, repression and rationalisation, low self-efficacy and a more external locus of control emerges. This profile provides the basis for examining the effects of mediating variables that influence the acquisition of knowledge, the formation of attitudes, and the outcome of these in the form of actual practices in the area of sexuality and AIDS.

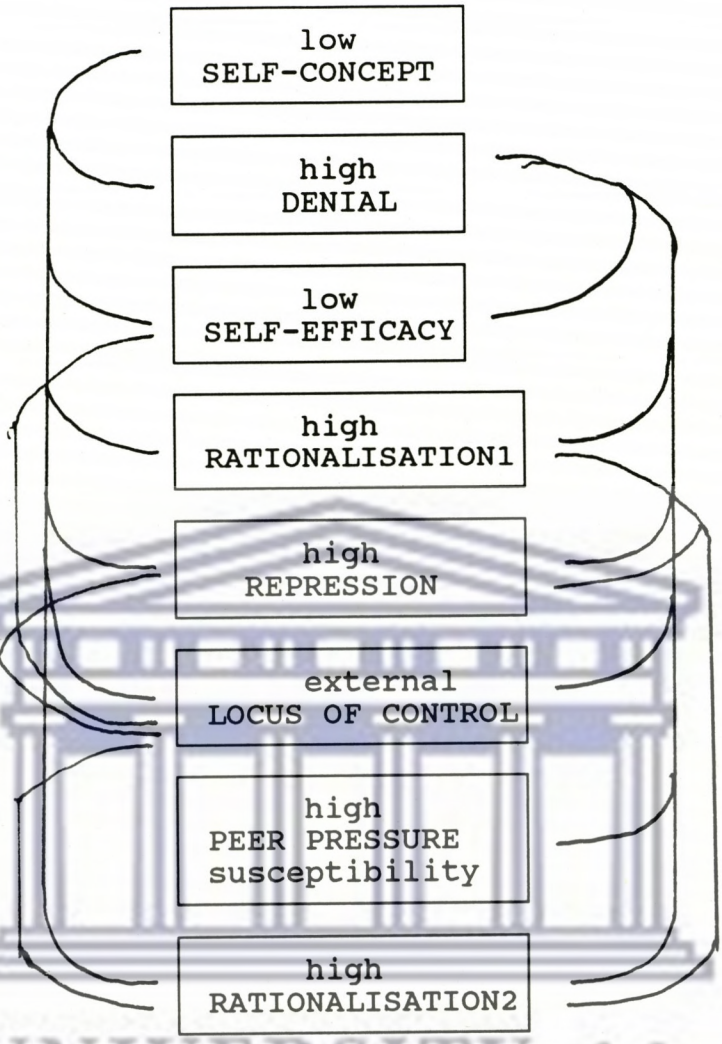


Fig. 6.1. Correlational Relationships of Sub-Scale Variables as Measured by the APSS

6.3. Step Two - Impact of Psychosocial Variables in Indices of Knowledge, Attitudes, and Sexual Practices

Indices of knowledge, attitudes to condoms, and sexual practices, were significantly correlated with the psychosocial variables as measured by the APSS. Low self-concept correlated significantly

with lower AIDS knowledge and with a negative condom attitude. Of interest, is that path analysis indicated that self-concept directly and significantly predicts condom attitude. In this regard, those with lower self-concept may be more concerned about partner reaction to the acquisition and use of condoms. For example, 27% of the sample felt that using condoms may make their partners think they are dirty or not trustworthy, 24% found using one embarrassing, and 26% found it embarrassing getting one. It is clear that condom attitude, and its contribution to their intended or actual use, will have a direct bearing on sexual practices and the HIV-risk that acompanies them. If an individual has difficulty using condoms because of a low self-concept that makes him or her concerned about negative reactions from external sources, and further has more sexual partners as a source of positive affirmation, then the risk for HIV infection is heightened. Thus mediational variables that affect knowledge or attitude, also indirectly effect actual practices even where direct statistical relationships may not be found.

External locus of control correlated significantly with low knowledge and a negative condom attitude, indicating that perceived empowerment is related to, and probably has an effect on, the capacity to seek out and absorb knowledge. Further, since external locus of control and low self-concept correlate significantly, those with lower self-concept feel less empowered to deal with external social pressures. As discussed previously, such a profile

also appears to feature higher defenses, and in this regard, higher denial correlated significantly with lower knowledge and with a more negative condom attitude, as did higher rationalisation and higher repression correlate with lower knowledge and a more negative condom attitude. These defenses also correlated significantly with each other. Even where exposure to appropriate knowledge is present, individuals with higher levels of denial and rationalisation may tend to "block out" the relevance of the message for themselves, and where such a message does evoke concern or anxiety, it may be repressed out of awareness so that unsafe practices are maintained. Such an anxiety management strategy may be productive for reducing immediate psychological distress, but is counter-productive as far as internalisation of health-risk messages and behaviour change are concerned (Bauman & Siegel, 1987). This process may help explain how various psychosocial factors mediate in the AIDS-related area and, as discussed previously, effect the transformation of adequate knowledge into appropriate behaviour change.

This scenario may also lead to a lowered perception of an ability to act, even where knowledge is present. If an individual does not retain enhanced beliefs in his or her capacity to affect behavioural or attitudinal changes, then openness to knowledge, confidence to alter attitudes, or intent to make behavioural changes may be impaired. In this regard, low self-efficacy correlated significantly with low knowledge, a negative condom

attitude, and with a higher unsafe sex score. Corroborating this position, is the finding that lower self-efficacy correlates significantly with lower self-concept, higher defenses, and a more external locus of control. Self-efficacy expectancy appears to significantly influence intentions to adopt coping behaviours (Maddux & Rogers, 1983), so that, as discussed previously, where self-efficacy is low, behaviour change may be low. Inducement of anxiety and therefore defensiveness aimed at containing it, may increase learned helplessness and thereby lower self-efficacy expectations. In this regard, expectation of self-efficacy plays an important role in sexual behaviour and perceived capacity to make behavioural changes.

Even if motivated to perform health-affirming behaviour, people's perceptions of their ability to do so are important indicators of the likelihood that they will perform that behaviour (Lawrence, Levy, & Rubinson, 1990). In this regard, the intention-behaviour link discussed in the Theory of Reasoned Action (Ajzen & Fishbein, 1980) may be shown to itself be mediated by other more immediate variables such as perceived ability to carry out intended behaviours. Other psychological variables may impinge to positively or negatively effect this process. Since external locus of control also directly predicts unsafe sexual practices, one consequence of a lower self-concept (and higher defensiveness), for example, may also be a lower perception of ability and capacity to make behavioural changes.

It warrants mention that lower knowledge correlated significantly with a negative condom attitude, with the latter also correlating significantly with a higher unsafe sex score. Thus the variables that contribute to lower knowledge, such as higher defenses, lower self-concept, and a more external locus of control, probably indirectly affect the formation of attitudes in this area, and thereby also sexual practices (and therefore HIV-risk). Of significance, however, in line with research around the world (as discussed in section 2.2.), is the finding that knowledge, even where it is accurate, does not necessarily correlate with safer sexual practices. In this regard, it is argued that knowledge does not have a direct bearing on sexual behaviour, but that the psychosocial variables described in this discussion may serve to have a powerful mediating role in this area through the influence of self-concept and perceptions and needs associated with it, psychological defenses employed to maintain or protect it, and perceptions of empowerment and control.

These factors also appear to relate to social pressures and the individual's susceptibility to it, based on the need for external affirmation. Where self-concept is low, for example, higher defenses and a greater need for external affirmation may be present. In this regard, the theoretical suppositions developed through this study appeared to be sustained by the empirical findings of the research.

It is apparent that other demographic or epidemiological variables may impact on the psychosocial variables in their mediating role. The present study indicated that those people who perceive themselves to have better knowledge, demonstrate better knowledge, indicating that self-appraisal of knowledge levels is accurate. This may corroborate the notion that those who have a better self-concept, and therefore attain better knowledge and also perceive themselves as attaining better knowledge, actually demonstrate better knowledge in the study.

In line with this argument, those who perceive themselves to have better knowledge, also demonstrate a lower unsafe sex score. Of interest, is that those who have known someone with AIDS demonstrate higher knowledge. It seems that denial may be reduced as a consequence of knowing someone with AIDS, which in turn may assist in increasing awareness and willingness to take note of AIDS-related issues. In other words, certain extraneous factors may influence psychosocial variables. Knowing someone with AIDS, for example, may reduce denial even though self-concept has not changed, thereby increasing knowledge. However, such change contributing to increase in knowledge does not necessarily maintain itself across condom attitude or behaviour change. With regard to the latter, knowing someone with AIDS did not correlate significantly with a more positive condom attitude or with a lower unsafe sex score.

Those who believe AIDS can be prevented display better AIDS knowledge and a more positive condom attitude, indicating lowered defences in relation to these variables. However, it does not correlate with safer practices, the possible implication being that better knowledge induces the intention to alter negative attitudes to the problem and attend to difficulties with condom use. The main difficulty, is that such intention to carry out behaviour changes either presently or in the future, is not consistent with actual behaviour changes. Intended changes did not necessarily relate to realistic change, since mediating variables, self-efficacy, and behavioural alternatives need to be considered (Lawrence, Levy, & Rubinson, 1990). Research appears to corroborate this notion, with DeVito, Bogdanowicz, and Reznikoff (1982) finding in a study of actual and intended health-related information seeking and locus of control, that intention to behave (associated with internal locus of control) is not necessarily consistent with actual manifest behaviour. Measuring intention to behave in a specific manner following intervention efforts may lead to misguided or over-optimistic assumptions about actual practice outcomes.

In this regard, changes in sexual behaviour reported in the present study were often vague or inconsistent, such as choosing one's partner "carefully", sticking to one's partner, educating one's self, or making no actual changes. Although virtually all subjects had heard of condoms and were aware of their effectiveness in preventing both pregnancy and sexually transmitted diseases, only

8% of those sexually active reported using one each time during sexual activity. This finding is supported by evidence from other studies that condoms are significantly underutilised, and where they are used, such users may consider themselves to be regular users even though they are not used for each and every sexual act (Population Reports, 1990). Nevertheless, there appears to be some awareness of risk. Those who display a higher unsafe sex score perceive themselves to be at risk, thus demonstrating realistic appraisal of high risk behaviours despite poor realistic changes. Of interest is that those who perceive the broader community to be at risk do not necessarily perceive themselves to be at risk, possibly indicating the presence of some denial and a lowered awareness of the need to excercise caution with regard to practices. Whilst research has demonstrated that people tend to systematically underestimate the degree to which they are at risk for illnesses generally (Bauman & Siegel, 1987), such under-estimation of risk may be particularly related to heightened defenses such as denial in the area of HIV infection and AIDS, given its anxiety provoking nature. Of importance, is the contradictory nature of this psychological strategy. Increased denial, for example, to combat unmanageable anxiety, may lead to a reduction in perceived risk and therefore lowered intention to change behaviour. This problem is illustrated in research undertaken by Bauman and Siegel (1987), where gay men who underestimate their HIV-risk tend to display lower anxiety as a result of heightened denial.

This argument is borne out by a finding in the present study, that subjects who had been previously treated for sexually transmitted diseases (STD's) demonstrate higher unsafe sex scores. Since having been treated for STD's does not correlate significantly with higher knowledge or a more positive condom attitude, however, it is possible that some awareness of self-risk for HIV-infection may be present, even though such perceived-risk has no effect on behaviour change. As noted above, those who engage in unsafe sex perceive themselves to be at risk, supporting the argument that whilst some perception of high-risk behaviours may be present, the degree of under-estimation of risk, together with other psychosocial factors, may prevent active behaviour change.

In this regard, variables such as self-concept and other mediating psychosocial factors appear to play a more invasive and powerful role in determining behavioural patterns than does knowledge. A lower self-concept, correlating significantly with a more negative condom attitude, may lead to unsafe sexual practices, which may be associated with STD-infection, in turn raising the risk for HIV-infection. It seems that since lower self-concept correlates significantly with higher numbers of sexual partners, some affirmation of self may be achieved through sexual conquest, a notion partly sanctioned by gender stereotyping and societal mythologies concerning what is regarded as affirmative behaviour. For men in particular, sexual conquest is sanctioned as a source

of gender affirmation, this being confirmed by the finding that being male correlates significantly with higher numbers of sexual partners. This ties in with the point that men with lower self-concept may require, and attempt to achieve, more self-affirmation through sexual activity than those with a higher self-concept. Since low self-concept also correlates significantly with a negative condom attitude, those attaining affirmation through having more partners, also place themselves at higher risk for HIV-infection because they may be less likely to use condoms.

Sensitivity to social affirmation is also illustrated through the notion of peer pressure. Those higher on denial and rationalisation demonstrate a higher susceptibility to peer pressure, with those whose friends have changed their behaviour as a result of what they have heard about AIDS correlating significantly with them also having made, or intending to make changes. Thus social pressure does appear to influence behaviour, further corroborating the importance of social acceptance as a source of psychological affirmation or enhancement of lowered self-concept. Much research has been done on social conformity. Campbell, Tesser, and Fairey, (1986), for example, have argued that the responses of others may be used as a source of information about reality and that people conform because they believe others may be correct. It can also be construed, they argue, that even when people believe others are wrong, they may conform anyway to gain the rewards or avoid the punishments that such agreement/disagreement mediates.

Whilst researchers such as Deutsch and Gerard (1954), maintain that many experimental studies have demonstrated that individual psychological processes are subject to social influences, they have not gone far enough in explaining why one individual may be more psychologically susceptible than another to such influences. In this regard, the lower the self-concept (leading to more external affirmation being needed, as found in this study), or, to use Campbell et al.'s, (1986) notion, the greater the individual "self-doubt", the greater will be the need to attain external approval for attitudes and behaviour. For example, an individual low in self-concept may be more reliant on external affirmation for his or her attitudes and behaviour and therefore more susceptible to peer pressure influences. Ultimately, the core feature of self-concept, derived from personal psychological history, will still link into the degree of susceptibility to external social influences.

Either way, peer-pressure norms, and internally framed affirmational needs, require addressing in intervention efforts. Further corroborating this line of argument, is the finding that those who feel more empowered and believe AIDS can be prevented, as well as those with a higher self-concept, demonstrate a more positive condom attitude, as do those who have used condoms, indicating that independent decisions and action in line with these decisions may be less dependent on social approval. The need for positive affirmation may in these cases be less.

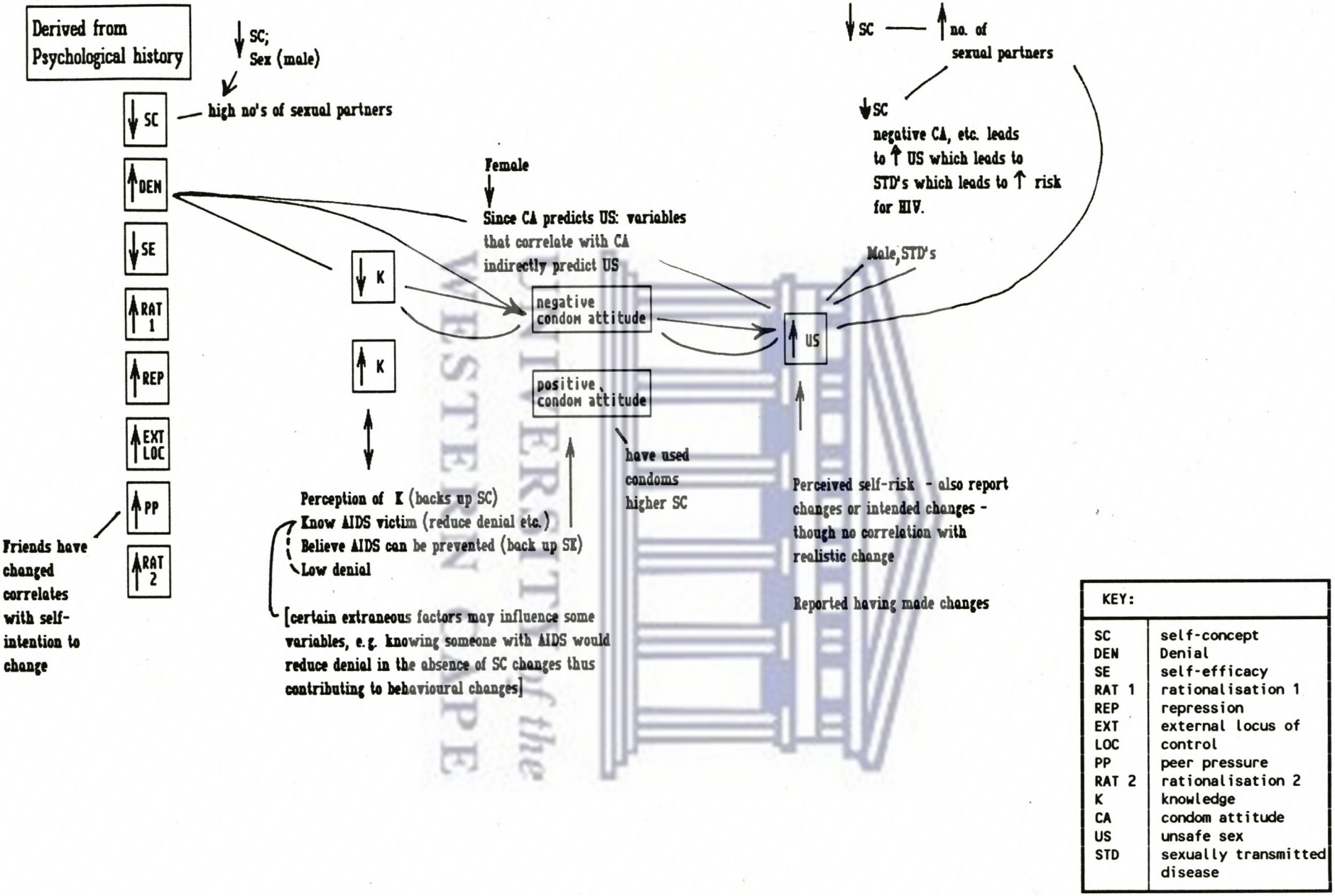


Fig. 6.2. Mediational Impact of Psychosocial Variables on Indices of Knowledge, Attitudes, and Sexual Practices

Further, since negative condom attitude directly predicts unsafe sex, all variables that influence the formation of condom attitude (such as self-concept which is a direct predictor of condom attitude) are likely to influence sexual practices indirectly. Such practices may therefore also be regarded as an outcome of both knowledge acquisition and condom attitude derived from, and mediated by, psychosocial influences (see Fig. 6.2.).

It may therefore be argued that the principal factors that impinge on the acquisition of knowledge, the formation of attitudes, and the consequent outcome of these in sexual practices, relates to the psychological profile of an individual. Education that aims at imparting knowledge without regard to these factors, may be only partially successful or completely unsuccessful. Since psychological factors have a profound impact on how people ultimately translate their knowledge or educational exposure, it may be necessary to consider methods of intervention that can address people's need for affirmation and their defensive strategies in dealing with anxiety provoking stimuli, including sexual norms and behaviour, condom attitude, and the threat of AIDS itself.

Where AIDS education, such as the use of shock tactics, induces anxiety with no outlet created for such anxiety, defenses such as denial may be increased (for example, Leventhal & Cleary, 1980

cited in Coates, et al., 1984; Perkel, Strebel, & Joubert, 1991). The result may be the creation of a counterproductive effect of lowered awareness and lowered intention to alter behaviour. Intervention programmes are therefore important, and require a thorough examination and incorporation of psychosocial variables. Whilst a full discussion on intervention strategies is beyond the scope of this study, some implications for intervention require examination. It is to this discussion that the next chapter will be devoted.

In summary, therefore, the psychosocial model that has been developed in the present study attempts to explain, at a deeper level than previous models have done, the breakdown between adequate knowledge and behaviour change. It has been pointed out that even where knowledge about AIDS and HIV transmission is sufficiently accurate and adequate to prevent infection, high-risk sexual practices often persist. The present study has demonstrated that significance of various psychosocial factors in mediating in this area, and in their capacity to influence knowledge acquisition, attitude formation, and consequent intended and actual behavioural outcome.

It was demonstrated that a psychological profile appears to exist whereby lower self-concept in the area of sexuality correlates with higher defenses of denial, repression and rationalisation, a greater susceptibility to peer pressure influences, and a lowered

perception of empowerment in the form of locus of control and self-efficacy. This profile influences the degree to which knowledge is acquired, with those lower in self-concept, higher on defenses, and less empowered tending to have poorer knowledge.

Further, this profile is associated with more negative attitudes to condoms and their use, and a tendency towards higher unsafe sexual practices. Since this leads to a lower perception of HIV-risk for self, and higher perceived-risk is associated with better preventative behaviours, a tendency to defend against perception of self-risk for HIV infection may increase the risk for such infection. In this regard, therefore, lower self-concept, higher defenses, greater susceptibility to peer pressure, and lower perceived empowerment are psychosocial factors that appear to mediate in the area of AIDS and contribute to the continuance of high-risk sexual practices and therefore the spread of the HIV epidemic. It is clear that, in the absence of technological solutions, unless these mediating variables can be explained and addressed in intervention efforts, limited success will be achieved in slowing the spread of AIDS.

CHAPTER 7

IMPLICATIONS FOR INTERVENTION

7.1. Introduction

In exploring the factors associated with high risk sexual practices associated with HIV-infection, it was evident that a number of dimensions were important. As discussed in Chapter 2, (section 2.2.), educational strategies that attempt to increase knowledge as a method of improving awareness of AIDS-related issues, thereby aiming to reduce those factors associated with high-risk behaviour, appear to have achieved no more than limited success (Archer, 1989; Becker & Joseph, 1988; Judson, 1989; Kegeles et al., 1988). Part of the reason for this anomaly may be the only partial understanding achieved regarding numerous variables that impinge in the area of sexuality. This study was aimed at exploring some of these variables and thereby improving the understanding associated with intervention strategies in this area.

7.2. Implications for Intervention

Intervention efforts around the world have demonstrated the need to account for variables such as psychosocial and emotional variables in addition to knowledge. Concerted multi-dimensional approaches (which take cognisance of mediating psychosocial

factors) are needed for AIDS intervention (Hastings, Leather, & Scott, 1987). If it may be considered, as argued in Chapter 6, that self-concept plays a role in the degree of defensiveness, the level of peer pressure or social influence susceptibility, and the level of perceived empowerment and control, then intervention that either reinforces anxiety associated with sexuality, or fails to address pre-conceived associations, may be unsuccessful.

Further, intervention that induces anxiety, or increases it via shock tactics or messages of doom, may precipitate the need for increased defensiveness to cope with the consequent increased anxiety, thereby reducing the impact of the message. For example, where anxiety is precipitated through a shock advertising message that aims to increase perceived-risk associated with HIV infection, an increase in denial may consequently result, with an associated reduction in knowledge acquisition and little alteration in attitudes to AIDS related issues such as condom use (Perkel, Strebel, & Joubert, 1991).

According to Hastings et al., (1987), studies have shown that shock tactics are unlikely to work but tend rather to generate psychological barriers such as selective perception and rationalisation (as well as other defenses) rather than behavioural change. As seen above, high denial is strongly associated with low knowledge, with a negative condom attitude, and thereby with unsafe sexual practices as well, thus indicating that where heightened

denial is induced through shock tactics, poorer knowledge acquisition, negative attitudes, and unsafe sexual practices may result.

Communication attempts that rely on fear appeal to persuade or influence through the threat of impending danger or harm, have assumed that because of the importance of mediational processes in persuasion, the arousal of an emotional state of fear was necessary for behaviour change (Maddux & Rogers, 1983). Cognitive processes mediate the persuasive effects of a fear appeal by arousing protection motivation, an intervening variable that arouses, sustains, and directs activity to protect the self from danger (Maddux & Rogers, 1983).

Whilst it may be argued that such "protective" behaviour may lead to behaviour change as a result of fear inducement, it is possible that fear inducement may have a counter-productive effect through raising the need for defensiveness, (and thereby increased denial; repression and rationalisation, for example), as a strategy for containing anxiety (as shown in section 6.2.). Maddux and Rogers (1983), argue that such a "hyperdefensiveness strategy" may be directed as much towards reducing anxiety (internal protection of the ego) as avoiding danger (protection against external threat). This hyperdefensive posture, they argue, may be the final defensive effort before assuming a posture of resignation and helplessness.

Such a posture, accompanied by lowering of self-efficacy expectations, may therefore lead to lowered intention toward behaviour change or actual poor behaviour change. In this regard, shock tactic intervention may provoke lowered behaviour change, producing higher HIV-risk related behavioural practices. Whilst this principle is important in general regarding AIDS intervention efforts, it also appears to apply to specific facets of safer sex promotion, such as condom use. Intervention needs to induce realistic anxiety about HIV-risk to promote behaviour change intention (Bauman & Siegel, 1987), whilst at the same time providing alternative strategies for containing such anxiety to avoid provoking heightened levels of denial as a defensive protective mechanism in the absence of alternative strategies.

Prevailing culture regarding condom use and sexuality may need alteration. Instead of condoms being perceived as negative in different respects, their marketing in intervention strategies may need to reframe condom use in positive terms. For example, condom use may be reframed as gender affirmative rather than gender non-affirmative. Associations with discomfort for women carrying condoms, and accompanying stereotypic labels such as perceptions of being "cheap" or "loose" can be reframed into responsibility, trendiness, or independence for example. For men, condom use may be associated with machismo, trendiness, or as gender attractive.

These approaches are associated with the problem of sexual self-concept and reluctance to use condoms because of their effect on increasing anxiety (and therefore defenses) where self-concept is lower. If condom use can be reframed as self-concept affirming, then reluctance to use them may be reduced through lowering of anxiety asociated with use. Concern about social or partner judgement and accompanying embarrassment may be reduced if social norms create perceptions that condom use is self-concept enhancing.

In this regard, where social conformity is high (for example, Allen & Levine, 1971; Campbell et al., 1984), then social norms which are reframed into positive condom attitude may lead to conformity positively associated with lower-risk sexual practices. For example, if the social norm perceives condoms and their use to be positive, then those susceptible to such pressures (particularly those with a lower self-concept who need more external affirmation), may alter negative attitudes in order to achieve greater conformity to social norm attitudes that are positive.

In sexual activity, condom use may be regarded as part of sexual foreplay as a counter to attitudes that condom use interupts sexual spontaneity. Attitudes that condom use reduces sexual sensitivity, may be reframed in terms of their capacity to enhance potency through prolonging "staying power". In this way, condom use may be associated with being more able to satisfy one's partner and prolonging men's ability to please female partners. This approach

would imply ego-enhancing attitudes to condom use rather than prevailing anxiety provoking attitudes which reduce ego-enhancing attitudes to condom use.

For women, increased self-concept may be derived from associations of insisting on condom use being part of being more sensitive, independent, and trendy. If a man refuses condom use during sexual activity, then he does not care sufficiently to warrant her joining with him. In this regard, insisting on condom use would imply that a man values her more if he is prepared to use condoms, with this association increasing her sense of self.

The link between higher numbers of sexual partners being self-concept affirming may be reframed in a way that implies that "real" men have the courage or "guts" to stick to one partner and make monogomous relationships work. Multiple partners may imply that a man does not have the ability or attractiveness to keep one partner; the implication being that "weak" men are the ones who need to boast of greater numbers of sexual partners. For women, a similar approach may assist in reduced partners, though associations with increased attractivess and worthiness may be linked to the capacity to retain one partner rather than needing multiple partners to enhance self-concept. If a man really cares, he will stay with her. Giving in to sexual demands may be regarded in this context as non-affirmative because of associations that her partner does not really care about her. Where people nevertheless

do have multiple partners, condom use may become part of the norm of ego-enhancing practices, especially where used with every partner every time sexual activity occurs.

It is clear that self-concept is only part of the process under discussion. Enhancing self-concept, for example, may lower the need for defensiveness as a protective mechanism, reduce reliance on peer pressure affirmation, and increase a perception of empowerment and self-efficacy. Enhancing perceived empowerment may heighten self-concept and thereby reduce the need for affirmation through unsafe practices. Despite its core qualities as a personality variable, self-concept may therefore be viewed as interacting with other psychosocial variables in a mutually dialectical manner.

Intervention strategies that impact on this dimension of self-concept either positively or negatively may effect anxiety and therefore defensiveness in a respectively positive or negative manner. Strategies for reducing anxiety, such as abandoning shock tactic approaches to AIDS intervention, and rather making messages more accessible through the use of humour or self-concept enhancing approaches, require attention. Alteration of social norms which may lead to changed peer pressure influence may help encourage behaviour changes in a positive direction.

This process may be facilitated by increasing messages of empowerment through improving awareness that people can do something about AIDS and are in a position to be active in preventive practices. In other words, helpless resignation to the possibility of infection, associated with an external locus of control and lower self-efficacy expectations, needs to be overcome. Self-efficacy has been shown in studies to be an important factor in translating intention to practice positive health behaviours into actual practice (Bandura, 1977). Intervention efforts will therefore have to address the problem of enhancing perceptions of self-efficacy (Lawrence, et al., 1990), and orienting perceived locus of control in an internal direction, if they are to be improved. Self-efficacy may be increased through strategies that encourage active behavioural changes, a strategy that in turn may enhance self-concept and thereby reduce the need for heightened defensiveness to contain anxiety. This in turn may lead to increases in safer practices. The links between these variables are therefore not uni-dimensional and may need to be viewed in terms of their multi-dimensional and interactive linkages.

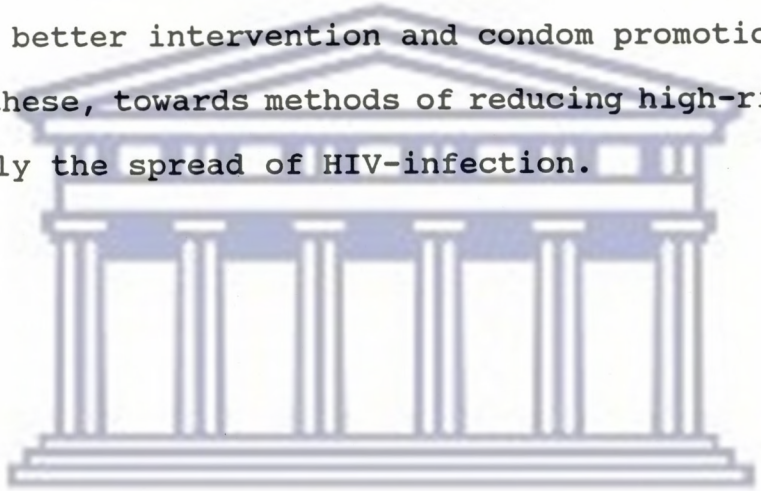
It may be argued, therefore, that intervention strategies regarding AIDS, condom use, and sexually affirmative behaviour need to take account of psychosocial variables that impinge in this area. The acquisition of knowledge, the formation of attitudes, and the practice of sexuality, all seem to be affected by psychosocial variables and these variables need to be addressed in intervention

designed to ultimately change sexual behaviour. Strategies discussed above may go some way towards altering prevailing norms that promote unsafe practices if they infuse these principles into intervention. Since changes in attitudes and behaviour rest on far more complex processes than simply acquiring knowledge, intervention strategies will need to include these psychosocial factors if they are to be successful. Since previous intervention strategies have often produced only short term changes in attitudes (Pownall, 1986), they will also need to be sustained, comprehensive, and continuous.

7.3. Concluding Comments

This study has attempted to uncover some of the variables that mediate in the area of sexuality and AIDS. Significant factors have been isolated that appear to have an effect on how knowledge is acquired and retained, how attitudes are formed, and how sexual practices are influenced. This understanding may help explain why AIDS is spreading so rapidly and why intervention strategies are meeting such limited success. This process is crucial if the rapid spread of HIV infection is to be slowed though intervention strategies.

It is clear that reducing HIV spread at this stage, rests not on medical intervention but on reducing high risk sexual practices. Such reduction rests more on psychosocial phenomena than it does on physiological phenomena. Hence, intervention must reach a level of sophistication that enables psychosocial processes to be influenced in a direction concomitant with positive attitudes and safer practices. Implications of this have been briefly discussed above, providing some tentative exploratory pointers in the direction of better intervention and condom promotion strategies, and through these, towards methods of reducing high-risk behaviours and ultimately the spread of HIV-infection.



CONCLUSION

The present study was undertaken in a context in which the spectre of AIDS continues to loom over societies throughout the world. The continued spread of the HIV virus threatens to undermine the fabric of society and change the patterns of human sexual behaviours for years to come. Unlike other diseases, the HIV virus remains incurable and since no vaccine is currently available, medically unpreventable. Unlike other diseases, infection with HIV now rests virtually solely on conscious and intentional behaviours that, if changed, could be completely effective in preventing infection. Experience and research around the world has demonstrated, however, that it is precisely these preventative behaviours that are consistently difficult to change.

Furthermore, adequate levels of knowledge regarding AIDS and how to prevent it do not appear to necessarily lead to appropriate behaviour change. Whilst various theories have attempted to link knowledge to attitudes to behaviour, and have sufficed in being able to describe these processes, they have been insufficient in their explanatory power regarding why these processes operate and how they are influenced by other psychosocial factors. More specifically, they have not been sufficient in explaining why adequate knowledge fails to correlate with appropriate behaviour change.

The present study was undertaken in order to further understanding of the psychosocial processes that underly the acquisition of knowledge, the formation of attitudes, and consequent behavioural outcome, and to explore the mediational effects these have in the area of sexuality and AIDS. Based on this exploration, a hypothesised model of psychosocial mediation was supported and links between these variables demonstrated. It was evident that mediational variables of self-concept, defenses of denial, repression and rationalisation, perceived empowerment in the form of locus of control and self-efficacy, and susceptibility to social influences in the form of peer pressure, played a significant role in influencing indices of knowledge, attitudes and behaviour, as well as a range of other epidemiological factors. This influence appears to lend credence to their mediational function and is important in explaining why AIDS remains such a difficult health problem to combat and why intervention has proved less than effective in slowing the spread of the HIV virus.

The development of a model of psychosocial mediation has important implications. In the first instance, understanding of mediational constructs assists in explaining the peculiar anomalies that pervade human attitudes and behaviour in the area of AIDS and sexuality and how these effect the spread of an entirely preventable disease. Secondly, this understanding is vital if effective intervention strategies for combatting this problem are to become possible. Since current intervention around the world has

been only partially effective or completely ineffective in slowing the spread of HIV, any hope of effective combat must rest on improving intervention in a way that not only increases intention to change behaviour, but also leads to actual change in a consistent and sufficient manner. Failing to succeed in this task will surely lead to the continued spread of this deadly disease, and through this, to a potential health catastrophe.

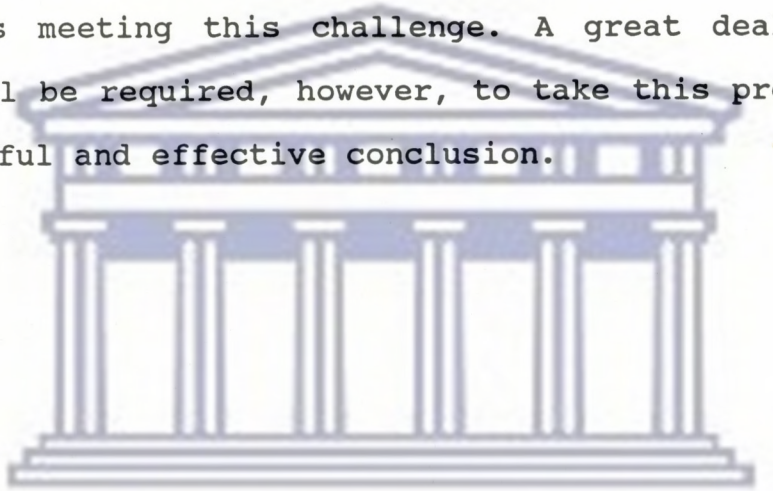
This thesis has endevoured to achieve part of this task by building a model of psychosocial mediation that may have implications for intervention strategies. Whilst the specifics of such intervention remains beyond the scope of this thesis, some implications have been discussed in an attempt to provide broad guidelines for how intervention may be guided by the model of psychosocial mediation outlined above.

This thesis would not be complete without some comments about future research in this area. Firstly, whilst the AIDS Psychosocial Scale was tested and empirically verified through various phases of its psychometric construction and achieved satisfactory results in this regard, further use in studies of psychosocial mediation would be useful in further validating this instrument. This would be useful in further improving the psychometric properties of the scale and thereby enabling it to be used across a wide range of contexts.

Secondly, further studies of psychosocial mediation with different samples would enhance the understanding attained from the present study, especially in view of the selective nature of the sample used and its limitations in this regard. Broadening research in this area would also enable the model developed in this study to be further improved and refined. The possibility of additional variables being tested for their mediational power would be a useful possibility. Based on this understanding, more sophisticated intervention strategies could be developed.

Finally, implementation of intervention based on a model of psychosocial mediation requires detailed development based on the principle discussed above. Based on this process, actual implementation and research into its efficacy would be required so that the translation of the theoretical model into actual practice could be verified as a practical and effective approach to AIDS intervention. Assessing the efficacy of such an approach, relative to other approaches employed in previous intervention efforts, would enable its empirical validation and, if achieved, its incorporation into intervention on a broader scale. Since actual behaviour change lies at the crux of AIDS prevention, it would be imperative in future research to adequately test whether sustained behaviour change has been achieved and if so, to assess its impact in slowing the spread of this lethal and damaging virus.

In conclusion, therefore, this study represents an exploratory step towards developing models and strategies for the combatting of one of the potentially most devastating epidemics of modern time. The alleviation of the risk this disease presents to both the health of individuals and to the fabric of society, is an endeavour that has surely become one of the most significant challenges facing researchers in all fields of enquiry. Rising to this challenge is by no means a simple task. This study has attempted to take one step towards meeting this challenge. A great deal of further research will be required, however, to take this process towards some meaningful and effective conclusion.



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UNIVERSITY OF THE WESTERN CAPE
DEPARTMENT OF PSYCHOLOGY

Dear Student

This survey has been designed by a research team of the Department of Psychology at UWC. It is intended to study attitudes to AIDS and its problems. You are not obliged to participate in this study but we would very much appreciate it if you completed the questionnaire.

This questionnaire is designed to be anonymous, so you should NOT write your name, student number or other identifying information anywhere on the questionnaire. If you have any doubts about any question, please remember that your first response is usually the most accurate.

Below are a number of statements. You must read each item and decide where on the scale you fit. Remember, there are no right or wrong answers so answer to each item *as it applies to you*. Simply **make a circle** around the number that corresponds with your answer on the scale. For example, if you "strongly agree" with the following statement, then you would respond as follows:

Example:
Aids is a worldwide problem. (1)----------2----------3----------4----------5

Thank you for your cooperation.

A. Perkel
Department of Psychology
UWC

Scale: Strongly agree 1 | Agree 2 | Neutral 3 | Disagree 4 | Strongly Disagree 5

1. It's important for me that my friends approve of the things I do. 1----------2----------3----------4----------5
2. The media exaggerate the danger of AIDS. 1----------2----------3----------4----------5
3. AIDS can never happen to me. 1----------2----------3----------4----------5
4. I try not to think about the possibility of getting AIDS. 1----------2----------3----------4----------5
5. AIDS can happen to anyone no matter what you do to prevent it. 1----------2----------3----------4----------5
6. If my friends are not using condoms, then I wouldn't either. 1----------2----------3----------4----------5
7. I think I am capable of safer sexual practices. 1----------2----------3----------4----------5

2

Scale: Strongly agree 1 | Agree 2 | Neutral 3 | Disagree 4 | Strongly Disagree 5

8. I like my partner to think of me as a good lover. 1----------2----------3----------4----------5

9. People can determine whether they get AIDS or not. 1----------2----------3----------4----------5

10. Real men don't use condoms. 1----------2----------3----------4----------5

11. I know I could get AIDS but by the time I did they would have found a cure. 1----------2----------3----------4----------5

12. If my friends were having only one sexual partner, that wouldn't necessarily stop me sleeping with more than one. 1----------2----------3----------4----------5

13. I'd feel less of a man/ woman using a condom. 1----------2----------3----------4----------5

14. I know I could use condoms if I wanted to. 1----------2----------3----------4----------5

15. If I don't sleep with lots of lovers, I would feel unattractive to the opposite sex. 1----------2----------3----------4----------5

16. I'm a person who does my own thing, irrespective of the influence of others around me. 1----------2----------3----------4----------5

17. If my friends are having sex with more than one partner, I'd consider it alright to do the same. 1----------2----------3----------4----------5

18. AIDS is not my problem. 1----------2----------3----------4----------5

19. If I take precautions, I can prevent AIDS. 1----------2----------3----------4----------5

20. Real men have lots of sexual partners/lovers. 1----------2----------3----------4----------5

21. The possibility of getting AIDS frightens me but I don't allow myself to worry about it. 1----------2----------3----------4----------5

22. I choose my partner(s) carefully, so it's unlikely they would have AIDS. 1----------2----------3----------4----------5

23. Everybody has got to go sometime, so why worry about getting AIDS? 1----------2----------3----------4----------5

24. The kind of people I mix with wouldn't have AIDS. 1----------2----------3----------4----------5

25. If I'm going to get AIDS, I'll get it. 1----------2----------3----------4----------5

26. AIDS worries me, but in the heat of the moment I don't let myself worry about it. 1----------2----------3----------4----------5

Scale: Strongly agree 1 Agree 2 Neutral 3 Disagree 4 Strongly Disagree 5

27. I don't feel I am able to practice safe sex. 1----------2----------3----------4----------5

28. Getting AIDS is a question of bad luck. 1----------2----------3----------4----------5

29. AIDS happens to other people. 1----------2----------3----------4----------5

30. If my friends were using condoms, it wouldn't necessarily make me use them. 1----------2----------3----------4----------5

31. I'd know if a partner of mine had AIDS. 1----------2----------3----------4----------5

32. There's nothing I can do to prevent myself getting AIDS. 1----------2----------3----------4----------5

33. Modern women don't have to limit themselves to one partner. 1----------2----------3----------4----------5

34. I tend to think about the future regarding AIDS and make plans. 1----------2----------3----------4----------5

35. Good health is a question of discipline. 1----------2----------3----------4----------5

36. I believe it is possible for me to practice safer sex. 1----------2----------3----------4----------5

37. On the whole, I am satisfied with myself. 1----------2----------3----------4----------5

38. At times I think I am no good at all. 1----------2----------3----------4----------5

39. I feel that I have a number of good qualities. 1----------2----------3----------4----------5

40. I am able to do things as well as most other people. 1----------2----------3----------4----------5

41. I feel I do not have much to be proud of. 1----------2----------3----------4----------5

42. I certainly feel useless at times. 1----------2----------3----------4----------5

43. I feel that I am a person of worth, at least on an equal plane with others. 1----------2----------3----------4----------5

44. I wish I could have more respect for myself. 1----------2----------3----------4----------5

45. All in all, I am inclined to feel that I am a failure. 1----------2----------3----------4----------5

46. I take a positive attitude towards myself. 1----------2----------3----------4----------5

Thank you for your participation. Now please hand in your questionnaire.

STEP ONE
FREQUENCIES VARIABLES=ALL.

ITEM1

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	21	10.2	10.2	10.2
	2	72	35.0	35.0	45.1
	3	46	22.3	22.3	67.5
	4	58	28.2	28.2	95.6
	5	9	4.4	4.4	100.0
	TOTAL	206	100.0	100.0	

Valid Cases 206 Missing Cases 0

ITEM2

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	8	3.9	3.9	3.9
	2	18	8.7	8.8	12.7
	3	18	8.7	8.8	21.5
	4	68	33.0	33.2	54.6
	5	93	45.1	45.4	100.0
	9	1	.5	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 205 Missing Cases 1

ITEM3

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	10	4.9	4.9	4.9
	2	12	5.8	5.9	10.8
	3	42	20.4	20.7	31.5
	4	83	40.3	40.9	72.4
	5	56	27.2	27.6	100.0
	9	3	1.5	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 203 Missing Cases 3

ITEM4

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	27	13.1	13.3	13.3
	2	58	28.2	28.6	41.9
	3	36	17.5	17.7	59.6
	4	61	29.6	30.0	89.7
	5	21	10.2	10.3	100.0
	9	3	1.5	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 203 Missing Cases 3

ITEM5

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	29	14.1	14.2	14.2
	2	45	21.8	22.1	36.3
	3	39	18.9	19.1	55.4
	4	54	26.2	26.5	81.9
	5	37	18.0	18.1	100.0
	9	2	1.0	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 204 Missing Cases 2

ITEM6

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	1.0	1.0	1.0
	2	2	1.0	1.0	2.0
	3	22	10.7	10.8	12.8
	4	48	23.3	23.6	36.5
	5	129	62.6	63.5	100.0
	9	3	1.5	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 203 Missing Cases 3

ITEM7

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	7	3.4	3.4	3.4
	2	12	5.8	5.9	9.3
	3	50	24.3	24.5	33.8
	4	73	35.4	35.8	69.6
	5	62	30.1	30.4	100.0
	9	2	1.0	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 204 Missing Cases 2

ITEM8

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	70	34.0	34.0	34.0
	2	78	37.9	37.9	71.8
	3	43	20.9	20.9	92.7
	4	10	4.9	4.9	97.6
	5	5	2.4	2.4	100.0
	TOTAL	206	100.0	100.0	

Valid Cases 206 Missing Cases 0

ITEM9

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	19	9.2	9.3	9.3
	2	51	24.8	25.0	34.3
	3	37	18.0	18.1	52.5
	4	67	32.5	32.8	85.3
	5	30	14.6	14.7	100.0
	9	2	1.0	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 204 Missing Cases 2

ITEM10

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	2.9	3.0	3.0
	2	6	2.9	3.0	6.0
	3	24	11.7	11.9	17.9
	4	43	20.9	21.4	39.3
	5	122	59.2	60.7	100.0
	9	5	2.4	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 201 Missing Cases 5

ITEM11

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	1.0	1.0	1.0
	2	6	2.9	2.9	3.9
	3	41	19.9	20.1	24.0
	4	68	33.0	33.3	57.4
	5	87	42.2	42.6	100.0
	9	2	1.0	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 204 Missing Cases 2

ITEM12

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	1.5	1.5	1.5
	2	22	10.7	10.7	12.1
	3	34	16.5	16.5	28.6
	4	43	20.9	20.9	49.5
	5	104	50.5	50.5	100.0
	TOTAL	206	100.0	100.0	

Valid Cases 206 Missing Cases 0

ITEM13

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	8	3.9	3.9	3.9
	2	10	4.9	4.9	8.8
	3	37	18.0	18.0	26.8
	4	54	26.2	26.3	53.2
	5	96	46.6	46.8	100.0
	9	1	.5	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 205 Missing Cases 1

ITEM14

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	9	4.4	4.5	4.5
	2	5	2.4	2.5	7.1
	3	47	22.8	23.7	30.8
	4	87	42.2	43.9	74.7
	5	50	24.3	25.3	100.0
	9	8	3.9	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 198 Missing Cases 8

ITEM15

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	1.0	1.0	1.0
	2	3	1.5	1.5	2.5
	3	15	7.3	7.4	9.9
	4	35	17.0	17.3	27.2
	5	147	71.4	72.8	100.0
	9	4	1.9	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 202 Missing Cases 4

ITEM16

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	44	21.4	21.4	21.4
	2	69	33.5	33.5	54.9
	3	37	18.0	18.0	72.8
	4	44	21.4	21.4	94.2
	5	12	5.8	5.8	100.0
	TOTAL	206	100.0	100.0	

Valid Cases 206 Missing Cases 0

ITEM17

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	1	.5	.5	.5
	2	6	2.9	2.9	3.4
	3	9	4.4	4.4	7.8
	4	47	22.8	22.8	30.6
	5	143	69.4	69.4	100.0
	TOTAL	206	100.0	100.0	

Valid Cases 206 Missing Cases 0

ITEM18

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	7	3.4	3.5	3.5
	2	12	5.8	5.9	9.4
	3	27	13.1	13.4	22.8
	4	65	31.6	32.2	55.0
	5	91	44.2	45.0	100.0
	9	4	1.9	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 202 Missing Cases 4

ITEM19

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	4	1.9	2.0	2.0
	2	14	6.8	7.0	9.0
	3	25	12.1	12.4	21.4
	4	82	39.8	40.8	62.2
	5	76	36.9	37.8	100.0
	9	5	2.4	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 201 Missing Cases 5

ITEM20

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2	3	1.5	1.5	1.5
	3	27	13.1	13.3	14.8
	4	44	21.4	21.7	36.5
	5	129	62.6	63.5	100.0
	9	3	1.5	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 203 Missing Cases 3

ITEM21

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	19	9.2	9.3	9.3
	2	85	41.3	41.5	50.7
	3	48	23.3	23.4	74.1
	4	44	21.4	21.5	95.6
	5	9	4.4	4.4	100.0
	9	1	.5	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 205 Missing Cases 1

ITEM22

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	33	16.0	16.2	16.2
	2	39	18.9	19.1	35.3
	3	73	35.4	35.8	71.1
	4	36	17.5	17.6	88.7
	5	23	11.2	11.3	100.0
	9	2	1.0	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 204 Missing Cases 2

ITEM23

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	2.9	2.9	2.9
	2	5	2.4	2.4	5.4
	3	17	8.3	8.3	13.7
	4	53	25.7	25.9	39.5
	5	124	60.2	60.5	100.0
	9	1	.5	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 205 Missing Cases 1

ITEM24

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	18	8.7	8.9	8.9
	2	30	14.6	14.8	23.6
	3	64	31.1	31.5	55.2
	4	59	28.6	29.1	84.2
	5	32	15.5	15.8	100.0
	9	3	1.5	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 203 Missing Cases 3

ITEM25

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	7	3.4	3.4	3.4
	2	20	9.7	9.9	13.3
	3	44	21.4	21.7	35.0
	4	61	29.6	30.0	65.0
	5	71	34.5	35.0	100.0
	9	3	1.5	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 203 Missing Cases 3

ITEM26

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	2.9	2.9	2.9
	2	39	18.9	18.9	21.8
	3	41	19.9	19.9	41.7
	4	58	28.2	28.2	69.9
	5	62	30.1	30.1	100.0
	TOTAL	206	100.0	100.0	

Valid Cases 206 Missing Cases 0

ITEM27

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	5	2.4	2.4	2.4
	2	14	6.8	6.8	9.2
	3	32	15.5	15.5	24.8
	4	69	33.5	33.5	58.3
	5	86	41.7	41.7	100.0
	TOTAL	206	100.0	100.0	

Valid Cases 206 Missing Cases 0

ITEM28

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	1.0	1.0	1.0
	2	10	4.9	4.9	5.9
	3	17	8.3	8.3	14.1
	4	72	35.0	35.1	49.3
	5	104	50.5	50.7	100.0
	9	1	.5	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 205 Missing Cases 1

ITEM29

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	11	5.3	5.4	5.4
	2	14	6.8	6.9	12.3
	3	25	12.1	12.3	24.6
	4	80	38.8	39.4	64.0
	5	73	35.4	36.0	100.0
	9	3	1.5	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 203 Missing Cases 3

ITEM30

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	12	5.8	5.9	5.9
	2	50	24.3	24.4	30.2
	3	46	22.3	22.4	52.7
	4	67	32.5	32.7	85.4
	5	30	14.6	14.6	100.0
	9	1	.5	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 205 Missing Cases 1

ITEM31

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	2.9	3.0	3.0
	2	12	5.8	5.9	8.9
	3	53	25.7	26.1	35.0
	4	87	42.2	42.9	77.8
	5	45	21.8	22.2	100.0
	9	3	1.5	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 203 Missing Cases 3

ITEM32

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	2.9	2.9	2.9
	2	5	2.4	2.4	5.4
	3	8	3.9	3.9	9.3
	4	91	44.2	44.4	53.7
	5	95	46.1	46.3	100.0
	9	1	.5	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 205 Missing Cases 1

ITEM33

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	1.5	1.5	1.5
	2	10	4.9	4.9	6.3
	3	28	13.6	13.7	20.0
	4	52	25.2	25.4	45.4
	5	112	54.4	54.6	100.0
	9	1	.5	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 205 Missing Cases 1

ITEM34

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	14	6.8	6.8	6.8
	2	33	16.0	16.0	22.8
	3	54	26.2	26.2	49.0
	4	88	42.7	42.7	91.7
	5	17	8.3	8.3	100.0
	TOTAL	206	100.0	100.0	

Valid Cases 206 Missing Cases 0

ITEM35

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	2	6	2.9	2.9	2.9
	3	7	3.4	3.4	6.4
	4	77	37.4	37.7	44.1
	5	114	55.3	55.9	100.0
	9	2	1.0	MISSING	
	TOTAL	206	100.0	100.0	

Valid Cases 204 Missing Cases 2

ITEM36

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	4	1.9	1.9	1.9
	2	3	1.5	1.5	3.4
	3	40	19.4	19.4	22.8
	4	85	41.3	41.3	64.1
	5	74	35.9	35.9	100.0
	TOTAL	206	100.0	100.0	

Valid Cases 206 Missing Cases 0

FREQUENCIES VARIABLES=AGE TO ITEM501

AGE

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	19	5	1.6	1.7	1.7
	20	75	24.4	25.0	26.7
	21	63	20.5	21.0	47.7
	22	34	11.0	11.3	59.0
	23	10	3.2	3.3	62.3
	24	14	4.5	4.7	67.0
	25	17	5.5	5.7	72.7
	26	5	1.6	1.7	74.3
	27	14	4.5	4.7	79.0
	28	12	3.9	4.0	83.0
	29	11	3.6	3.7	86.7
	30	8	2.6	2.7	89.3
	31	4	1.3	1.3	90.7
	32	3	1.0	1.0	91.7
	33	4	1.3	1.3	93.0
	34	3	1.0	1.0	94.0
	35	3	1.0	1.0	95.0
	36	2	.6	.7	95.7
	37	2	.6	.7	96.3
	39	2	.6	.7	97.0
	40	4	1.3	1.3	98.3
	42	1	.3	.3	98.7
	44	1	.3	.3	99.0
	47	2	.6	.7	99.7
	48	1	.3	.3	100.0
	.	8	2.6	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 300 Missing Cases 8

SEX

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	111	36.0	36.3	36.3
	2	195	63.3	63.7	100.0
	.	2	.6	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 306 Missing Cases 2

HOMELANG

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	108	35.1	35.3	35.3
	2	155	50.3	50.7	85.9
	3	29	9.4	9.5	95.4
	4	14	4.5	4.6	100.0
	.	2	.6	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 306 Missing Cases 2

RELIGION

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	47	15.3	15.3	15.3
	2	244	79.2	79.5	94.8
	3	12	3.9	3.9	98.7
	4	4	1.3	1.3	100.0
	.	1	.3	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 307 Missing Cases 1

NBRELIG

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	206	66.9	66.9	66.9
	2	81	26.3	26.3	93.2
	3	21	6.8	6.8	100.0
	TOTAL	308	100.0	100.0	

Valid Cases 308 Missing Cases 0

UWCSTAY

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	6	1.9	2.0	2.0
	2	40	13.0	13.1	15.0
	3	159	51.6	52.0	67.0
	4	70	22.7	22.9	89.9
	5	19	6.2	6.2	96.1
	6	6	1.9	2.0	98.0
	7	3	1.0	1.0	99.0
	8	1	.3	.3	99.3
	9	2	.6	.7	100.0
	.	2	.6	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 306 Missing Cases 2

GROWUP

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	158	51.3	52.3	52.3
	2	111	36.0	36.8	89.1
	3	28	9.1	9.3	98.3
	4	5	1.6	1.7	100.0
	.	6	1.9	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 302 Missing Cases 6

MARITAL

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	241	78.2	79.0	79.0
	2	56	18.2	18.4	97.4
	3	1	.3	.3	97.7
	4	6	1.9	2.0	99.7
	5	1	.3	.3	100.0
	.	3	1.0	MISSING	
	TOTAL	308	100.0	100.0	

ITEM201

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	65	21.1	21.2	21.2
	2	182	59.1	59.3	80.5
	3	58	18.8	18.9	99.3
	4	2	.6	.7	100.0
	.	1	.3	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 307 Missing Cases 1

ITEM202

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	33	10.7	10.7	10.7
	2	275	89.3	89.3	100.0
	TOTAL	308	100.0	100.0	

Valid Cases 308 Missing Cases 0

ITEM203

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	217	70.5	70.7	70.7
	2	31	10.1	10.1	80.8
	3	59	19.2	19.2	100.0
	.	1	.3	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 307 Missing Cases 1

ITEM204

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	5	1.6	1.6	1.6
	2	44	14.3	14.3	15.9
	3	58	18.8	18.8	34.7
	4	201	65.3	65.3	100.0
	TOTAL	308	100.0	100.0	

Valid Cases 308 Missing Cases 0

ITEM205

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	276	89.6	89.6	89.6
	2	19	6.2	6.2	95.8
	3	13	4.2	4.2	100.0
	TOTAL	308	100.0	100.0	

Valid Cases 308 Missing Cases 0

ITEM206A

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	4	1.3	1.3	1.3
	2	292	94.8	95.7	97.0
	3	9	2.9	3.0	100.0
	.	3	1.0	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 305 Missing Cases 3

ITEM206B

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	100	32.5	32.8	32.8
	2	168	54.5	55.1	87.9
	3	37	12.0	12.1	100.0
	.	3	1.0	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 305 Missing Cases 3

ITEM206C

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	37	12.0	12.1	12.1
	2	241	78.2	78.8	90.8
	3	28	9.1	9.2	100.0
	.	2	.6	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 306 Missing Cases 2

ITEM206D

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	297	96.4	96.7	96.7
	2	5	1.6	1.6	98.4
	3	5	1.6	1.6	100.0
	.	1	.3	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 307 Missing Cases 1

ITEM206E

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	295	95.8	96.1	96.1
	2	7	2.3	2.3	98.4
	3	5	1.6	1.6	100.0
	.	1	.3	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 307 Missing Cases 1

ITEM206F

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	300	97.4	97.7	97.7
	2	4	1.3	1.3	99.0
	3	3	1.0	1.0	100.0
	.	1	.3	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 307 Missing Cases 1

ITEM206G

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	63	20.5	20.8	20.8
	2	164	53.2	54.1	74.9
	3	76	24.7	25.1	100.0
	.	5	1.6	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 303 Missing Cases 5

ITEM206H

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	306	99.4	99.7	99.7
	3	1	.3	.3	100.0
	.	1	.3	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 307 Missing Cases 1

ITEM206I

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	301	97.7	99.0	99.0
	3	3	1.0	1.0	100.0
	.	4	1.3	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 304 Missing Cases 4

ITEM206J

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	304	98.7	99.0	99.0
	2	3	1.0	1.0	100.0
	.	1	.3	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 307 Missing Cases 1

ITEM206K

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	12	3.9	3.9	3.9
	2	250	81.2	82.0	85.9
	3	43	14.0	14.1	100.0
	.	3	1.0	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 305 Missing Cases 3

ITEM206L

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	38	12.3	12.4	12.4
	2	230	74.7	75.2	87.6
	3	38	12.3	12.4	100.0
	.	2	.6	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 306 Missing Cases 2

ITEM207

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	294	95.5	95.8	95.8
	2	3	1.0	1.0	96.7
	3	10	3.2	3.3	100.0
	.	1	.3	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 307 Missing Cases 1

ITEM208

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	19	6.2	6.2	6.2
	2	215	69.8	70.0	76.2
	3	72	23.4	23.5	99.7
	5	1	.3	.3	100.0
	.	1	.3	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 307 Missing Cases 1

ITEM209

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	.6	.6	.6
	2	5	1.6	1.6	2.3
	3	8	2.6	2.6	4.9
	4	97	31.5	31.5	36.4
	5	196	63.6	63.6	100.0
	TOTAL	308	100.0	100.0	

Valid Cases 308 Missing Cases 0

ITEM210

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	272	88.3	88.3	88.3
	2	17	5.5	5.5	93.8
	3	18	5.8	5.8	99.7
	5	1	.3	.3	100.0
	TOTAL	308	100.0	100.0	

Valid Cases 308 Missing Cases 0

ITEM301

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	10	3.2	3.2	3.2
	2	135	43.8	43.8	47.1
	3	163	52.9	52.9	100.0
	TOTAL	308	100.0	100.0	

Valid Cases 308 Missing Cases 0

ITEM302

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	4	1.3	1.3	1.3
	2	69	22.4	22.4	23.7
	3	235	76.3	76.3	100.0
	TOTAL	308	100.0	100.0	

Valid Cases 308 Missing Cases 0

ITEM303

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	195	63.3	64.1	64.1
	2	99	32.1	32.6	96.7
	3	10	3.2	3.3	100.0
	.	4	1.3	MISSING	
	TOTAL	308	100.0	100.0.	

Valid Cases 304 Missing Cases 4

ITEM304

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	262	85.1	85.1	85.1
	2	24	7.8	7.8	92.9
	3	22	7.1	7.1	100.0
	TOTAL	308	100.0	100.0	

Valid Cases 308 Missing Cases 0

ITEM305

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	101	32.8	33.0	33.0
	2	87	28.2	28.4	61.4
	3	118	38.3	38.6	100.0
	.	2	.6	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 306 Missing Cases 2

ITEM306

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	142	46.1	46.4	46.4
	2	164	53.2	53.6	100.0
	.	2	.6	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 306 Missing Cases 2

ITEM307

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	186	60.4	61.8	61.8
	2	115	37.3	38.2	100.0
	.	7	2.3	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 301 Missing Cases 7

ITEM308

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	2	.6	1.0	1.0
	1	75	24.4	36.1	37.0
	2	30	9.7	14.4	51.4
	3	55	17.9	26.4	77.9
	4	10	3.2	4.8	82.7
	5	4	1.3	1.9	84.6
	6	4	1.3	1.9	86.5
	7	5	1.6	2.4	88.9
	8	8	2.6	3.8	92.8
	9	15	4.9	7.2	100.0
	.	100	32.5	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 208 Missing Cases 100

ITEM309

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	285	92.5	93.8	93.8
	2	19	6.2	6.3	100.0
	.	4	1.3	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 304 Missing Cases 4

ITEM401

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	307	99.7	99.7	99.7
	2	1	.3	.3	100.0
	TOTAL	308	100.0	100.0	

Valid Cases 308 Missing Cases 0

ITEM402

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	121	39.3	40.5	40.5
	2	178	57.8	59.5	100.0
	.	9	2.9	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 299 Missing Cases 9

ITEM403

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	179	58.1	61.1	61.1
	2	114	37.0	38.9	100.0
	.	15	4.9	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 293 Missing Cases 15

ITEM404

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	147	47.7	51.2	51.2
	2	140	45.5	48.8	100.0
	.	21	6.8	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 287 Missing Cases 21

ITEM405

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	234	76.0	78.5	78.5
	2	64	20.8	21.5	100.0
	.	10	3.2	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 298 Missing Cases 10

ITEM406

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	70	22.7	23.4	23.4
	2	229	74.4	76.6	100.0
	.	9	2.9	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 299 Missing Cases 9

ITEM407

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	32	10.4	10.8	10.8
	2	264	85.7	89.2	100.0
	.	12	3.9	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 296 Missing Cases 12

ITEM408

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	77	25.0	26.9	26.9
	2	209	67.9	73.1	100.0
	.	22	7.1	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 286 Missing Cases 22

ITEM409

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	279	90.6	93.3	93.3
	2	20	6.5	6.7	100.0
	.	9	2.9	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 299 Missing Cases 9

ITEM410

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	284	92.2	94.7	94.7
	2	16	5.2	5.3	100.0
	.	8	2.6	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 300 Missing Cases 8

ITEM411

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	121	39.3	41.4	41.4
	2	171	55.5	58.6	100.0
	.	16	5.2	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 292 Missing Cases 16

ITEM412

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	84	27.3	28.7	28.7
	2	209	67.9	71.3	100.0
	.	15	4.9	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 293 Missing Cases 15

ITEM413

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	74	24.0	25.8	25.8
	2	213	69.2	74.2	100.0
	.	21	6.8	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 287 Missing Cases 21

ITEM414

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	81	26.3	27.8	27.8
	2	210	68.2	72.2	100.0
	.	17	5.5	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 291 Missing Cases 17

ITEM415

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	29	9.4	9.7	9.7
	2	270	87.7	90.3	100.0
	.	9	2.9	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 299 Missing Cases 9

ITEM501

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	170	55.2	56.5	56.5
	2	131	42.5	43.5	100.0
	.	7	2.3	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 301 Missing Cases 7

ITEM502

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	133	43.2	77.3	77.3
	2	39	12.7	22.7	100.0
	.	136	44.2	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 172 Missing Cases 136

ITEM503

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	55	17.9	32.2	32.2
	2	116	37.7	67.8	100.0
	.	137	44.5	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 171 Missing Cases 137

ITEM504

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	0	13	4.2	8.0	8.0
	1	89	28.9	54.9	63.0
	2	31	10.1	19.1	82.1
	3	15	4.9	9.3	91.4
	4	2	.6	1.2	92.6
	5	5	1.6	3.1	95.7
	6	2	.6	1.2	96.9
	7	1	.3	.6	97.5
	8	1	.3	.6	98.1
	9	3	1.0	1.9	100.0
	.	146	47.4	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 162 Missing Cases 146

ITEM505

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	26	8.4	15.8	15.8
	2	69	22.4	41.8	57.6
	3	70	22.7	42.4	100.0
	.	143	46.4	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 165 Missing Cases 143

ITEM506

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	62	20.1	54.4	54.4
	2	28	9.1	24.6	78.9
	3	24	7.8	21.1	100.0
	.	194	63.0	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 114 Missing Cases 194

ITEM507

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	1	.3	.6	.6
	2	167	54.2	99.4	100.0
	.	140	45.5	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 168 Missing Cases 140

ITEM508

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	1	.3	.6	.6
	2	166	53.9	99.4	100.0
	.	141	45.8	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 167 Missing Cases 141

ITEM509

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	.6	20.0	20.0
	3	8	2.6	80.0	100.0
	.	298	96.8	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 10 Missing Cases 298

ITEM510

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	21	6.8	12.7	12.7
	2	145	47.1	87.3	100.0
	.	142	46.1	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 166 Missing Cases 142

ITEM511

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	14	4.5	66.7	66.7
	2	7	2.3	33.3	100.0
	.	287	93.2	MISSING	
	TOTAL	308	100.0	100.0	

Valid Cases 21 Missing Cases 287

Factor Matrix:

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
ITEM1					
ITEM2	.43477				
ITEM3					
ITEM4					
ITEM5					.41253
ITEM6	.60303				
ITEM7		-.44022			
ITEM8			.43252		
ITEM9					
ITEM10	.63948				
ITEM11	.43116				
ITEM12					-.43074
ITEM13	.62464				
ITEM14					
ITEM15	.43158				-.49483
ITEM16					
ITEM17					
ITEM18	.57472				
ITEM19	.40672				
ITEM20	.53909				
ITEM21					
ITEM22				.40075	
ITEM23	.56450				
ITEM24				.43038	
ITEM25	.40620		.46484		
ITEM26			.44146		
ITEM27	.65728				
ITEM28	.61019				
ITEM29	.47296	.40480			
ITEM30	.47227			.40753	
ITEM31					
ITEM32	.49523				
ITEM33					-.40744
ITEM34				.41585	
ITEM35		-.49952			
ITEM36					

	FACTOR 6	FACTOR 7
ITEM1		
ITEM2		
ITEM3		
ITEM4		
ITEM5		
ITEM6		
ITEM7		.48280
ITEM8		
ITEM9		
ITEM10		
ITEM11		
ITEM12		
ITEM13		
ITEM14		
ITEM15		
ITEM16	-.41562	.48732
ITEM17		
ITEM18		
ITEM19		
ITEM20		
ITEM21		
ITEM22		
ITEM23		

ITEM24
ITEM25
ITEM26
ITEM27
ITEM28
ITEM29
ITEM30
ITEM31
ITEM32
ITEM33
ITEM34
ITEM35
ITEM36

---- FACTOR ANALYSIS ----

Varimax Rotation 1, Extraction 1, Analysis 1 - Kaiser Normalization.

Varimax converged in 15 iterations.

Rotated Factor Matrix:

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
ITEM1					
ITEM2	.59835				
ITEM3					
ITEM4					
ITEM5		.40478			
ITEM6	.67963				
ITEM7			.40400		
ITEM8			-.53399		
ITEM9					
ITEM10	.71111				
ITEM11		.43347			
ITEM12				.67875	
ITEM13	.59958				
ITEM14			.48601		
ITEM15	.46624			.53093	
ITEM16					
ITEM17				.62067	
ITEM18	.65032				
ITEM19			.63907		
ITEM20	.40556				
ITEM21		.40564			
ITEM22					.68704
ITEM23		.48424			
ITEM24					.69246
ITEM25		.70769			
ITEM26		.49456			
ITEM27	.53464				
ITEM28	.54793				
ITEM29					
ITEM30					.51088
ITEM31	.45343				.41727
ITEM32		.54273			
ITEM33				.57104	
ITEM34					
ITEM35			.47073		
ITEM36			.62536		

	FACTOR 6	FACTOR 7
ITEM1		
ITEM2		
ITEM3	.48598	
ITEM4	.48752	
ITEM5		
ITEM6		
ITEM7	-.54164	

---- FACTOR ANALYSIS ----

ITEM8	
ITEM9	-.46028
ITEM10	
ITEM11	
ITEM12	
ITEM13	
ITEM14	
ITEM15	
ITEM16	.73200

ITEM17	
ITEM18	.40278
ITEM19	
ITEM20	
ITEM21	
ITEM22	
ITEM23	
ITEM24	
ITEM25	
ITEM26	
ITEM27	
ITEM28	
ITEM29	
ITEM30	
ITEM31	
ITEM32	
ITEM33	
ITEM34	.46679
ITEM35	
ITEM36	

Factor Transformation Matrix:

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR
FACTOR 1	.75638	.46125	.26504	.30800	.19779
FACTOR 2	.13671	-.03932	-.61199	-.24032	.47746
FACTOR 3	-.32832	.65691	-.50480	.39332	-.11582
FACTOR 4	-.51298	.04939	.46581	.34875	.52163
FACTOR 5	-.14456	.49727	.18423	-.68128	.32965
FACTOR 6	.06760	-.31206	-.22177	.31060	.53367
FACTOR 7	.11308	-.08412	-.01745	-.10215	.23221

	FACTOR 6	FACTOR 7
FACTOR 1	.10354	.01341
FACTOR 2	.51588	.23104
FACTOR 3	-.18984	.04128
FACTOR 4	.27224	.22269
FACTOR 5	-.19582	-.29449
FACTOR 6	-.40837	-.54848
FACTOR 7	-.63866	.71246

RELIABILITY ANALYSIS - SCALE (CONCEPT)

1. ITEM10
2. ITEM13
3. ITEM15
4. ITEM20

COVARIANCE MATRIX

	ITEM10	ITEM13	ITEM15	ITEM20
ITEM10	.8274			
ITEM13	.4821	1.1931		
ITEM15	.2259	.2858	.6959	
ITEM20	.2758	.2331	.1849	.6314

CORRELATION MATRIX

	ITEM10	ITEM13	ITEM15	ITEM20
ITEM10	1.0000			
ITEM13	.4852	1.0000		
ITEM15	.2977	.3137	1.0000	
ITEM20	.3816	.2685	.2790	1.0000

RELIABILITY ANALYSIS - SCALE (CONCEPT)

OF CASES = 153.0

	MEAN	MINIMUM	MAXIMUM	RANGE	MAX/MIN	VARIANCE
ITEM MEANS	4.3627	4.0654	4.5556	.4902	1.1206	.0449
ITEM VARIANCES	.8369	.6314	1.1931	.5617	1.8895	.0630
INTER-ITEM COVARIANCES	.2813	.1849	.4821	.2971	2.6066	.0100
INTER-ITEM CORRELATIONS	.3376	.2685	.4852	.2167	1.8069	.0062

ITEM-TOTAL STATISTICS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
ITEM10	13.0784	3.9280	.5457	.3135	.5375
ITEM13	13.3856	3.5279	.4879	.2702	.5839
ITEM15	12.8954	4.6337	.3879	.1516	.6416
ITEM20	12.9935	4.7039	.4026	.1794	.6338

RELIABILITY COEFFICIENTS 4 ITEMS

ALPHA = .6694 STANDARDIZED ITEM ALPHA = .6709

RELIABILITY ANALYSIS - SCALE (LOC)

1. ITEM19
2. ITEM23
3. ITEM25
4. ITEM28
5. ITEM32
6. ITEM35

CORRELATION MATRIX

	ITEM19	ITEM23	ITEM25	ITEM28	ITEM32
ITEM19	1.0000				
ITEM23	.1290	1.0000			
ITEM25	.0892	.3845	1.0000		
ITEM28	.2055	.3188	.1937	1.0000	
ITEM32	.2932	.4085	.3231	.1398	1.0000
ITEM35	.2097	.1285	-.0042	.0252	.3312

	ITEM35
ITEM35	1.0000

RELIABILITY ANALYSIS - SCALE (LOC)

OF CASES = 153.0

	MEAN	MINIMUM	MAXIMUM	RANGE	MAX/MIN	VARIANCE
ITEM MEANS	4.2331	3.7908	4.5163	.7255	1.1914	.0694
ITEM VARIANCES	.8608	.4224	1.3244	.9020	3.1352	.0846
INTER-ITEM COVARIANCES	.1815	-.0031	.3986	.4018	-127.0000	.0137
INTER-ITEM CORRELATIONS	.2117	-.0042	.4085	.4127	-97.3312	.0158

ITEM-TOTAL STATISTICS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
ITEM19	21.3268	8.0636	.2844	.1304	.5985
ITEM23	20.9739	7.4335	.4813	.2904	.5180
ITEM25	21.6078	7.2136	.3351	.1993	.5845
ITEM28	21.0980	8.2469	.2978	.1374	.5910
ITEM32	21.1046	7.2916	.5070	.3182	.5064
ITEM35	20.8824	9.3545	.2095	.1389	.6163

RELIABILITY COEFFICIENTS 6 ITEMS

ALPHA = .6158 STANDARDIZED ITEM ALPHA = .6171

RELIABILITY ANALYSIS - SCALE (DENIAL)

1. ITEM2
2. ITEM3
3. ITEM18
4. ITEM29

COVARIANCE MATRIX

	ITEM2	ITEM3	ITEM18	ITEM29
ITEM2	1.2589			
ITEM3	.2480	1.1420		
ITEM18	.4339	.4521	1.0679	
ITEM29	.3424	.3176	.4189	1.3311

CORRELATION MATRIX

	ITEM2	ITEM3	ITEM18	ITEM29
ITEM2	1.0000			
ITEM3	.2069	1.0000		
ITEM18	.3742	.4094	1.0000	
ITEM29	.2645	.2576	.3513	1.0000

RELIABILITY ANALYSIS - SCALE (DENIAL)

OF CASES = 153.0

	MEAN	MINIMUM	MAXIMUM	RANGE	MAX/MIN	VARIANCE
ITEM MEANS	3.9739	3.8301	4.1046	.2745	1.0717	.0174
ITEM VARIANCES	1.2000	1.0679	1.3311	.2632	1.2464	.0138
INTER-ITEM COVARIANCES	.3688	.2480	.4521	.2041	1.8228	.0057
INTER-ITEM CORRELATIONS	.3107	.2069	.4094	.2025	1.9791	.0057

ITEM-TOTAL STATISTICS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
ITEM2	11.8301	5.9183	.3753	.1619	.6025
ITEM3	12.0654	6.0483	.3873	.1839	.5928
ITEM18	11.7908	5.5481	.5361	.2925	.4910
ITEM29	12.0000	5.7368	.3904	.1574	.5930

RELIABILITY COEFFICIENTS 4 ITEMS

ALPHA = .6396 STANDARDIZED ITEM ALPHA = .6432

RELIABILITY ANALYSIS - SCALE (RATION)

1. ITEM22
2. ITEM24
3. ITEM31

COVARIANCE MATRIX

	ITEM22	ITEM24	ITEM31
ITEM22	1.4926		
ITEM24	.4154	1.2833	
ITEM31	.1050	.3053	.9729

CORRELATION MATRIX

	ITEM22	ITEM24	ITEM31
ITEM22	1.0000		
ITEM24	.3001	1.0000	
ITEM31	.0871	.2733	1.0000

OF CASES = 153.0

	MEAN	MINIMUM	MAXIMUM	RANGE	MAX/MIN	VARIANCE
ITEM MEANS	3.2854	2.8170	3.7843	.9673	1.3434	.2346
ITEM VARIANCES	1.2496	.9729	1.4926	.5197	1.5342	.0684
INTER-ITEM COVARIANCES	.2752	.1050	.4154	.3104	3.9558	.0198
INTER-ITEM CORRELATIONS	.2202	.0871	.3001	.2130	3.4443	.0108

ITEM-TOTAL STATISTICS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
ITEM22	7.0392	2.8669	.2516	.0901	.4260
ITEM24	6.6013	2.6755	.3890	.1516	.1570
ITEM31	6.0719	3.6066	.2191	.0747	.4607

RELIABILITY ANALYSIS - SCALE (RATION)

RELIABILITY COEFFICIENTS 3 ITEMS

ALPHA = .4587 STANDARDIZED ITEM ALPHA = .4586

RELIABILITY ANALYSIS - SCALE (PEER)

1. ITEM6
2. ITEM12
3. ITEM17
4. ITEM30

COVARIANCE MATRIX

	ITEM6	ITEM12	ITEM17	ITEM30
ITEM6	.6714			
ITEM12	.0627	1.3355		
ITEM17	.0892	.3121	.5906	
ITEM30	.1612	.3140	.0570	1.3584

CORRELATION MATRIX

	ITEM6	ITEM12	ITEM17	ITEM30
ITEM6	1.0000			
ITEM12	.0663	1.0000		
ITEM17	.1416	.3514	1.0000	
ITEM30	.1688	.2331	.0637	1.0000

RELIABILITY ANALYSIS - SCALE (PEER)

OF CASES = 153.0

ITEM MEANS	MEAN	MINIMUM	MAXIMUM	RANGE	MAX/MIN	VARIANCE
	4.0752	3.2745	4.5556	1.2810	1.3912	.3426

ITEM VARIANCES	MEAN	MINIMUM	MAXIMUM	RANGE	MAX/MIN	VARIANCE
	.9890	.5906	1.3584	.7677	2.2998	.1720

INTER-ITEM COVARIANCES	MEAN	MINIMUM	MAXIMUM	RANGE	MAX/MIN	VARIANCE
	.1661	.0570	.3140	.2570	5.5068	.0130

INTER-ITEM CORRELATIONS	MEAN	MINIMUM	MAXIMUM	RANGE	MAX/MIN	VARIANCE
	.1708	.0637	.3514	.2878	5.5210	.0109

ITEM-TOTAL STATISTICS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
ITEM6	11.8366	4.6508	.1772	.0461	.4407
ITEM12	12.2941	3.2353	.3314	.1684	.2851
ITEM17	11.7451	4.4412	.2830	.1390	.3634
ITEM30	13.0261	3.5256	.2432	.0795	.3949

RELIABILITY COEFFICIENTS 4 ITEMS

ALPHA = .4466 STANDARDIZED ITEM ALPHA = .4518

R E L I A B I L I T Y A N A L Y S I S - S C A L E (R E P R E S S)

1. ITEM21
2. ITEM4
3. ITEM26

COVARIANCE MATRIX

	ITEM21	ITEM4	ITEM26
ITEM21	1.2011		
ITEM4	.2364	1.4431	
ITEM26	.2466	.1400	1.4327

CORRELATION MATRIX

	ITEM21	ITEM4	ITEM26
ITEM21	1.0000		
ITEM4	.1795	1.0000	
ITEM26	.1880	.0973	1.0000

OF CASES = 153.0

ITEM MEANS	MEAN	MINIMUM	MAXIMUM	RANGE	MAX/MIN	VARIANCE
	3.0850	2.6928	3.6275	.9346	1.3471	.2353

ITEM VARIANCES	MEAN	MINIMUM	MAXIMUM	RANGE	MAX/MIN	VARIANCE
	1.3589	1.2011	1.4431	.2420	1.2015	.0187

INTER-ITEM COVARIANCES	MEAN	MINIMUM	MAXIMUM	RANGE	MAX/MIN	VARIANCE
	.2077	.1400	.2466	.1067	1.7622	.0028

INTER-ITEM CORRELATIONS	MEAN	MINIMUM	MAXIMUM	RANGE	MAX/MIN	VARIANCE
	.1550	.0973	.1880	.0907	1.9316	.0020

ITEM-TOTAL STATISTICS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
ITEM21	6.5621	3.1557	.2481	.0616	.1774
ITEM4	6.3203	3.1270	.1772	.0364	.3155
ITEM26	5.6275	3.1169	.1830	.0395	.3033

R E L I A B I L I T Y A N A L Y S I S - S C A L E (R E P R E S S)

RELIABILITY COEFFICIENTS 3 ITEMS

ALPHA = .3511 STANDARDIZED ITEM ALPHA = .3549

RELIABILITY ANALYSIS - SCALE (EFFICACY)

1. ITEM7
2. ITEM14
3. ITEM27
4. ITEM36

COVARIANCE MATRIX

	ITEM7	ITEM14	ITEM27	ITEM36
ITEM7	1.1680			
ITEM14	.1717	.9446		
ITEM27	.3148	.1857	1.0042	
ITEM36	.3477	.3041	.1490	.7674

CORRELATION MATRIX

	ITEM7	ITEM14	ITEM27	ITEM36
ITEM7	1.0000			
ITEM14	.1634	1.0000		
ITEM27	.2907	.1907	1.0000	
ITEM36	.3673	.3572	.1697	1.0000

RELIABILITY ANALYSIS - SCALE (EFFICACY)

OF CASES = 153.0

	MEAN	MINIMUM	MAXIMUM	RANGE	MAX/MIN	VARIANCE
ITEM MEANS	3.9820	3.8301	4.1242	.2941	1.0768	.0270
ITEM VARIANCES	.9711	.7674	1.1680	.4007	1.5221	.0274
INTER-ITEM COVARIANCES	.2455	.1490	.3477	.1988	2.3346	.0067
INTER-ITEM CORRELATIONS	.2565	.1634	.3673	.2039	2.2476	.0080

ITEM-TOTAL STATISTICS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
ITEM7	12.0784	3.9938	.3862	.1886	.4798
ITEM14	12.0980	4.5627	.3186	.1450	.5336
ITEM27	11.8039	4.5271	.3046	.1060	.5457
ITEM36	11.8039	4.4613	.4328	.2261	.4520

RELIABILITY COEFFICIENTS 4 ITEMS

ALPHA = .5751 STANDARDIZED ITEM ALPHA = .5798

UNIVERSITY OF THE WESTERN CAPE
DEPARTMENT OF PSYCHOLOGY

AIDS SURVEY
1991

Subject Code

Dear Student

This survey has been designed by a team of researchers of the Department of Psychology at the University of the Western Cape. It forms part of a wider research effort intended to study attitudes to AIDS and its problems. This information will be helpful in designing intervention to combat the problem of AIDS in our communities and amongst students and thereby help alleviate the risk we face with this disease. You are *not* obliged to participate in this study but since every contribution helps we would very much appreciate it if you completed the questionnaire.

This questionnaire is designed to be totally anonymous, so you should NOT write your name, student number, or other identifying information anywhere on the questionnaire. If you have any doubts about any question, please remember that your first response is usually the most accurate.

For each question you will find various options. Simply make a circle around the number alongside the answer that corresponds to your choice of answer.

For example: Q909 What is the colour of your eyes?

Green	(1)
Blue	2
Brown	3
Other	4

Thank you for your cooperation. You will need about fifteen minutes to complete the questionnaire.

A. Perkel
Department of Psychology
UWC

SECTION 1

Q101	How old are you?	Years old	_____
Q102	What is your sex?	Male	1
		Female	2
Q103	What is your home language?	English	1
		Afrikaans	2
		Xhosa	3
		Other	4

please turn over...

Q104	What is your religion?	Muslim	1
		Christian	2
		Other	3
		None	4
Q105	How important is religion in helping you deal with problems in your daily life?	Very important	1
		Somewhat important	2
		Not important	3
Q106	How long have you been at UWC?	Years	_____
Q107	Where did you grow up?	City	1
		Town	2
		Village	3
		Farm	4
Q108	Are you single, married, separated, divorced, or widowed?	Single	1
		Married	2
		Separated	3
		Divorced	4
		Widowed	5

SECTION 2

Q201	How much do you think you know about this disease called AIDS?	A great deal	1
		A moderate amount	2
		Just a little	3
		Nothing	4
Q202	Have you yourself ever known anyone who has had AIDS?	Yes	1
		No	2
Q203	Do you think that a person can have the virus that causes AIDS and not have the symptoms?	Yes	1
		No	2
		Do not know	3
Q204	How long do you think it can take for a person with the AIDS virus to develop symptoms?	Days	1
		Months	2
		Years	4
		Do not know	3
Q205	Do you think that someone who looks healthy but who has the AIDS virus can pass it to other people?	Yes	1
		No	2
		Do not know	3

please turn over...

3

		Yes	No	Do not know
Q206	Do you think that one can get AIDS by:			
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 campus 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...

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

pleaseturnover...

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

please turn over...

SECTION 6

Below are a number of statements. You must read each item and decide where on the scale you fit. Remember, there are no right or wrong answers so answer each item *as it applies to you*. Simply **make a circle** around the number that corresponds with your answer on the scale. If you have any doubts about any question, please remember that your first response is usually the most accurate.

For example, if you "strongly agree" with the following statement, then you would respond as follows:

Example:

AIDS is a worldwide problem. (1)----------2----------3----------4----------5

Scale:	Strongly agree 1	Agree 2	Neutral 3	Disagree 4	Strongly disagree 5

1. I do things my own way, irrespective of what my friends think. 1----------2----------3----------4----------5
2. The media exaggerate the danger of AIDS. 1----------2----------3----------4----------5
3. AIDS can never happen to me. 1----------2----------3----------4----------5
4. I try not to think about the possibility of getting AIDS. 1----------2----------3----------4----------5
5. If my friends are not using condoms, then I wouldn't either. 1----------2----------3----------4----------5
6. I think I am capable of safer sexual practices. 1----------2----------3----------4----------5
7. Real men don't use condoms. 1----------2----------3----------4----------5
8. I don't need to worry about getting AIDS, because even if I did get it they will probably find a cure. 1----------2----------3----------4----------5
9. If my friends were having only one sexual partner, that wouldn't necessarily stop me sleeping with more than one. 1----------2----------3----------4----------5
10. I'd feel less of a man/woman using a condom. 1----------2----------3----------4----------5
11. I know I could use condoms if I wanted to. 1----------2----------3----------4----------5
12. If I don't sleep with lots of lovers, I would feel unattractive to the opposite sex. 1----------2----------3----------4----------5
13. I would not follow the opinion of my friends if it differed from mine. 1----------2----------3----------4----------5
14. AIDS is not my problem. 1----------2----------3----------4----------5

please turn over...

Scale:	Strongly agree 1	Agree 2	Neutral 3	Disagree 4	Strongly disagree 5

15. If I take precautions, I can prevent AIDS. 1----------2----------3----------4----------5

16. Real men have lots of sexual partners/ lovers. 1----------2----------3----------4----------5

17. The possibility of getting AIDS frightens me but I don't allow myself to worry about it. 1----------2----------3----------4----------5

18. If my friends are having sex with more than one partner, I'd consider it alright to do the same. 1----------2----------3----------4----------5

19. AIDS may be a problem, but so are many other diseases. 1----------2----------3----------4----------5

20. If I get worried about AIDS, I push it out my mind. 1----------2----------3----------4----------5

21. I choose my partner(s) carefully, so it's unlikely they would have AIDS. 1----------2----------3----------4----------5

22. Everybody has to go sometime, so why worry about getting AIDS? 1----------2----------3----------4----------5

23. The kind of people I mix with wouldn't have AIDS. 1----------2----------3----------4----------5

24. I don't allow myself to get too worried about AIDS. 1----------2----------3----------4----------5

25. If I'm going to get AIDS, I'll get it. 1----------2----------3----------4----------5

26. AIDS worries me, but in the heat of the moment I don't let myself worry about it. 1----------2----------3----------4----------5

27. I don't feel I am able to practice safe sex. 1----------2----------3----------4----------5

28. Getting AIDS is a question of bad luck. 1----------2----------3----------4----------5

29. AIDS happens to other people. 1----------2----------3----------4----------5

30. If my friends were using condoms, it wouldn't necessarily make me use them. 1----------2----------3----------4----------5

31. I'd know if a partner of mine had AIDS. 1----------2----------3----------4----------5

32. There's nothing I can do to prevent myself getting AIDS. 1----------2----------3----------4----------5

33. There's no point worrying about AIDS - you could just as easily get run over crossing the road. 1----------2----------3----------4----------5

please turn over...

Scale:	Strongly agree 1	Agree 2	Neutral 3	Disagree 4	Strongly disagree 5

34. I never ignore it when I feel worried about the AIDS problem. 1----------2----------3----------4----------5

35. Good health is a question of discipline. 1----------2----------3----------4----------5

36. I believe it is possible for me to practice safe sex. 1----------2----------3----------4----------5

You have come to the end of the questionnaire. Thank you for your participation. Now please hand in your questionnaire.

****

- - - - F A C T O R A N A L Y S I S - - - -

Varimax Rotation 1, Extraction 1, Analysis 1 - Kaiser Normalization.

Varimax converged in 13 iterations.

Rotated Factor Matrix:

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR5
ITEM1					
ITEM2	.42445				
ITEM3					.639
ITEM4		.48056			
ITEM5			.64559		
ITEM6				.46205	
ITEM7			.76378		
ITEM8	.46138				
ITEM9					
ITEM10			.64375		
ITEM11				.61242	
ITEM12			.40598		
ITEM13					
ITEM14					.538
ITEM15				.44977	
ITEM16			.62058		
ITEM17		.69218			
ITEM18					
ITEM19					
ITEM20		.72292			
ITEM21				-.49295	
ITEM22	.54761				
ITEM23					.478
ITEM24		.69012			
ITEM25	.65029				
ITEM26		.57766			
ITEM27				.43452	
ITEM28	.58069				
ITEM29					.511
ITEM30					
ITEM31					.653
ITEM32	.61128				
ITEM33	.61454				
ITEM34					
ITEM35					
ITEM36				.67713	

- - - - F A C T O R A N A L Y S I S - - - -

Rotated Factor Matrix(continued):

	FACTOR 6	FACTOR 7
ITEM1		.61554
ITEM2		
ITEM3		
ITEM4		
ITEM5		
ITEM6		
ITEM7		
ITEM8		
ITEM9	.55461	
ITEM10		
ITEM11		
ITEM12	.45869	
ITEM13		.67878
ITEM14		
ITEM15		
ITEM16		
ITEM17		
ITEM18	.73375	
ITEM19		
ITEM20		
ITEM21		
ITEM22		
ITEM23		
ITEM24		
ITEM25		
ITEM26		
ITEM27		
ITEM28		
ITEM29		
ITEM30		
ITEM31		
ITEM32		
ITEM33		
ITEM34		
ITEM35		.51823
ITEM36		