THE ATTITUDES OF MANAGEMENT TOWARDS AN AIDS POLICY FOR THE WORKPLACE

BY

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SUMMARY

The purpose of the study was to investigate management attitudes towards an AIDS (Acquired Immune Deficiency Syndrome) policy for the workplace. The three main hypotheses as measured by the self-developed AIDS Attitude Questionnaire, were: (1) There is a relationship between managerial levels of knowledge and awareness concerning AIDS and the managers' position and the sector in which they operate. (2) No relationship exists between the attitudes managers possess towards an AIDS policy and policy related issues, and their age, race and sex. (3) There is no relationship between managerial experience, position and duration of service, and the attitudes of management towards an AIDS policy and policy related issues. The sample consisted of 100 managers drawn from 13 organizations in the manufacturing, food and beverage and service sectors of the economy. Hypothesis (2) was partially supported, and hypothesis (3) fully supported by the results of the study. Overall, the findings indicate that management attitudes towards an AIDS policy for the workplace are influenced by the relationship between a managers' level of knowledge and awareness concerning HIV and AIDS, and their racial group, managerial position and educational qualifications. Furthermore, the relationship which exists between the attitudes of management concerning policy related AIDS issues and the economic sector in which they operate, as well as the relationship between the racial group of managers and their attitudes towards a policy, significantly influence the attitudes of management towards an AIDS policy for the workplace. Other finer relationships testing the correlation between variables and various factors in the questionnaire were of a varied nature and provided fairly interesting outcomes.

OPSOMMING

Die doel van die studie was om ondersoek in te stel na bestuurshouding teenoor 'n VIGS (Verworwe Immuniteitsgebrek Sindroom)- beleid in die werplek. Die drie hoofhipotheses, soos getoets in die VIGS Houdingsvraelys wat self ontwerp is, was as volg: (1) Daar is 'n verband tussen die mate waartoe bestuurders ingelig is oor VIGS, hul bestuursposisie en die sektor waarbinne hulle optree. (2) Dar bestaan geen verband tussen bestuurders se houding teenoor 'n VIGS - beleid en VIGS verwante kwessies aan die een kant en bestuurders se ouderdom, ras of geslag aan die ander kant nie. (3) Daar bestaan geen verband tussen bestuurders se bestuursondervinding, bestuursposisie en lengte van diens aan die een kant en die houding van die bestuur teenoor 'n VIGS - beleid en VIGS verwante kwessies aan die ander kant nie.

Die steekproef is gedoen met 100 bestuurders uit 13 organisasies in die vervaardigende, kos en drank asook dienssektore van die ekonomie. Hipotese 2 is gedeeltelik ondersteun en hipotese 3 is ten volle ondersteun deur die bevindinge van die studie. In die geheel dui die bevindinge daarop dat bestuurshouding teenoor 'n VIGS - beleid vir die werkplek beinvloed word deur die verhouding tussen bestuurders se kennis en bewustheid van die HIV-virus en VIGS, hul rassegroep, hul bestuursposisie en hul opvoedkundige kwalifikasies. Verder, word die houding van bestuur teenoor 'n VIGS - beleid vir die werkplek beduidend beinvloed deur die verhouding wat bestaan tussen bestuurshouding teenoor beleid - verwante VIGS kwessies en die ekonomiese sektor waarin hulle optree. Die verhouding tussen die bestuurders se rassegroep en hul houding teenoor 'n beleid in die algemeen het ook 'n beduidende invloed. Ander, meer subtiele verwantskappe wat die korrelasie toets tussen veranderlikes en verskeie faktore in die vraelys was gevarieerd van aard en het tot redelik interessante resultate gelei.

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CHAPTER 1

INTRODUCTION

Unlike many other countries in Africa and around the world, South Africa has not, as yet, felt the full impact of the AIDS pandemic. As a result of the delayed onset and prevalence of the disease, it is Van der Merwe's (1988:18) belief that "South African managers are fortunately in a position to benefit from extensive research ... and experience gained by countries who are already in the AIDS problems that potentially face South Africa in the near future".

In order to assess the AIDS issue management will need to have a thorough knowledge of the effects of the disease and its far-reaching negative consequences. This study begins with an investigation of AIDS from a medical and biological perspective. Methods of transmitting the virus, protective measures against infection, as well as fallacies surrounding the transmission of the disease, are reviewed.

In addition to comparing the incidence and intensity of the disease from an International, African and South African perspective, the effect of HIV and AIDS on the Natal/KwaZulu population will also be established to determine whether the same trends and patterns which exist in South Africa, occur in this particular region.

Having established the extent to which HIV and AIDS could affect individuals in the Natal/KwaZulu area and in particular its workforce; the quality, quantity and labour supply of the region is assessed.

The incidence of HIV in Natal/KwaZulu is discussed in terms of each population groups

and the jobs they occupy. Furthermore, various projections are made of the rate of HIV infectivity in the region and the possible effect of this on the labour force and the economy.

It is anticipated that because of the growing number of employees in the workforce that will become infected with the HIV virus, management will be forced to address the problem and to assess issues inside and outside the organization to determine their potential relevance and impact.

By engaging in the planning process, management will be able to assess the impact of HIV on the workforce and determine their course of action. The strategies that are developed will help ensure that the impact of the AIDS phenomena could be combated in the most appropriate manner. With the development of pertinent AIDS policies, management will be able to make uniform decisions within the framework of the planning function.

In addition to establishing organizational policies concerning the recruitment and selection of employees, management will need to assess their approach to HIV infected individuals in terms of medical aid, insurance, pension and benefit schemes. Furthermore, it is anticipated that management will need to have a working knowledge of laws pertaining to the employment of an HIV infected individual.

In order to establish what management attitudes towards an AIDS policy for the workplace were, a questionnaire was developed which assessed these attitudes on five workplace related factors.

The development of this questionnaire is based on a survey of literature and other questionnaires, and is grounded in the belief that management would need to be knowledgeable and aware about HIV and AIDS in order to deal with policy related AIDS issues, formulate a response to the HIV testing of employees, and determine their stance towards the treatment of HIV infected individuals with respect to company benefit schemes.

Various statistical procedures are performed on the data revealed by the questionnaires, and the results of this analysis are then presented and discussed. Numerous hypotheses aimed at determining management attitudes are stated, and are subsequently either accepted or rejected in terms of the results revealed by the statistical procedures. Explanations for findings are then given and conclusions and recommendations concerning management attitudes towards an AIDS policy for the workplace are submitted.

The limitations of this investigation will be discussed before outlining the motivation for the study, its aims and objectives, as well as its hypotheses.

1.1 LIMITS OF THE STUDY

As a result of this field not having been studied before, a questionnaire had to be developed which assessed management attitudes towards an AIDS policy for the workplace. Various factors had to be developed and incorporated in the questionnaire. However, results obtained were not consistent with expectations and this can be attributed to the fact that this was a self developed questionnaire. This would suggest that should this questionnaire be used for further studies, greater research is needed in the development and refinement of the factors so as to ensure a higher degree of internal consistency within the questionnaire.

Occupational groups in the study were not ideally matched in terms of the number of managers from each managerial level or their racial grouping. This can be attributed to the fact that the only criteria for participation in the study was that individuals be part of the management structure of their respective company. This would account for only 5% of the sample being top level managers and 88% of the sample being Whites.

An additional limitation of the study can be identified as the size of the sample. According to Tabachnick and Fiddell (1983:31) in their discussion of the results yielded by

factor analysis, a sample size of 100 will yield "poor" results whereas a sample of 200 will produce "fair" results and 300 "good" results.

1.2 MOTIVATION FOR THE STUDY

The following factors motivated this study:

(a) The concept and practice of developing an AIDS policy for the workplace is a relatively new development in South Africa. Although the AIDS and HIV issue has been discussed, examined and highlighted from a variety of perspectives (for example: health, care, life insurance, legal, biblical, homosexual, employee, etc.); the attitudes of management towards an AIDS policy for the workplace have not, as yet, been formally researched in this country.

(b) This area of research is considered interesting, challenging and important as it focuses on a relatively new, though increasingly important aspect of the work environment. This is particularly true from a managerial point of view since it will be their function to develop the necessary and relevant policies.

(c) The findings of this study could have implications which might prove useful to management if the results obtained indicate a relationship between the numerous variables and the attitudes of management towards an AIDS policy for the workplace. It would then be possible to identify those managers who

were the most knowledgeable and pro-active about the multifaceted aspects of AIDS and its effects on the workplace, and then assign the appropriate individuals to the development of AIDS policies.

(d) The academic challenge of this study will be the integration at a theoretical and practical level of the multi-faceted dimensions of AIDS and HIV, with the attitudes of management towards an AIDS policy for the workplace.

1.3 AIMS OF THE INVESTIGATION

The specific aims of the study are:

(1) To establish whether all managers irrespective of level or business sector, are equally knowledgeable and aware of HIV and AIDS.

(2) To determine whether a relationship exists between a managers length of service and amount of managerial experience, and his level of knowledge and awareness concerning AIDS.

(3) To ascertain whether sexual or racial group can be considered important determinants of managerial knowledge and awareness regarding AIDS.

(4) To determine whether a correlation exists between a manager's age and his/her level of knowledge and awareness concerning AIDS.

(5) To establish whether there is a relationship between the educational qualifications of management and their attitudes towards an AIDS policy and policy related issues, and their knowledge and awareness concerning AIDS.

(6) To determine whether sex, age or race are important variables with respect to management attitudes towards an AIDS policy and policy related issues.

(7) To establish whether the sector in which managers operate is a determinant of their attitudes towards an AIDS policy or policy related issues.

(8) To investigate the relationship between managerial experience, position and duration of service, and management attitudes towards an AIDS policy and policy related issues.

(9) To determine whether there is a correlation between managerial concerns regarding the effects of HIV and AIDS on company benefit schemes; and a managers position, level of experience or duration of service in the company.

(10) To ascertain whether a relationship exists between managerial gender and race, and their views on the effect AIDS will have on company benefit schemes.

(11) To establish whether all sectors of the economy are equally knowledgeable and aware of the effects AIDS could have on their company benefit schemes.

(12) To determine whether there is a relationship between the age of managerial staff and their attitudes toward HIV testing and the effect AIDS will have on company benefit schemes.

(13) To investigate the relationship between management views on HIV testing, and managerial experience, position and length of service in the company.

(14) To ascertain whether there is a relationship between management attitudes towards HIV testing and their racial group and gender.

(15) To establish whether there is a relationship between the sector of the economy in which managers operate, and their attitudes toward HIV testing.

(16) To determine wether there is a relationship between managerial educational qualifications and management views concerning benefits on the one hand, and their attitudes toward HIV testing on the other.

1.4 HYPOTHESES

The following hypotheses will be tested in order to fulfil the aims that have been listed previously:

(1) All managers irrespective of level of business sector, are equally knowledgeable and aware of HIV and AIDS.

(2) No relationship exists between a managers length of service and amount of managerial experience, and his level of knowledge and awareness concerning AIDS.

(3) Neither sexual nor racial group can be considered important determinants of managerial knowledge and awareness regarding AIDS.

(4) There is no correlation between a manager's age and his/her level of knowledge and awareness concerning AIDS.

(5) The relationship between the educational qualifications of management and their attitudes towards an AIDS policy and policy related issues, and their knowledge and awareness concerning AIDS is non-existent or negligible.

(6) Neither sex, age or race are important variables with respect to management attitudes towards an AIDS policy and policy related issues.

(7) The sector of the economy in which managers operate is not a determinant of their attitudes towards an AIDS policy or policy related issues.

(8) Managerial experience, position and duration of service in the company, are not significant determinants of management attitudes towards an AIDS policy and policy related issues.

(9) Neither the level of managerial experience, the management position in the company or the managers duration of service are related to managerial concerns regarding the effects of HIV and AIDS on company benefit schemes.

(10) There is no significant relationship between managerial gender and race, and their views on the effect AIDS will have on company benefit schemes.

(11) All sectors of the economy are equally knowledgeable and aware of the effects AIDS will have on their company benefit schemes.

(12) Attitudes toward HIV testing and the effect AIDS will have on company benefit schemes, is not related to the age of the managerial staff.

(13) The relationship between management views on HIV testing and their managerial experience, position and length of service in the company, is insignificant.

(14) The influence of racial group and gender as a determinant of management attitudes towards HIV testing of both prospective and current employees is insignificant.

(15) No sector of the economy is more positively oriented towards the HIV testing of current and prospective employees, than any other sector.

(16) There is no relationship between managerial educational qualifications and their views concerning benefit schemes on the one hand, and their attitudes toward HIV testing on the other.

1.5 CONCLUSION

In this chapter, an attempt was made to delineate the areas to be investigated and to formulate the aims and hypothesis of this study.

Literature relevant to this study will be reviewed in subsequent chapters. This literature review will discuss AIDS from a medical and biological perspective and will analyze the quality and quantity of the labour supply of Natal/KwaZulu, assessing the effects HIV and AIDS could have on the workforce of the region. AIDS in the workplace will be discussed and the possible effect the disease could have on the work arena, as well as the response of management to this crisis, will be investigated.

This will be followed by the research methodology adopted in this study. The results obtained from the statistical investigation will then be presented together with a discussion supported by relevant research findings. Finally, conclusions and recommendations for the applications of the findings are offered.

CHAPTER 2

AIDS - THE DISEASE

2.1 INTRODUCTION

The expected far-reaching negative consequence of HIV and AIDS and its possible implications for employees in the workplace, will place demands on management to become acquainted with the effect of the disease..

This chapter will discuss AIDS from a medical and biological perspective, explaining its nature and highlighting the manner in which the virus is transmitted. Protective measures against HIV transmission and fallacies surrounding the transmission of the disease will also be discussed.

An appreciation of the incidences and intensity of the disease in Natal/Kwazulu will be highlighted against an international, African and South African perspective.

2.2 MEDICAL AND BIOLOGICAL PERSPECTIVE OF AIDS

2.2.1 WHAT IS AIDS?

AIDS is an acronym for a disease the Acquired Immune Deficiency Syndrome, which is caused by the Human Immuno-deficiency Virus (HIV), a member of a family of viruses known as retroviruses (Whiteside, 1990).

The AIDS syndrome was recognised as a distinct clinical entity in June 1981 (Appleby, 1988) by the Centres for Disease Control in Atlanta, Georgia. Although the first case of AIDS was identified in Los Angeles in 1981 (Lombard, 1989), the attention of the medical fraternity in the United States of America was attracted by two separate though related incidents.

In the first instance, there was an unusually high incidence of pneumocystis carinii pneumonia, a parasitic infection among homosexual men in California and New York

(Appleby, 1988). This attracted attention due to the uncustomarily high demand for an experimental drug used to treat the illness (Batchelor, 1988). Furthermore the illness was previously seen primarily in persons who, as Appleby (1988 : 400) notes "had an impaired immune system due to immunosuppressive treatment". This was prevalent amongst patients who had organ transplants such as hearts and lungs and who were having their immune system suppressed by medication in order to prevent the body from rejecting the organ.

In the second instance the Centre for Disease Control was also documenting reports of kaposi's sarcoma, a rare form of skin cancer (Batchelor, 1988), among patients who would not normally develop this disease. According to Appleby (1988 : 400), "the resultant investigation of these patients, none of whom had any known cause for immune impairment, led to the recognition of AIDS."

It is the view of the Centres for Disease Control that AIDS in a developed first-world country like America or Britain is now defined as an "illness characterized by the presence of one or more specific opportunistic infections or malignancies or encephalopathy, in a patient with immuno-deficiency that is not due to other known causes" (Ijsselmuiden, Steinberg, Padayachee, Schoub, Strauss, Buch, Davies, De Beer, Gear, Hurwitz, 1988a : 456).

In Africa and in particular countries north of the Zambezi River the laboratory services are not particularly well developed compared to the sophisticated facilities in America. In these areas, "AIDS in adults is defined by at least two major signs (weight loss greater than 10% and chronic diarrhoea) and at least one minor sign (eg: oropharyngeal candidiasis), provided that other known causes of immunosuppression are absent" (Ijsselmuiden et al, 1988a : 456).

In 1981 only the United States of America was reporting identified AIDS cases to the World Health Organisation. Sher (1989 : 43) indicates from the limited exposure of known cases a change has taken place and "in a period of seven years (1982 - 1988) over 140

countries are now reporting cases of AIDS worldwide and in fact AIDS has now become a pandemic".

When taking cognizance of the pandemic, two developmental patterns of AIDS have been described. The first pattern has been termed "Western" AIDS (Henbest, 1988) and occurs mainly in White homosexual males or in intravenous drug abusers and haemophiliacs. The second pattern is known as African AIDS and found predominantly in Black, heterosexual men and women. According to Dr Barry Schoub (1990) the pandemic can be divided into four sub-pandemics:

* **THE HOMOSEXUAL PANDEMIC**

  Populations in Western Countries and in particular the White sector of South Africa are representative here.

* **THE INTRAVENOUS DRUG ABUSER PANDEMIC**

  The majority of offenders are found in Europe and the United States of America.

* **THE BLOOD RECIPIENT AND HAEMOPHILIAC PANDEMIC**

* **THE HETEROSEXUAL PANDEMIC**

  Africa represents the fastest growing AIDS pandemic in the Western world.

Although AIDS is a disease caused by the Human Immuno-deficiency virus amongst different members of the population in various countries of the world it must be borne in mind that "it is widely but falsely stated that AIDS destroys the immune system. Instead, HIV damages the immune system ..." of the individual (Batchelor 1988 : 854).

2.2.2 THE VIRUS HIV

While research aimed at isolating the causes of AIDS progressed in many parts of the world, it was in 1983 (Batchelor, 1988) that the agent responsible for causing AIDS, the

Human Immuno-deficiency Virus was discovered and a breakthrough was made in three different centres:

* In the summer of 1983 French researchers had enough evidence to support their claim of having discovered the cause of AIDS (Shilts, 1987). An official announcement was made on February 7, 1984, identifying the virus. In Paris it was named Lymphadenopathy-Associated Virus (LAV) after the tissue sample was removed from a lymph node of a lymphadenopathy patient, by Luc Montagnier at the Instituut Pasteur.
* In Washington, on April 19, 1984, Human T-cell Leukaemia Virus Type III (HTLV III) was isolated as the virus responsible for AIDS, by Dr Robert Gallo at the National Cancer Institute (Shilts, 1987).
* At the University of California in San Francisco, following the work of Dr Jay Levy, it was announced that the AIDS-associated retrovirus (ARV) was responsible for AIDS.

A subcommittee of the International Committee for the Taxonomy of Viruses suggested in 1986 that the generic name for the virus should be the Human Immuno-deficiency Virus (HIV) (Schoub, 1990).

HIV is a parasite (Whiteside, 1990) and requires a host to survive and multiply. Viruses have to infect another cell in the body and use its metabolic processes to replicate. This infection is by no means random but rather aimed at specific cells of the central nervous system, macrophages and lymphocytes (Francis & Chin, 1987).

HIV is a retrovirus and more specifically it belongs to a retrovirus subfamily known as lentiviruses (Adler, 1988). Typical of a retrovirus, HIV creates a "special enzyme to reproduce" the virus (Shilts 1987 : 202). This enzyme is known as reverse transcriptase (Henbest, 1988) and it changes the genetic composition of the cell it enters, forcing the T-4

lymphocytes which are responsible for antibody production (Whiteside, 1990), to produce HIV viruses at the expense of these antibodies. With a decline in the T-4 lymphocytes which are "the centre regulatory cells of the whole immune system" (Sher 1989 : 44), a decline in the competence of a person's immune system occurs. The HIV infected person becomes highly susceptible to all kinds of life threatening infections which to a healthy individual would not normally be hazardous.

Death is not caused by the AIDS virus itself, but by the "repeated viral, bacterial and parasitic infections that the HIV - caused immunodeficiency allows to become overwhelming" (Batchelor 1988 : 854). He (1988 : 854) comments that "these (infections) are termed 'opportunistic infections' because they seize the opportunity offered by a reduced immune system response to become ferociously virulent and frequently systemic, when they would otherwise be controlled or eliminated by a normally functioning immune system".

Once a person is infected with the virus, there are a number of distinct phases that will follow:

* **SEROCONVERSION PHASE**

  During this phase, although sufficient antibodies are not present for laboratory testing to detect the virus, the person should be considered both infective and infected (Whiteside, 1990).

* **LATENT PHASE**

  Laboratory testing will detect the virus and while the individual will feel healthy the immune system will be denuded of its T-4 lymphocytes.

* **AIDS RELATED COMPLEX (ARC)**

  During this stage of the disease the person's immune system is constantly under siege from opportunistic infections and the effectiveness of the immune

system starts to decline. The symptoms are manifested in enlarged lymph nodes, night sweats, weight loss and fatigue (Wing, 1986).

* **FULL BLOWN AIDS**

  This is the final stage of the illness and it culminates in eventual death. The immune system is significantly impaired and is eventually overwhelmed by opportunistic infections such as pneumonia, and cancer in the form of kaposi's sarcoma (Lombard, 1989).

Two strains of the HIV virus have now been identified to date. HIV I was discovered in 1983, while HIV II was isolated as a cause of AIDS in 1985 (Henbest, 1988):

* **HIV I**

  This strain of the HIV virus has a high prevalence in most of Africa and the West. Striking features appear to be that most cases are homosexual or bisexual men and intravenous drug abusers. A very high male / female ratio of 10:1 is also present (Whiteside, 1990).

* **HIV II**

  HIV II is found mainly in West Africa and is predominant amongst heterosexual men and women, with a male / female ratio of 1:1 (Whiteside, 1990). This strain takes longer to affect the carrier and may be more difficult to detect than HIV I.

2.3 HIV ANTIBODY TESTING

The specific value of available laboratory tests used for detecting the HIV virus, lies in their ability to detect antibodies to the HIV virus (Finnemore, 1990) and not in their ability to predict the likelihood of an individual developing AIDS (Sack, 1988b). Tests that are used to detect and classify carriers are both "sensitive" and "specific" (Ijsselmuiden et al, 1988b),

for the reason that "a 'sensitive test' is one that rarely misses diseases whereas a 'specific test' causes few false alarms" (Mant & Fowler 1990 : 916).

The two tests used throughout the world today, are the ELISA (enzyme linked immune sorbent assay), and Western Blot Test (Sack, 1988b). Excluding borderline results, the ELISA has a range of sensitivity between 93.4% and 99.6% and a range of specificity between 98.6% and 99.6% (Gostin & Curran, 1987). There is support for these figures with Henbest (1988 : 282) noting the sensitivity to be "very good (98.1% to 100%)" and Sack (1988b : 63) claiming that it is "a very sensitive test, usually greater than 99%". The specificity has also been identified to be high at 98% and Ijsselmuiden (1988b : 461) states it has an "assumed specificity of better than 98%". According to Carne and Kapila (1988), the most widely used test is the competitive ELISA, where the "Anti-HIV in the specimen competes with enzyme conjugated anti-HIV" (Mortimer 1988 : 4494).

Results derived from the test fall into one of four different classification categories (Carne & Kapila, 1988):

* **TRUE POSITIVE**

  This occurs when the HIV antibody test shows the presence of the virus which the person will carry for life.

* **TRUE NEGATIVE**

  The result of the test shows no infection and the person will not contract AIDS.

* **FALSE POSITIVE**

  An individual is shown to be positive when this is in fact not the case.

* **FALSE NEGATIVE**

  The individual has the HIV virus but test results reflect negative findings.

In discussing the ELISA and how it is conducted, both false negatives and false positives may occur. False negatives may arise due to:

* Poorly manufactured testing kits
* Human error by laboratory personnel
* The failure of the body to produce antibodies to the virus
* Testing during the "window period" when infection has taken place but before antibodies have developed (Finnemore 1990 : 36).

Francis and Chin (1987 : 1359) are of the opinion that "except during the 'window period', a negative test result in nearly all cases means that the individual is not infected with HIV". False positives may occur due to:

* The patients have liver disease
* The patients have undergone multiple transfusions
* The patients are pregnant females (Sack, 1988b)
* The extremely sensitive nature of the test (Finnemore, 1990).

Various guidelines are laid down when the ELISA test is administered. "The National Institutes of Health, Consensus Development Conference on HIV screening, recommends sequential testing with at least two ELISA's followed by an independent supplementary test such as the Western Blot" (Gostin & Curran 1987 : 361). "The ELISA is tested one time and if that is positive, it is tested two more times. If two out of three of the ELISA's are positive, the infectivity is usually confirmed by the Western Blot" (Sack 1988b : 63).

The Western Blot is a "confirmatory test" (Ijsselmuiden et al, 1988b) and it is estimated that the "risk of a false positive test using the EIA (ELISA) and Western Blot in sequence is very low even in low risk populations (less than 1 in 250 000 blood donors) (Henbest 1988 : 282)".

Problems encountered with the interpretation of the Western Blot are, inter alia, the subjectivity of interpretation and the great deal of experience required to interpret this test (Sack, 1988b).

Apart from Elisa and Western Blot Tests for determining the presence of HIV antibodies additional methods available include :

* Capture Assays, where "the anti HIV specimen is captured by anti human immunoglobulin onto the solid phase" (Mortimer 1988 : 4494)
* Radio Immune Precipitation Assays (Carne & Kapila, 1988)
* Antiglobulin Assays
* Second Generation ELISA where "molecularly cloned and expressed viral polypeptides are used as the antigen" (Carne & Kapila, 1988).

All these tests can be used to determine whether or not antibodies to the virus are present. Should the resultant test be positive the next step would be to determine how the virus was spread and how the person became infected.

2.2.4 HOW THE VIRUS IS SPREAD

HIV has been found in body fluids such as blood, semen, cervical secretions, lymphocytes, serum, plasma, cerebrospinal fluid, tears, saliva, urine, breast milk and alveolar fluid (Ijsselmuiden et al, 1988a). Epidemiological studies have shown that only blood, semen and vaginal secretions have sufficient levels of the virus for transmission (Francis & Chin, 1987). In HIV positive individuals, the virus has been found in saliva and tears but the quantity of the virus in these fluids is very small (Whiteside, 1990), while the quantity of the virus found in semen is large and closely equals that in the bloodstream. The reason for this difference is "presumably the presence of lymphocytes in these fluids (blood, semen and vaginal secretions) which increases the concentration of infectious virus" (Francis & Chin 1987 : 1358). It is evident, that only after the exchange of infected body fluids between

individuals can transmission of HIV occur (Lombard, 1989). As van der Merwe (1988 : 19) notes "all these methods of transmission require some form of intimate human contact or deliberate interaction ..... it is their behaviour that puts people at risk, not the disease itself".

2.2.4.1 SEXUAL RELATIONS

Sexual contact with an HIV carrier is the common transmission route of the virus. Some forms of sexual contact with an HIV infected individual are potentially more harmful to the uninfected person than are other forms. Sexual intercourse with a condom is not as safe for the uninfected partner, as is sexual intercourse with a condom and spermicide (Shernoff, 1988).

2.2.4.2 INTRAVENOUS DRUG ABUSE

Intravenous drug abuse by the individual and the transmission of the virus, focuses on the sharing of needles and syringes (Getzel & Mahony, 1988). When the needle is contaminated through sharing, the virus will enter the bloodstream directly (Sack, 1988a). First time intravenous drug abusers are at greater risk of infection since it is highly unlikely that they will possess their own equipment (Bradley, 1988).

2.2.4.3 MOTHER TO CHILD

This mode of transmission is termed vertical transmission (Bradley, 1988) and occurs when the virus is spread from infected mothers to their children. According to the World Health Organisation (1987 : 1), "evidence concerning transmission of HIV from infected mothers to their infants, suggests that between 25% and 50% of all offspring will be infected". Such transmission may occur in the following manner:

* **IN UTERO (before birth)**

This is the main form of materno-fetal transmission (Zuckerman, 1986), and seems to occurs when the virus is transmitted to the fetus in the womb by an infected mother, via the placenta (Sack, 1988a).

* **INTRA PARTUM (during birth)**

Here, the child may become infected as it passes through the birth canal and vagina.

* **POST PARTUM (after birth)**

There appears to be some uncertainty as to whether or not breast feeding and hence breast milk, is a possible route of transmission. Most reports on this seem fairly vague with views expressed that "transmission by breast feeding is likely" (Ijsselmuiden et al, 1988a : 456), and that "possibly mothers' milk has been proved to result in HIV infections" (Lombard 1989 : 31).

Zuckerman (1986 : 1094) believes, however, "... there is evidence for transmission in breast milk". This view is partially substantiated by the World Health Organisation (1987 : 1) who note "a substantial number of infants born to infected mothers have been breast fed without their having any incidence of acquiring HIV infection. There are a few reported cases where mothers become infected post partum through blood transfusions, and where their infants in turn become infected, possibly through breast feeding".

2.2.4.4 CONTAMINATED BLOOD PRODUCTS

Unlike the other methods of transmission which have been discussed, infection with contaminated blood products has become rare since blood and blood - related products (plasma and factor VIII) screening programmes were implemented in South Africa and other countries who utilised advanced blood screening technology (Van der Merwe, 1988). Regular

infusions of the clotting factor (Schoub, 1990) place individuals at risk of infection through contaminated blood products as well as haemophiliacs who lack proteins that assist in stopping the blood flow (Mason, Olson & Parish, 1988). It is encouraging to note that in South Africa "although new cases of HIV infection and AIDS still do occur in this population (those people needing blood products) this is fortunately now a dead-end epidemic" (Schoub 1990 : 6).

An understanding of how infection with the HIV virus can be avoided and to assuage unrealistic and irrational fears, can provide clarity to public and private sector organisations where the concern has been expressed.

2.2.5 THE FALLACY SURROUNDING THE TRANSMISSION OF AIDS

Widespread fear of HIV and AIDS still persists largely due to the following reason:

* The presence of the virus is found in many different bodily fluids
* There exists on the part of people a desire " for absolute proof of the absence of risk" (Sack 1988b : 64) in these different bodily fluids.

According to Zuckerman (1986 : 1094) "the virus has been isolated repeatedly from blood, semen and other body fluids, including saliva, tears (and possibly from breast milk), but there is no convincing evidence of infection in adults through any medium other than blood, semen (and perhaps other body fluids heavily contaminated with blood)".

There is no casual transmission of AIDS and Lombard (1989 : 31) has stated, that "in contrast to smallpox, it takes two consenting partners to spread AIDS". Scientific data provides support that HIV is not highly contagious (Getzel & Mahony, 1988) nor very infectious, and is in fact a fragile virus (Batchelor, 1988) making it difficult to transmit from one person to another. It has been determined that "perhaps only one in 10 000 infected T-4 lymphocytes produces a complete virus" (Zuckerman 1986 : 1095) and the survival rate in the body once transmitted is low (Batchelor, 1988).

The risk of contracting the virus from clear body fluids is exceptionally low. According to Sack (1988b : 64) "of the 28 000 cases of AIDS in the USA, reported until 1986, none of the family members without other recognisable risks, become seropositive".

Individuals not involved in intimate sexual contact with HIV positive individuals, but nevertheless fraternizing with them are not at an increased risk of infection (Sack, 1988a).

Instances where individuals are not subjected to AIDS or HIV infection have been highlighted by the World Health Organisation (1987 : 3) who emphasize "there is no evidence to suggest that HIV transmission involves insects, food, water, sneezing, coughing, toilets, urine, swimming pools, sweat, tears, shared eating and drinking utensils or other items such as protective clothing or telephones. There is no evidence to suggest that HIV can be transmitted by casual, person-to-person contact in any setting".

2.2.5.1 SWIMMING POOLS

According to the World Health Organisation, there is no danger of HIV being transmitted via swimming pool water to individuals (Sack, 1988b):

* Although the virus has been isolated in "clear body fluids" (sweat, tears, urine, saliva) (Batchelor 1988 : 856), the quantity of the virus found in these fluids is "extremely small" (Whiteside 1990 : 3) and will pose no danger in a swimming pool.
* The water in the pool will dilute the virus (Sher, 1989)
* The chlorine in the swimming pool water will kill the virus (Batchelor, 1988)

2.2.5.2 INSECTS

The fear that HIV can be transmitted by insects is disputed by Lombard (1989 : 31) who states that, it is "comforting to know that AIDS is not an insect borne disease and mosquitoes cannot be blamed for the spread of AIDS" . Zuckerman (1986 : 1094) adds that "there is substantial evidence against transmission by human ectoparasites such as mosquitoes, bed bugs and other blood sucking arthropods". Research findings have provided reasons for negating the concerns :

* Since there is no evidence for the transmission of hepatitis B, which from a scientific standpoint closely resembles HIV, it follows that there is no transmission of AIDS by mosquitoes (Zuckerman 1986).
* It seems unlikely that the virus is present in the blood meal of mosquitoes, due to the low production of viruses (Zuckerman, 1986).

Infection from fleas and lice and other insects have elicited negative support and reasons put forward include:

* Fleas appear to be an unlikely mode of transmission because they are infrequent feeders and host faithful (Zuckerman, 1986).
* Lice have not been targeted as transmitters of viral diseases, since they have unwettable mouthparts that act as one way valves, and which are cleaned and emptied after use (Zuckerman, 1986).

2.2.5.3 CASUAL CONTACT

Social contact like hugging, shaking hands, or kissing a person on the lips, do not spread AIDS (Sher, 1989). The virus can neither be spread by sharing toilet facilities, telephones, drinking fountains, sitting next to someone on a bus, handling money, or wearing clothes that others have tried on in a department store (Sack, 1988b). Individuals working in an office environment will not be in any danger of contracting HIV (Wing, 1986).

2.2.5.4 EATING AND DRINKING

Eating and drinking in the company of an individual who has been identified as HIV positive will pose no threat. A person cannot become infected by using the same dishes, cups or eating utensils as someone with AIDS (Van der Merwe, 1988). Neither can AIDS be transmitted by a waiter or waitress who has AIDS or by a chef who has prepared the food (Sher, 1989). According to Wing (1986 : 114), it is for these reasons that "the Centre for Disease Control does not recommend prohibiting a person with AIDS from working in food services. There is no evidence that the AIDS virus is transmitted during the preparation of food or beverages".

2.2.5.5 OTHER FORMS OF CONTACT

There is no evidence that the sharing of bed linen can transmit the HIV virus (Van der Merwe, 1988) or that it can be transmitted by sneezing, coughing, breathing or by touching door knobs (Sher, 1989).

The transmission of the virus is unlikely "by routes other than exposure to blood, sex and perinatal transmission" (Sack 1988b : 65). In those instances where a person is at risk of exposure, through accidental means (like a needle-stick injury), adequate protection (in the form of gloves) can mean the difference between life and death.

2.2.6 PROTECTION AGAINST AIDS

Research has provided adequate evidence that sexual contact is the common route for the transmission of the HIV virus. It has become necessary for individuals to either modify their sexual behaviour or consider alternative protective options. Such protective options pertain not only to the sexual transmission of the virus, but also to intravenous drug abuse, blood and blood products and also other forms of transmission such as needlestick injuries.

2.2.6.1 SEXUAL TRANSMISSION

Individuals who are celibate or those involved in a "mutually monogamous seronegative relationship" (Adler 1988 : 4484) are at no risk of contracting the HIV virus. This applies equally to individuals involved in a relationship where both partners have been shown to be seronegative by serological testing (Francis & Chin, 1987). There are individuals who fall outside of these categories and they are at the greatest risk of infection. They do not only endanger themselves, but their partners become involved in the plight for survival (Van der Merwe, 1988). The risk of becoming infected can be reduced in a number of ways;

- A limitation of sexual partners

The likelihood of exposure to the virus statistically decreases with the fewer different partners a person is in contact (Francis & Chin, 1987).

- Knowledge of a partner's past sexual behaviour and drug abuse (Adler, 1988).

Lack of awareness of a partner's history of sexual behaviour and drug use can produce problems that could lead to ultimate devastation. In a recent survey of sexually active college students reported in the New England Journal of Medicine (Sunday Tribune 25.03.-1990), it was found that of the 422 students involved in the research project;

- Over a third of the men (34%) and one tenth of the women told lies when they expressed an interest in having sexual intercourse.
- 32% of the men and 23% of the women were untruthful about being sexually active with more than one person.

- Practice "Protective Sex"

Safe sex practices should "prevent transmission, even if one partner is infected" (Francis & Chin 1987 : 1360). For partners in a relationship to practice safe sex the choice is limited to use of condoms. For condoms to be optimally safe they should be used

consistently and continuously with all partners (Sack, 1988a). It is estimated by the Pro-Life Organisation that the use of condoms offer at best 70% protection against viruses as a contraceptive method (Sunday Tribune 2.12.1990).

2.2.6.2 INTRAVENOUS DRUG ABUSE

A preventative measure for this route of transmission is to refrain from using drugs. This is not always, however, possible for those who are either physiologically or psychologically dependant upon these substances. An alternative to using drugs intravenously, would be either to take drugs orally, to sniff, or smoke them (Adler, 1988). Since preferred substances may not always be obtained in this form drug users should obtain their own personal set of clean equipment. This alternative is not always possible and equipment must be disinfected each time it has been used (Francis & Chin, 1987). Since the AIDS virus is fragile and easily killed by heat, drying, detergent, bleach and alcohol these methods of sterilising drug paraphernalia are recommended (Batchelor, 1988).

2.2.6.3 BLOOD AND BLOOD PRODUCTS

The transmission of HIV by means of blood and blood-related products, such as those used to treat haemophilia, is now declining. Preventative measures which have been adopted include:

* The screening of all blood and blood plasma by means of the ELISA and Western Blot test and the subsequent rejection of those that are HIV positive was instituted in April 1985 in the United States of America (Francis & Chin, 1987).
* Efforts are made in the medical world to prevent high risk individuals from donating blood. The Natal Blood Transfusion Service recently updated its donor questionnaire to include questions such as "Have you had sex with more than one person in the last six months" (Natal Mercury

29.09.1990). Questions are also posed to elicit responses related to intravenous drug abuse and homosexuality. Prospective donors belonging to any of these categories are rejected by the authorities to be blood donors (Natal Mercury 29.09.1990).

* The inactivation of HIV in Factor VIII by heating the plasma (Francis & Chin, 1987). This is heartening news for haemophiliacs who need regular infusions of Factor VIII to enable their blood to clot.

2.2.6.4 OTHER FORMS OF TRANSMISSION

Needlestick Injuries

These injuries represent accidental penetration of the skin by a needle and it is Bradley's (1988 : 38) contention that "most , if not all needle-stick injuries are associated with a lapse of concentration" . These injuries occur mainly on the fingers and hands and can be reduced by paying more attention to techniques, not attempting to re-cap needles and by disposing of used needles immediately in a "safe sharps disposable container" (Adler 1988 : 4484).

Surgical Procedures

In surgical procedures, doctors are encouraged to use gloves, apron, mask and possibly protective glasses (Adler, 1988). The Orthopaedics Registrar of the University of the Witwatersrand recommends that in order to minimise the risk of infection, a doctor should use two pairs of surgical gloves, wrap around spectacles and plastic aprons (D.G. Hean, Personal Communication, March 16, 1991).

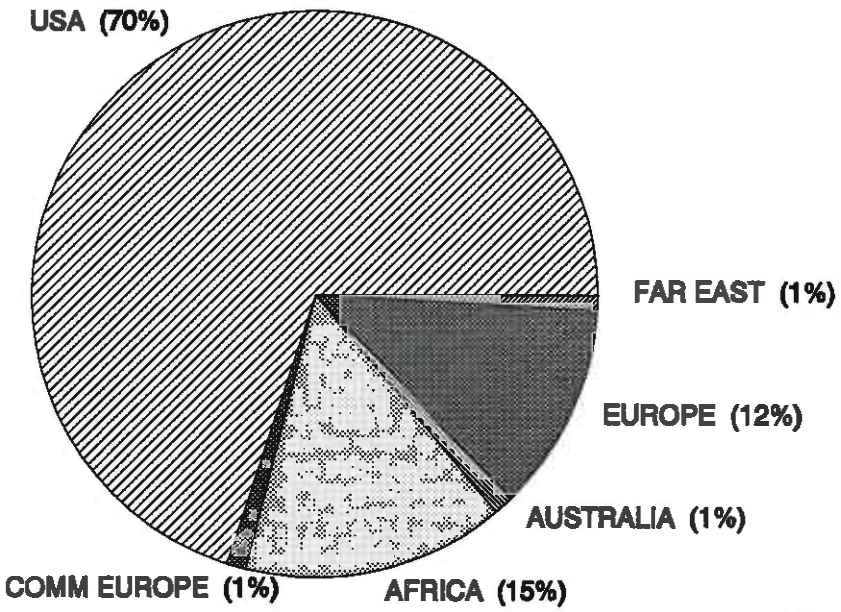
Although knowledge of the transmission modes of the virus contributes toward increasing awareness and curbing panic, different patterns of transmission have been identified throughout the world. As a basis for understanding the patterns which exist in

South Africa and Natal / Kwazulu they will be discussed from an international and African perspective.

2.3 AN INTERNATIONAL PERSPECTIVE ON AIDS

AIDS can be regarded as an international disease where 80% of the 177 member countries of the World Health Organisation reported the presence of disease (Lombard, 1989). Seventy percent of the cases occur in the United States of America (Figure 2.1) represented by homosexuals and intravenous drug abusers (92%) with haemophiliacs, recipients of blood and blood-related products and heterosexual contacts comprising the remaining 8% (Ijssel-muiden et al, 1988a). The remaining 30% of worldwide cases, are found in Australia, Eastern Europe and the Far East (each 1%), with Africa and Europe comprising 15% and 12% respectively (Figure 2.1).

FIGURE 2.1 THE WORLDWIDE SPREAD OF AIDS



Source : Lombard, J. 1989. AIDS update. Community Health, p. 31.

TABLE 2.1 THE SPREAD OF AIDS AND HIV INTERNATIONALLY

PATTERN	HIV CARRIERS	COUNTRIES
ONE	Homosexuals Intravenous drug abusers	Australia, Western Europe, Central and South America, White South Africans (Sher, 1989)
THREE	Prostitutes Intravenous drug abusers	China, Russia, Asia, North America (Sher, 1989)

Source : Sher, R. 1989. AIDS in the workplace. Safety Management, p. 43.

The HIV carriers in the two identified patterns are different. Homosexuals and intravenous drug abusers are found in pattern one while prostitutes and drug abusers account for HIV carriers in pattern three (Table 2.1).

It has been clinically proved that the features and symptoms of AIDS identified in the United States of America and Europe, differ from those found in Africa (Ijsselmuiden et al, 1988a). Whereas infected patients in Europe and the United States of America are characterised by opportunistic infections such as kaposi's sarcoma, pneumocystis carinii pneumonia, and non-hodgkin - lymphoma (Henbest, 1988), patients in Africa tend to contract opportunistic infections which reflect the infections prevalent in the immediate community (Ijsselmuiden et al, 1988a).

2.4 AIDS IN AFRICA

In Africa two distinctly different patterns of HIV transmission exist, pattern two and pattern four (Sher, 1989);

Pattern Two

Identified in Central, West, Eastern and Southern Africa (and among the Black population of South Africa); this pattern identified HIV transmission as a heterosexual disease (Sher, 1989). Indicative of this is the 1 : 1 ratio of AIDS cases amongst males and females (Adler, 1988).

Pattern Four

This pattern occurs mainly in West Africa and the islands off the West Coast of Africa (Sher, 1989), where the second virus HIV II has been identified (Whiteside, 1990). Compared to HIV I the virus in the second strain has a longer incubatory period, it is more difficult to detect and is heterosexually transmitted (Whiteside, 1990).

A comparison of the incidence of the disease can be drawn between the urbanized groups and prostitutes in Africa and the homosexuals in San Francisco (Ijsselmuiden et al, 1988a).

Identified and confirmed cases of AIDS have been reported from various countries in Southern Africa, ranging from Zimbabwe and Lesotho to Angola and Swaziland. Due to the under-reporting of identified AIDS cases in Africa it has not been possible to construct a reliable register. Nevertheless during 1990, 50% of reported AIDS cases were found in Malawi and 43% in Zambia and Zimbabwe (Table 2.2).

Table 2.2

AIDS CASES REPORTED IN AFRICA (01.08.1990)

COUNTRY	79-87 CASES	1988 CASES	(a) 1989 CASES	* 1990 CASES	* LAST REPORT	* CUM CASES
ANGOLA	41	63	0	0	31.12.88	104
BOTSWANA	36	22	29	0	17.01.90	87
LESOTHO	2	3	6	0	27.04.90	11
MALAWI	1 002	3 034	3 124	0	08.01.90	7 160
MOZAMBIQUE	4	23	37	49	23.06.90	# 113
NAMIBIA	19	43	127	43	31.03.90	# 232
SOUTH AFRICA	106	94	159	103	21.06.90	# 463
SWAZILAND	7	7	0	0	16.06.88	14
ZAMBIA	709	980	1 173	193	07.05.90	#3 000
ZIMBABWE	119	202	1 311	1 502	15.07.90	#3 134

NOTES:- * : Indicate WHO case report up to 1 August 1990.
(a) : 1989 Reporting generally incomplete
: Update Reports

Source : Whiteside, A. & van Niftrik, J. 1990. AIDS Analysis Africa, vol. 1, no. 3, p. 10.

In Southern Africa "the predominant picture of AIDS is that of a diarrhoeal wasting syndromes", also known as "slims disease" (Henbest 1988 : 283). Further clinical features observed include cryptococal meningitis, toxoplasmosis, oral conditions and an aggressive dispersed form of kaposi's sarcoma (Ijsselmuiden et al, 1988a).

When considering the different clinical manifestations it is reasonable to conclude that AIDS in Africa and in South Africa is identical. Although the end result is the same, the clinical manifestations and the scenario of AIDS in South Africa is far more complex than those of AIDS in Africa, and for that matter internationally as well. This could be due to the vast cultural and ethnic differences in the South African population.

2.5 AIDS IN SOUTH AFRICA

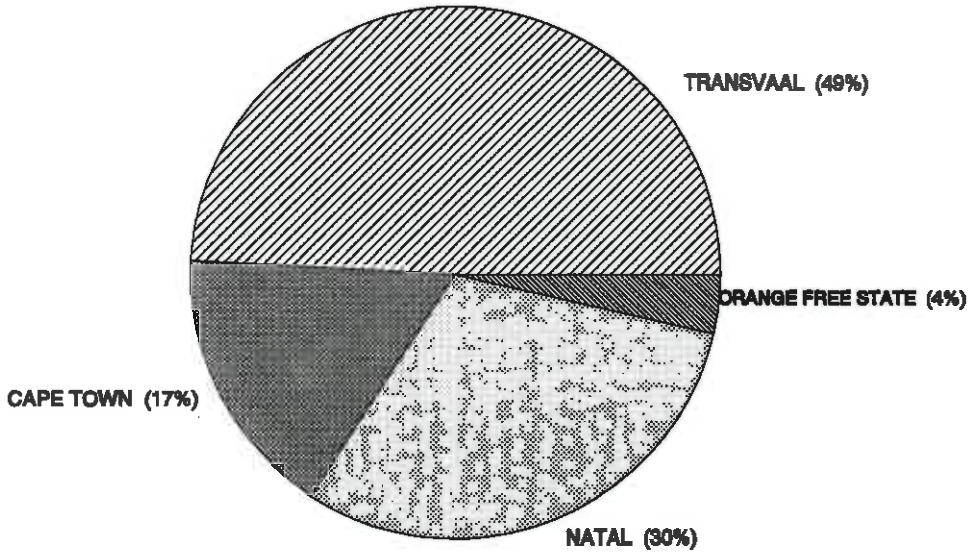
Since AIDS was identified in South Africa in 1982, new patterns and trends of distribution and transmission have emerged.

2.5.1 THE GEOGRAPHIC DISTRIBUTION OF AIDS

Two cases of AIDS were first diagnosed in Pretoria in 1982 (Ijsselmuiden et al, 1988a). During the period 1982 to May 1991, there is proof that AIDS has spread to all corners of South Africa. AIDS cases have been diagnosed as far a field as Noupo in the Orange Free State, Paulpietersburg in Natal, Bushbuckridge in the Transvaal, and Paarl in the Cape Province (Department of National Health and Population Development, 1991).

As Figure 2.2 illustrates, the majority of AIDS cases are reported in the Transvaal (49%), with 30% of the cases being reported in Natal. The Cape Province represents 17% of the total and the Orange Free State 4%.

FIGURE 2.2 GEOGRAPHIC DISTRIBUTION OF AIDS IN SOUTH AFRICA



Source : Department of National Health and Population Development (1991).

2.5.2 THE DISTRIBUTION OF AIDS ACCORDING TO ETHNIC GROUP

In 1982 it was thought that AIDS was associated only with White homosexual men. This assertion gave rise to the belief that pattern one or the "Western Type" (Lombard, 1989) of transmission, which comprises about 70% homosexuals (Sher, 1989), had established itself in South Africa.

In the period 1982 it was found the mode of transmission of the disease was represented by 74,5% of White AIDS cases in the homosexual/bisexual category (Table 2.3).

Table 2.3

TRANSMISSION CATEGORY BY YEAR OF DIAGNOSIS FOR SELECTED GROUPS.							
	Homo/ Bisex	Hetero Sex	Haemo- Philiac	Trans- fusion	IVDU	Paed- iatric	TOTAL
BLACKS							
1982 - 86	0	0	0	0	0	0	0
1987	0	6	0	0	0	0	6
1988	1	14	1	1	0	3	20
TOTAL	1	20	1	1	0	3	26
WHITES							
1982-86	40	1	2	2	0	0	45
1987	26	1	3	1	0	0	31
1988	57	1	2	3	0	0	63
TOTAL	123	3	7	6	0	0	139
GRAND TOTAL	124	23	8	7	0	3	165

Source : Department of National Health and Population Development (1991).

2.5.2.1 AIDS IN THE BLACK POPULATION

There is a very low prevalence of homosexuality within the Black population of South Africa (Mokhobo, 1988) and the major route of HIV transmission in this community is heterosexual (Sher, 1989). The reported AIDS cases (69.3%) within the Black community occur through heterosexual transmission (Table 2.4). Further support that AIDS in the Black community is heterosexually transmitted, is the occurrence of reported (28%) paediatric AIDS cases. A total of 349 AIDS cases (97.5%) in the Black community were transmitted by the heterosexual and paediatric modes of transmission.

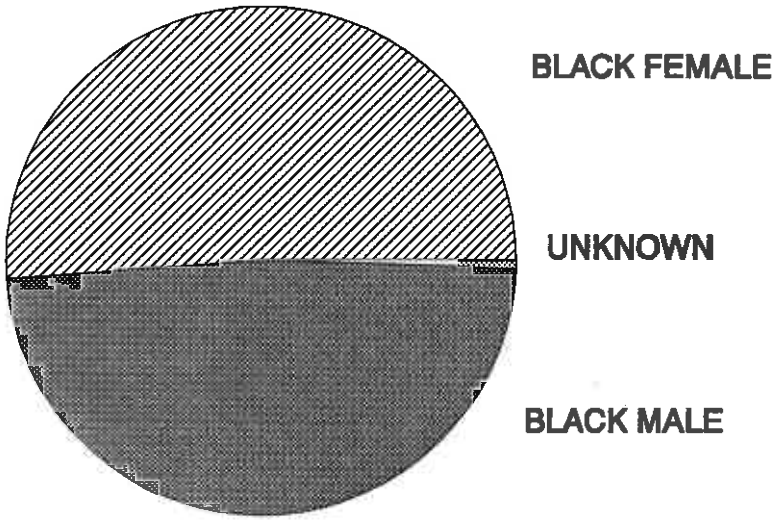
Table 2.4

TRANSMISSION CATEGORY BY YEAR OF DIAGNOSIS FOR SELECTED GROUPS							
	Homo/ Bisex	Hetero Sex	Haemo- Philiac	Trans- fusion	IVDU	Paed- iatric	TOTAL
BLACKS							
1982 - 86	0	0	0	0	0	0	0
1987	0	6	0	0	0	0	6
1988	1	14	1	1	0	3	20
1989	1	49	1	3	0	14	68
1990	0	142	1	0	0	67	210
1991	0	37	0	0	0	17	54
GRAND TOTAL	2	248	3	4	0	101	358

Source : Department of National Health and Population Development (1991).

Of the 248 reported heterosexual AIDS cases within the Black community from 1982 to May 1991, 120 have been male and 127 female. The reported heterosexual AIDS cases within the Black community are represented by 48.4% males and 51.2% females (Figure 2.3).

FIGURE 2.3 BLACK HETROSEXUAL TRANSMISSION OF AIDS BY GENDER



Source : Department of National Health and Population Development (1991).

2.5.2.2 AIDS IN THE COLOURED AND ASIAN POPULATION

The number of AIDS cases reported for Coloureds and Asians in South Africa is relatively small; Asians 0.7% and Coloureds 3.05%. In the combined Asian - Coloured population 27 AIDS cases were reported between 1982 and May 1991 (Table 2.5).

During the ten year history of the disease in South Africa (1982 to May 1991), there have been 5 reported Asian AIDS cases and 22 from the Coloured population. In the Asian group 4 cases have involved homosexual/bisexual men, and one has been a heterosexual man. In the Coloured population, 17 of the cases have been males and 5 have been females (Table 2.5).

TABLE 2.5

TRANSMISSION CATEGORIES FOR COLOUREDS AND ASIANS BY GENDER							
	Homo/ Bisex	Hetero Sex	Haemo- Philiac	Trans- fusion	IVDU	Paed- iatric	TOTAL
ASIAN							
Male	4	1	0	0	0	0	5
Female	0	0	0	0	0	0	0
COLOURED							
Male	13	2	1	1	0	0	17
Female	0	4	0	1	0	0	5
GRAND TOTAL	17	7	1	2	0	0	27

Source : Department of National Health and Population Development (1991).

2.5.2.3 AIDS IN THE WHITE POPULATION

The belief that AIDS would prove to be only a White homosexual/bisexual disease has been refuted by the recorded incidences of the disease in other population groups. Within the White population group of South Africa AIDS has remained very much a homosexual/bisexual disease. Homosexual / bisexual transmission accounts for 87,5% of the reported cases with the remaining 12,5% being divided between the heterosexual (4,5%), haemophiliac (3.6%), blood transfusion patients (4.2%) and intravenous drug users (0,2%). During the period 1982 to May 1991, no cases of paediatric AIDS amongst Whites were reported (Table 2.6).

TABLE 2.6

TRANSMISSION CATEGORY BY YEAR OF DIAGNOSIS FOR WHITES							
	Homo/ Bisex	Hetero Sex	Haemo- Philiac	Trans- fusion	IVDU	Paed- iatric	TOTAL
WHITES							
1982 - 86	40	1	2	2	0	0	45
1987	26	1	3	1	0	0	31
1988	57	1	2	3	0	0	63
1989	84	5	2	5	1	0	97
1990	68	6	3	2	0	0	79
1991 (May)	20	1	0	1	0	0	22
GRAND TOTAL	295	15	12	14	1	0	337

Source : Department of National Health and Population Development (1991).

Although the distribution of AIDS amongst Whites does not entirely conform with pattern two, statistics show that it does relate since homosexuals / bisexuals represent the majority of AIDS cases (Table 2.6).

2.5.3 AN OVERVIEW OF THE DATA

The total number of reported female AIDS cases in South Africa are represented by 25,5%. Black females account for 23,6% of the total number of reported AIDS cases, followed by White females (1.1%) and Coloured females (0.7%). The remaining 74.1% of the total comprises mostly White males (45.4%) and Black males (26%) with a minority of Coloured (2.4%) and Asians (0.7%) (Table 2.7).

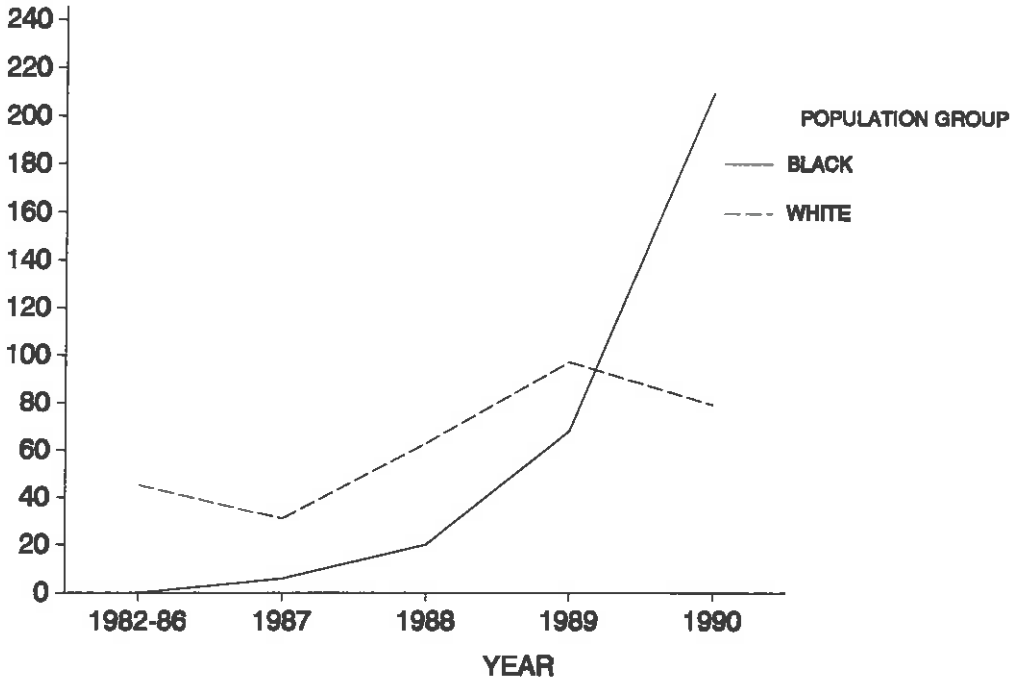
Table 2.7

THE DISTRIBUTION OF AIDS BY GENDER AND RACE	
ASIAN	
MALE	5
FEMALE	0
BLACK	
MALE	185
FEMALE	171
UNKNOWN	2
COLOURED	
MALE	17
FEMALE	5
WHITE	
MALE	328
FEMALE	8
UNKNOWN	1
TOTAL	**722**

Source : Department of National Health and Population Development (1991).

In observing the growth of AIDS in South Africa among all population groups, the White sector accounted for over 70% of the reported AIDS cases until 1988. While there was a large increase in the number of White cases from 63 in 1988 to 397 in 1989, there was a decrease to 79 in 1990. In contrast to this, the number of Black AIDS cases has continued to grow each year (Figure 2.4). The number of reported Black AIDS cases has increased sharply from 20 in 1988, to 68 in 1989, and 210 in 1990.

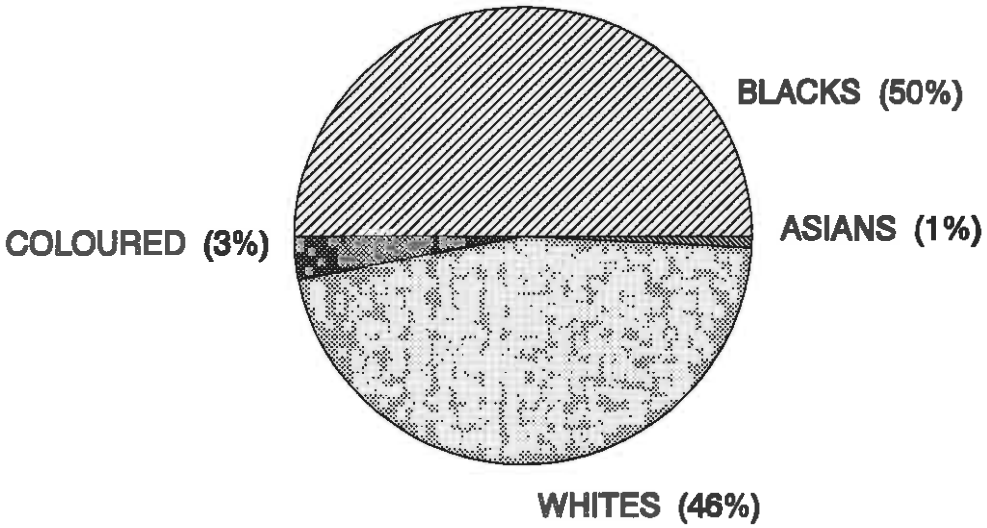
FIGURE 2.4 INCREASE IN REPORTED AIDS CASES IN BLACK AND WHITE POPULATION



Source : Department of National Health and Population Development (1991).

As a result of this continual annual increase in the number of reported cases amongst the Black population and the 1990 decrease in reported White cases there has been a reversal in trends. The situation has now developed where the Black population in South Africa has reported the highest number of AIDS cases from 1982 to May 1991 (Figure 2.5). Whites follow closely with 46% of the reported cases, with Coloureds comprising 3.05% and Asians 0.7%.

FIGURE 2.5 THE DISTRIBUTION OF AIDS BY ETHNIC GROUP



Source : Department of National Health and Population Development (1991).

While Horning (1990 : 46) is of the opinion that "it is now accepted that South Africa has passed from ... pattern one (predominantly homosexual / bisexual men and intravenous drug users), to pattern two (affects both sexes but is mainly heterosexually transmitted)" , available statistics do not support this assertion. Statistics do show that both pattern one and pattern two are thriving in South Africa, however, in different population groups.

* Pattern One is evident in the White population where homosexuality / bisexuality is responsible for 87% of the reported AIDS cases.
* Pattern One is also prevalent in the Asian community where homosexuality / bisexuality accounts for 80% of the reported AIDS cases.
* Due to the high prevalence of homosexual AIDS cases in the Coloured community (59,1%), pattern one can also be detected here.
* In the Black population where transmission is mainly heterosexual in nature and accounts for 69,3% of reported AIDS cases, there is proof that pattern two is prevalent.

2.6 AIDS IN NATAL / KWAZULU

The same trends which are experienced throughout South Africa can be expected to occur in the Natal / Kwazulu region. In the Durban, Pietermaritzburg and Kwazulu areas over 80% of the reported AIDS cases in the province have been recorded; 103 cases in Durban, 22 in Pietermaritzburg and 53 in Kwazulu (Table 2.8).

TABLE 2.8

THE DISTRIBUTION OF REPORTED AIDS CASES IN NATAL / KWAZULU (as on 06.05.1991)

AREA	NO OF CASES	NO OF DEATHS
DURBAN	103	21
EDENDALE	3	2
EMPANGENI	11	2
ESHOWE	15	0
ESTCOURT	2	0
KOKSTAD	1	0
KWAZULU	53	0
LADYSMITH	3	1
NATAL	1	1
NEWCASTLE	1	1
NORTHERN NATAL	2	0
PAULPIETERSBURG	1	0
PIETERMARITZBURG	22	1
PORT SHEPSTONE	1	0
STANDER	1	1
TOTAL	**220**	**30**

Source : Department of National Health and Population Development (1991).

Although figures concerning the breakdown of AIDS by mode of transmission are not available, some interesting trends concerning the numbers of HIV positive people in Natal / Kwazulu, do emerge from Table 2.9.

* Of the 4192 HIV positive cases reported in Natal / Kwazulu, 90% have occurred in the Black population. Excluding HIV figures released by the Blood Bank which do not indicate the sex of the donor, data in Table 2.9 lend credence to the view that HIV and AIDS are transmitted heterosexually in the Black population of South

Africa as 53.7% of the HIV positive cases in Natal / Kwazulu are females and 46,3% are males.

* In the White population of Natal / Kwazulu (excluding Blood Bank figures) 91% of HIV positive cases are found in the male population. This finding would suggest that within Natal / Kwazulu, as in the rest of South Africa, HIV transmission and AIDS will occur mainly among homosexual / bisexual men.
* On a nationwide basis 22% of infected Coloureds were females. However, in Natal / Kwazulu where Coloureds account for 0,8% of the HIV cases, females represent 82,6%.
* Amongst the Asian community in Natal / Kwazulu 69.6% of HIV positive cases were males.

TABLE 2.9

HIV POSITIVE FIGURES FOR NATAL / KWAZULU (14.05.1991)				
POPULATION	**MALE**	**FEMALE**	**BLOOD BANK**	**TOTAL**
BLACK	1 366	1 585	826	3 777
WHITE	111	10	25	146
ASIAN	16	7	15	38
COLOURED	4	19	11	34
UNKNOWN	0	0	0	197
TOTAL	**1 497**	**1 621**	**877**	**4 192**

Source : Department of National Health and Population Development (1991).

2.7 CONCLUSION

The medical and biological perspectives of AIDS as well as the transmission and protection from contracting the virus, provides a detailed background to the different constituencies in society. The international picture together with an African perspective prepares the industrial sector for the onslaught that could be devastating. An appreciation of

AIDS in South Africa and in particular within the Natal / Kwazulu region place the emphasis on the ever increasing incidence of the disease. Insofar as AIDS and HIV within South Africa and Natal / Kwazulu is concerned, the following trends have emerged:

* HIV and AIDS in the White population is mainly homosexually / bisexually transmitted with 91,7% of HIV positive cases in the White male sector of the Natal / Kwazulu region.
* Within the Black population the transmission of HIV is heterosexual (excluding Blood Bank) and 46,3% are male HIV positive and 53,7% females.
* The increase in reported AIDS cases in South Africa suggests in the Black population the incidence of AIDS and HIV will be more frequent than in the other population groups.
* HIV positive and AIDS cases will be more prominent among the Blacks (90,1%) of Natal / Kwazulu than among the Whites, Coloureds and Asians.

The contribution a labour force makes towards the realization of a prosperous economy is determined by stability and the preservation of acquired skills. A force disturbing the equilibrium of an established and growing labour component could have far- reaching effects on the projected output. In the Natal / Kwazulu area domestic labour supply provides local industry with the necessary skills and technology to meet increasing demands. If the incidence of HIV and AIDS increases amongst the local population the consequences could be devastating for both this area and South Africa as a whole.

CHAPTER 3

THE EFFECT OF AIDS ON NATAL/KWAZULU

3.1 INTRODUCTION

The extent to which HIV could have an effect on the Natal / Kwazulu area and in particular its labour force, makes it necessary to highlight the relationship between the quantity, quality and the labour supply of the region.

In the economically active population it is estimated that 65% of the HIV positive cases will be amongst workers who are between 20 and 59 years of age.

A projection of current HIV positive figures to the year 2000 and an evaluation of the effect on various employment sectors of the economy will place the problems of Natal / Kwazulu in perspective.

3.2 THE LABOUR MARKET

A labour market can be defined as a "flexible analytical tool that can be used to study the allocation of labour services in countries, regions, industries and occupations" (Brijlal 1990:1).

It is deemed necessary to place an identified region in a wider context to explain conditions which affect the labour market. The labour market is a "distinct geographic area ... within which a particular group of employers and wage earners buy and sell services" (Bloom & Northrup 1981 : 267).

The distinct geographic area, is the Natal / Kwazulu region of South Africa comprising of Durban - Pinetown and Pietermaritzburg metropolitan areas. Within this area is the sub-region of Durban, Inanda and Pinetown, where the census districts of Embumbulu, Empumlanga, Ntuzuma and Umlazi in Kwazulu are included.

The Natal / Kwazulu region occupies about 7% of the total land area of South Africa (including Transkei, Venda, Bophutswana and the Ciskei), and contains approximately 20%

of the country's total population (Spies, 1986). In terms of the 1985 population census this 20% represents 5 892 100 people (Central Statistical Services, 1985a), and the projected figure for 1990 is 7 715 000 (Grobbelaar, 1985).

3.3 THE LABOUR FORCE

The labour force is not a fixed entity but fluctuates, inter alia, with the influence of economic, demographic, social and cultural forces (Bloom & Northrup, 1981). According to Sadie, (1980 : 287) "the labour force includes both the civilian and armed forces, and consists of all members of the population who are either employed and thus participating or unemployed and thus available to participate in generating the national product". In South Africa males between the ages of 15 and 65 years and females between 15 and 60 years who are either working or seeking employment, are part of the labour force (Brijlal, 1990).

The labour force, consists of both the employed and unemployed:

* **Employed**

  According to Samuelson and Nordhaus (1985 : 209),"employed people are people who perform any paid work, as well as those with jobs, but absent from work because of illness, strikes or vacations".

* **Unemployed**

  The definition of an unemployed person has been broadened to include:

  - People who are waiting to report for work
  - Individuals who have made a definite effort to find work during the last month
  - Individuals who have been temporarily discharged and are waiting to be recalled (Samuelson & Nordhaus, 1985).

3.4 THE LABOUR SUPPLY

Both qualitative and quantitative aspects affect the labour supply which is in turn influenced by changes in the short and long term supply.

* **The "Short run" supply**

Possible changes in the supply of labour over a restricted period of time, can be attributed to the "short run" labour supply. Determinants of this supply include:

- The effort workers are prepared to deliver
- The hours worked
- The number of people in the labour force.

* **The "Long run" supply**

In the "long run" the supply of labour can be affected by a decrease or increase in the size of the population (Bloom & Northrup, 1981). Variables responsible for this, include:

- Migration
- Fluctuations in the size and age composition of the labour force
- The numbers of eligible people of the different racial groups that are either seeking work or working (Kaufman, 1991).

According to Brijlal (1990 : 4), it is this "long run labour supply schedule which indicates the quantity and quality of labour workers will offer in the (labour) market under varying economic conditions".

The Quantity of the Labour Supply

The quantity of labour supplied to a region depends on the size, composition and participation rates of the population in that region.

The Quality of the Labour Supply

Educational and skill levels of the labour force will be discussed because they affect the quality of the labour supply.

By placing the quality and quantity of labour in the Natal / Kwazulu region in perspective, it is possible to show the potentially negative effects HIV and AIDS will have on the work arena as a whole.

3.5 THE QUANTITY OF THE LABOUR SUPPLY

The quantity of labour supplied to a region as well as changes can be measured in terms of the size and composition of the population, its labour potential and the size of its economically active population.

3.5.1 THE SIZE AND COMPOSITION OF THE NATAL/KWAZULU POPULATION

A steady growth pattern continued amongst the White population from 1904 to 1960.

TABLE 3.1

THE COMPOSITION OF THE POPULATION OF NATAL / KWAZULU :1904 - 1985 ('000s)

YEAR	WHITES		COLOUREDS		ASIANS		BLACKS	
	N	*	N	*	N	*	N	*
1904	97.1	8.8	6.7	0.6	100.9	9.1	904.0	81.5
1911	98.1	8.2	9.1	0.8	133.4	11.2	953.4	79.8
1921	136.9	9.6	11.1	0.8	141.6	9.9	1139.8	79.7
1936	190.5	9.8	18.6	1.0	183.7	9.4	1553.6	79.8
1946	236.7	10.7	24.9	1.1	232.3	10.6	1708.5	77.6
1951	279.4	11.3	35.5	1.4	299.4	12.2	1836.1	74.9
1960	344.9	11.4	49.4	1.5	394.9	13.0	2240.4	74.0
1970	448.5	10.2	74.3	1.7	527.5	12.1	3326.6	76.0
1980	528.1	10.3	86.9	1.7	607.1	11.8	3909.2	76.2
1985	562.1	9.4	99.2	1.7	662.9	11.3	4567.9	77.5

* Percentage of total population

Source: Bureau of Statistics (1960)
Central Statistical Services (1985a)

However there has been a decline to 10,3% (1980) and 9,4% (1985) (Table 3.2). Grobbelaar (1985) estimates that this declining trend for Whites will continue with 8,17% in 1990 and 4,6% by 2035.

TABLE 3.2

ESTIMATED POPULATION OF NATAL / KWAZULU FOR THE PERIOD : 1990 - 2035 ('000s)								
YEAR	WHITES		COLOUREDS		ASIANS		BLACKS	
		*		*		*		*
1990	631	8.17	111	1.43	798	10.34	61751	80.03
2000	692	7.22	128	1.33	906	9.45	17858	81.99
2010	748	6.4	138	1.18	987	8.50	19726	83.85
2020	779	5.6	149	1.07	1060	7.62	111915	85.70
2030	798	4.9	163	1.01	1122	6.96	114020	87.06
2035	804	4.6	168	0.97	1142	6.64	215081	87.70

* Percentage of total population

Source: **Brijlal, P. 1990.** **An Analysis of the Aggregate Supply of Labour in the Durban - Pietermaritzburg Region, p 240.**

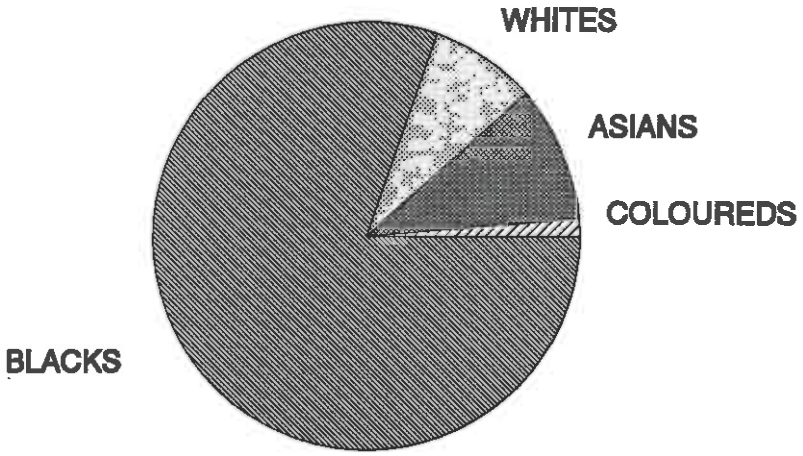
In the Coloured population an upward trend is evident between the periods of 1904 (0.6%) to 1985 (1.7%). Grobbelaar (1985) contends that the 1985 figure is a peak which will decline to 1.43% in 1990 and further to 0.97% in 2035.

The Asian population increased to 13% in 1960, however, a reduction to 11,3% in 1985 and even further to 10.34% in 1990 and 6.64% in 2035 is expected.

In contrast to the trends which have emerged in the White, Coloured and Asian groups, the Blacks decreased from 81.5% of the total Natal / Kwazulu population in 1904 to 74% in 1960. Since 1970 (76%) it has steadily increased to 77.5% in 1985 and Grobbelaar (1985) estimates in 1990 the Black population in Natal / Kwazulu will increase to 80.03% reaching 87% in 2035.

Based on Grobbelaar's (1985) 1990 estimates for the Natal / Kwazulu region the total population of the region is comprised of 8.17% Whites, 1.43% Coloureds, 10.34% Asians and 80.03% Blacks (Figure 3.1).

FIGURE 3.1 BREAKDOWN OF NATAL / KWAZULU POPULATION ACCORDING TO RACIAL GROUPS



Source: **Adapted from, Grobbelaar, J. 1985. The Population of Natal / Kwazulu 1904 - 2010, p.6.**

Amongst the Whites, Coloureds and Asians in 1985, 51% on average were represented by females, while 54% of the Black population were males (Table 3.3)

Table 3.3

POPULATION OF NATAL / KWAZULU BY SEX AND POPULATION GROUP ('000's)

YEAR		WHITES	COLOUREDS	ASIANS	BLACKS	TOTAL
1951	M	138.9	17.3	153.4	891.0	1200.6
	F	140.4	18.2	146.0	945.1	1249.7
	Total	279.3	35.5	299.4	1836.1	2450.3
1960	M	166.3	21.8	199.4	1055.0	1442.5
	F	171.0	23.4	195.9	1142.6	1532.9
	Total	337.3	45.2	395.3	2197.6	2975.4
1970	M	218.9	34.2	262.3	1535.4	2050.8
	F	214.4	25.7	265.2	1739.8	2255.1
	Total	433.3	69.9	527.5	3275.2	4305.9
1980	M	280.8	44.2	332.6	2316.3	2973.9
	F	295.5	27.9	336.8	2506.4	3186.6
	Total	576.3	92.1	669.4	4822.7	6160.5
1985	M	276.1	47.6	326.3	2109.9	2759.9
	F	286.0	51.6	336.6	2458.0	3132.2
	Total	562.1	99.2	662.9	4567.9	5892.1

Source: **Bureau of Census and Statistics (1951)**
Department of Statistics (1960a), (1970) and (1980a)
Central Statistical Services (1985b)

3.5.2 THE POPULATION OF NATAL / KWAZULU BY AGE GROUP

The size and composition of the population provides an insight into the labour potential of a particular region. In South Africa the legal age for working is 15 - 65 years for males and 15 - 60 years for females (Brijlal, 1990).

During the period 1960 to 1985 there was a decline amongst the Whites in the age group up to 19 years, while an increase was reflected for the 20 - 64 year olds.

3.5.2.2 The Coloured Population Group

Trends for the Coloureds suggest they are an ageing group.

3.5.2.3 The Asian Population Group

In the Asians group, there has been a decline in the under 5 year old group from 16.6% in 1960 to 10.6% in 1985 (Table 3.4). The increase in the 25 to 54 year old group from 27.1% in 1960 to 37.5% in 1985 represent an ageing population.

3.5.2.4 The Black Population Group

The Black population has a young demographic profile with over 50% being under 20 years of age, and over 60% under the age of 25 (Table 3.4).

TABLE 3.4

POPULATION OF NATAL / KWAZULU
BY AGE, SEX AND POPULATION GROUP (1000's)

	-4	5-14	15-19	20-24	25-54	55-64	65+	TOTAL
WHITE								
1960 M	17.9	33.6	13.1	11.9	64.5	12.1	12.1	
F	17.1	32.0	12.8	11.6	64.8	17.1	17.1	
Total	35.0	65.6	25.9	23.5	129.3	29.2	29.2	
1970 M	27.0	38.8	18.4	18.3	81.4	15.0	15.0	
F	16.5	46.3	18.8	18.3	80.0	22.1	22.1	
Total	43.5	85.1	37.2	36.6	161.4	37.1	37.1	
1980 M	23.4	53.9	22.8	22.7	111.3	23.0	23.0	
F	24.1	53.0	23.9	22.8	110.6	34.8	34.8	
Total	47.5	106.9	46.7	45.5	221.9	57.8	57.8	
1985 M	22.7	49.0	23.5	22.1	111.1	24.0	24.0	
F	21.6	46.5	23.1	22.1	110.9	35.1	35.1	
Total	44.3	95.5	46.6	44.2	222.0	59.1	59.1	
COLOUREDS	3.8	6.4	2.0	1.9	6.4	0.8	0.4	21.8
1960 M	4.0	6.3	2.2	2.1	7.2	0.9	0.7	23.4
F	7.8	12.7	4.2	4.0	13.6	1.7	1.1	45.2
Total	5.7	10.0	3.9	3.0	9.8	1.0	0.8	34.2
1970 M	5.7	9.9	3.9	3.2	10.6	1.5	1.0	35.7
F	11.4	19.9	7.8	6.2	20.4	2.5	1.8	69.9
Total	6.0	12.3	5.5	4.3	13.6	1.6	1.0	44.2
1980 M	5.5	12.6	5.7	4.4	16.3	1.9	1.6	47.9
F	11.5	24.9	11.2	8.7	29.9	3.5	2.6	92.1
Total	5.6	12.6	5.9	4.7	15.8	1.9	1.1	47.6
1985 M	5.5	12.3	5.9	5.0	18.2	2.6	2.2	51.6
F	11.1	24.9	11.8	9.7	34.0	4.5	3.3	99.2
Total								
ASIANS								
1960 M	31.5	57.7	23.0	18.4	58.5	6.3	4.1	199.4
F	30.8	58.0	23.7	19.3	56.4	5.2	2.4	195.9
Total	62.3	115.7	46.7	37.7	114.9	11.5	6.5	395.3
1970 M	38.7	69.9			81.3	9.8	4.0	
F	39.7	73.3	29.7	26.2	81.1	8.7	5.0	262.3
Total	78.4	143.2	31.7	28.3	162.4	18.5	9.0	265.2
			61.4	54.5				527.5
1980 M	42.3	84.4			116.6	13.8	7.7	
F	41.4	84.0	35.9		121.1	14.1	7.6	332.6
Total	83.7	168.4	36.2	32.0	237.7	27.9	15.3	336.8
			72.1	32.3				669.4
1985 M	35.7	78.3		64.3	120.1	14.7	8.5	
F	34.4	77.2	36.7		128.4	16.1	9.3	326.6
Total	70.1	155.5	37.2	32.3	248.5	30.8	17.8	336.6
			73.9	34.1				662.9
				66.4				

TABLE 3.4 (CONTINUED)

POPULATION OF NATAL / KWAZULU BY AGE, SEX AND POPULATION GROUP (1000's)								
	-4	5-14	15-19	20-24	25-54	55-64	65+	TOTAL
BLACKS								
1960 M	167.1	301.7	107.9	79.3	308.4	45.2	35.3	1055.0
F	173.0	294.8	112.1	101.8	372.2	52.0	46.7	1142.6
Total	340.1	596.5	220.0	181.1	680.6	97.2	82.0	2197.6
1970 M	264.3	455.6	165.7	114.3	417.2	57.4	50.6	1535.4
F	269.8	487.9	182.6	150.3	520.8	72.3	55.4	1739.8
Total	534.1	934.5	348.3	264.6	938.0	129.7	106.0	3275.2
1980 M	439.6	644.9	267.8	217.7	606.8	83.1	66.4	2316.3
F	431.6	648.3	270.8	227.1	699.9	113.5	105.3	2506.4
Total	871.2	1293.2	538.6	444.8	1306.7	196.6	171.7	4822.7
1985 M	321.8	629.4	244.3	186.4	574.2	77.8	75.3	2109.9
F	322.0	635.7	227.3	256.1	722.5	122.1	122.8	2458.0
Total	643.8	1265.1	521.6	442.5	1296.7	199.9	198.1	4567.9
TOTAL								
1960 M	220.3	399.4	146.0	111.5	437.8	65.6	51.9	1442.5
F	224.9	391.1	150.8	134.8	500.6	73.5	66.9	1532.9
Total	445.2	790.5	296.8	246.3	938.4	139.1	118.8	2975.4
1970 M	335.7	565.3	217.7	161.8	589.7	88.2	70.4	2050.8
F	331.7	617.4	237.0	200.1	692.5	104.8	83.5	2255.1
Total	667.4	1182.7	543.9	361.9	1282.2	193.0	153.9	4305.9
1980 M	511.3	795.5	332.0	267.7	848.3	122.0	98.1	2973.9
F	502.6	797.9	336.6	286.6	947.9	156.0	149.3	3186.6
Total	1013.9	1593.4	668.6	563.3	1796.2	278.0	247.4	6160.5
1985 M	385.8	769.3	310.4	245.5	821.2	118.2	108.9	2759.9
F	383.5	771.7	343.5	317.3	980.0	167.4	169.4	3132.2
Total	769.3	1541.0	653.9	562.8	1801.2	285.6	278.3	5892.1

M = Male F = Female

Source: Department of Statistics : (1960a) (1970) and (1980 b)
Central Statistical Services (1985 b)

The expected age structure of the Natal / Kwazulu population for 1990 to 2010, indicates the under 15 age category for Blacks will be higher than the other population groups. Whereas in 1990, Blacks are expected to have 42% of their population in the under 15 age category, Whites will have just over 22%, Coloureds 33% and Asians 31%. According to an estimate Whites will have 67% of their population in the 15-64 age group in 1990 compared to the 55% of Blacks (Grobbelaar, 1985). By 2010 the Black figure in the 15 - 64 year old groups is expected to reach 61% while the Whites will have increased to 68%. In

the 65 years and over category for Whites, over 10% of their population is expected to be in this category in 1990 and over 12% in 2010. Coloureds are expected to increase their proportion in this category from 2.7% in 1990, to 5.8% in 2010. A similar increase for Asians is expected. Blacks are expected to increase the proportion of their population in the 65 years and over category from 3% in 1990 to 3.6% in 2010 (Table 3.5).

TABLE 3.5

EXPECTED CHANGES IN THE AGE STRUCTURE OF THE POPULATION OF NATAL / KWAZULU

YEAR	0 - 14		15 - 64		65+	
	N	*	N	*	N	*
WHITES						
1990	141	22.3	425	67.4	65	10.3
2000	143	20.7	476	68.8	73	10.5
2010	149	19.9	508	68.0	90	12.1
COLOUREDS						
1990	37	33.3	71	64.0	3	2.7
2000	38	29.9	84	66.2	5	3.9
2010	32	23.2	98	71.0	8	5.8
ASIANS						
1990	251	31.5	521	65.3	26	3.2
2000	242	26.7	621	68.5	43	4.7
2010	224	22.7	696	70.6	66	6.7
BLACKS						
1990	2602	42.1	3391	54.9	182	3.0
2000	2997	38.1	4612	58.7	249	3.2
2010	3381	34.8	5995	61.6	350	3.6
TOTAL						
1990	3031	39.3	4408	57.1	276	3.6
2000	3420	35.7	5793	60.5	370	3.8
2010	3786	32.7	7297	62.9	514	4.4

N = Number of persons in 1000's
* = Percentage of Total Population in each race group

Source : Grobbelaar, J. 1985. The Population of Natal / Kwazulu 1904 - 2010, p10.

3.5.3 THE LABOUR POTENTIAL OF NATAL / KWAZULU

Although the White potential labour supply has increased from 207 400 in 1960 to 363 600 in 1985 (Table 3.6), it is estimated that it will increase to 425 000 in 1990; in real terms a decrease in the White potential labour supply has occurred (Grobbelaar, 1985). Whereas in 1960 the White population contributed 12.79% towards the labour potential of the Natal / Kwazulu region, in 1985 it was 11%.

The Coloured population increased its proportion of the labour potential between 1960 and 1985 from 1.5% to 1.8%, however, it is expected to decline marginally to 1.6% in 1990.

The Asian sector of the population has consistently contributed 12% towards the region's labour potential and increased their numbers from 210 000 to 419 600 to an estimated 521 000 in 1960, 1985 and 1990 respectively.

TABLE 3.6

THE LABOUR POTENTIAL OF NATAL / KWAZULU (1 000's)

RACE		1960	1970	1980	1985	1990 EST
WHITES	M	102.8	138.1	180.3	180.5	212
	F	104.6	139.4	183.8	183.1	213
	Total	207.4	277.5	364.1	363.6	425
COLOUREDS	M	11.8	17.7	25.0	28.3	33
	F	11.7	19.2	28.3	31.7	38
	Total	23.5	36.9	53.3	60.0	71
ASIANS	M	106.2	146.0	198.3	203.8	257
	F	104.6	149.8	203.7	215.8	264
	Total	210.8	296.8	402.0	419.6	521
BLACKS	M	540.8	754.6	1175.4	1082.7	1614
	F	638.1	926.0	1311.3	1378.0	1777
	Total	1178.9	1680.6	2486.7	2460.7	3391
TOTAL	M	761.6	1057.4	1579.0	1495.3	2116
	F	859.0	1234.4	1727.1	1808.6	2292
	Total	1620.6	2291.8	3306.1	3303.9	4408

Source: Department of Statistics (1960a) (1970) and (1980 b)
Central Statistical Services (1985 b)
Grobbelaar, J. 1985. The Population of Natal / Kwazulu 1904 - 2010, p10.

The potential labour force for Blacks has increased from 1.2 million in 1960, to 2.5 million in 1990. Based on estimates, Blacks will be responsible for 77% of the regions labour potential.

3.5.4 THE AGE STRUCTURE OF THE LABOUR POTENTIAL

Changes in the age structure of the labour potential of the Natal / Kwazulu region have an influence in determining what trends are likely to dominate this economic commodity in the future.

The trends which have emerged in the White, Coloured and Asian population, show a reduction in the size of the lower age group and an increase in the size of the labour potential of the older age groups.

The region's total labour supply in 1985 consisted of 75% Black, represented by 20% for the under 20 year olds and 54% for the group between 25 - 55 years (Table 3.7). This "trend would suggest that in the future the Black population with a larger proportion of their numbers relatively young will determine the age structure of the potential labour supply" (Brijlal 1990 : 148).

TABLE 3.7

AGE DISTRIBUTION OF THE LABOUR POTENTIAL OF NATAL / KWAZULU (1000's)

	15-19	20-24	25-54	55-64
WHITE				
1960 M	13.1	11.9	64.5	13.3
F	12.8	11.6	64.8	15.4
Total	25.9	23.5	129.3	28.7
1970 M	18.4	18.3	81.4	20.0
F	18.8	18.3	80.0	22.3
Total	37.2	36.6	161.4	42.3
1980 M	22.8	22.7	111.3	23.5
F	23.9	22.8	110.6	26.5
Total	46.7	45.5	221.9	50.0
1985 M	23.5	22.1	111.1	23.8
F	23.1	22.1	110.9	26.6
Total	46.6	44.2	222.0	50.4

TABLE 3.7 (CONTINUED)

AGE DISTRIBUTION OF THE LABOUR POTENTIAL OF NATAL / KWAZULU (1000's)				
	15-19	20-24	25-54	55-64
COLOUREDS				
1960 M	2.0	1.9	6.4	0.8
F	2.2	2.1	7.2	0.9
Total	4.2	4.0	13.6	1.7
1970 M	3.9	3.0	9.8	1.0
F	3.9	3.2	10.6	1.5
Total	7.8	6.2	20.4	2.5
1980 M	5.5	4.3	13.6	1.6
F	5.7	4.4	16.3	1.9
Total	11.2	8.7	29.9	3.5
1985 M	5.9	4.7	15.8	1.9
F	5.9	5.0	18.2	2.6
Total	11.8	9.7	34.0	4.5
ASIANS				
1960 M	23.0	18.4	58.5	6.3
F	23.7	19.3	56.4	5.2
Total	46.7	37.7	114.9	11.5
1970 M	29.7	26.2	81.3	9.8
F	31.7	28.3	81.1	8.7
Total	61.4	54.5	162.4	18.5
1980 M	35.9	32.0	116.6	13.8
F	36.2	32.3	121.1	14.1
Total	72.1	64.3	237.7	27.9
1985 M	36.7	32.3	120.1	14.7
F	37.2	34.1	128.4	16.1
Total	73.9	66.4	248.5	30.8
BLACKS				
1960 M	107.9	79.3	308.4	45.2
F	112.1	101.8	372.2	52.0
Total	220.0	181.1	680.6	97.2
1970 M	165.7	114.3	417.2	57.4
F	182.6	150.3	520.8	72.3
Total	348.3	264.6	938.0	129.7
1980 M	267.8	217.7	606.8	83.1
F	270.8	227.1	699.9	113.5
Total	538.6	444.8	1306.7	196.6
1985 M	244.3	186.4	574.2	77.8
F	227.3	256.1	722.5	122.1
Total	521.6	442.5	1296.7	199.9

TABLE 3.7 (CONTINUED)

AGE DISTRIBUTION OF THE LABOUR POTENTIAL OF NATAL / KWAZULU (1000's)				
	15-19	20-24	25-54	55-64
TOTAL				
1960 M	146.0	111.5	437.8	65.6
F	150.8	134.8	500.6	73.5
Total	296.8	246.3	938.4	139.1
1970 M	217.7	161.8	589.7	88.2
F	237.0	200.1	692.5	104.8
Total	543.9	361.9	1282.2	193.0
1980 M	332.0	267.7	848.3	122.0
F	336.6	286.6	947.9	156.0
Total	668.6	563.3	1796.2	278.0
1985 M	310.4	245.5	821.2	118.2
F	343.5	317.3	980.0	167.4
Total	653.9	562.8	1801.2	285.6

M = Male F = Female

Source: Department of Statistics : (1960a) (1970) and (1980 b)
Central Statistical Services (1985 b)

3.5.5 THE ECONOMICALLY ACTIVE POPULATION

The size of the aggregate labour supply is determined by the number of people in the economy who are both willing and able to work. According to Nattrass (1988 : 44) this "group is collectively called the economically active population (EAP), and consists of both the employed and unemployed".

While the actual numbers of economically active people within Natal / Kwazulu have increased in comparison to the size of the population, there has been an insignificant increase in real terms in the proportion of each economically active group.

From 1980 (14%) a declining trend in the White proportion of the EAP occurred, continuing with the same pattern to 10,19% in 1990 (Table 3.8). Similar decreases are estimated from 1985 to 1990 for both Coloureds (2.17% to 1.63%) and Asians (from 13.54% to 10.26%). While the Black EAP decreased during the period 1970 to 1985, Blacks will

form 77.94% of the Natal / Kwazulu EAP in 1990 (Table 3.8). Brijlal (1990) attributes this increase to the 1986 abolition of Influx Control.

TABLE 3.8

ECONOMICALLY ACTIVE POPULATION OF NATAL / KWAZULU (1 000's)					
RACE		**1960**	**1970**	**1980**	**1985**	**1990 EST**
WHITES	M	95.6	125.2	155.2	154.6	197
	F	38.9	58.7	81.2	89.4	103
	Total	134.5	183.9	236.4	244.0	300
	%	(14.6)	(12.15)	(14.61)	(13.0)	(10.19)
COLOUREDS	M	10.2	15.7	17.7	21.8	29
	F	4.9	7.8	12.3	15.7	18
	Total	15.1	23.5	30.0	37.5	48
	%	(1.64)	(1.55)	(1.85)	(2.17)	(1.63)
ASIANS	M	94.1	122.1	151.4	165.8	211
	F	8.3	27.7	51.7	67.6	91
	Total	102.4	149.8	203.1	233.4	302
	%	(11.1)	(9.89)	(12.55)	(13.54)	(10.26)
BLACKS	M	547.2	701.8	748.5	727.1	1454
	F	121.0	455.0	399.4	481.0	839
	Total	668.2	1156.8	1147.9	1208.1	2293
	%	(72.61	(76.41)	(70.97)	(70.11)	(77.94)
TOTAL	M	747.1	964.8	1072.8	1069.3	1891
	F	173.1	549.2	544.6	653.7	1051
	Total	920.2	1514.0	1617.4	1723.0	2942

Source: Department of Statistics (1960b)
Central Statistical Services (1986) (1987)
Grobbelaar, J. 1985. The Population of Natal / Kwazulu 1904 - 2010, p14.

3.6 THE QUALITY OF THE LABOUR SUPPLY

The quality of labour supplied to the Natal / Kwazulu region is determined by certain variables amongst which the education and skill level of the population will provide a basis for evaluation of the situation.

3.6.1 EDUCATIONAL QUALIFICATIONS OF THE NATAL/KWAZULU POPULATION

The Natal / Kwazulu region is representative of the political nature of the educational system of South Africa - as many as 40% of Blacks in Natal / Kwazulu in 1985 were uneducated. Individuals have been deprived of acquiring basic skills to equip them for their ideals in life (Brijlal, 1990).

While the ratio of educated males to females is 1:1 amongst Whites and Coloureds, in the Black and Asian groups uneducated females represent 58% and 54% respectively.

In the case of Asian females this trend can be expected to change "with females being afforded more or less the same opportunities to attain educational excellence as the males, and to seek labour market employment" (Brijlal 1990 : 180).

In the Black population more males received an education because they are considered to be potential breadwinners, whereas the opposite sex is held accountable for raising the children (Brijlal, 1990).

The White population were the best educated segment of the Natal / Kwazulu population in 1985 with 20.9% of Whites having gained Standard 10 compared with 5% of Coloureds, 9.1% of Asians and 1.9% of Blacks. In the White population 20% have a diploma, or a degree compared to 3.6% of Coloureds, 3.7% of Asians and 0.4% of Blacks (Table 3.9).

TABLE 3.9

POPULATION BY LEVEL OF EDUCATION
NATAL / KWAZULU
(Percentage of each population group Total)

RACE		NONE	Std 6	Std 6-9	Std 10	Dip -10	Dip 10	Deg
1980								
WHITES	M	7.3	7.1	16.8	10.0	1.1	3.9	2.6
	F	7.2	7.2	20.3	9.6	1.0	3.8	1.3
	Total	15.3	14.3	37.1	19.6	2.1	7.7	3.9
COLOUREDS	M	11.1	16.2	18.0	1.8	0.3	0.5	0.2
	F	10.5	18.8	20.1	1.3	0.6	0.5	0.1
	Total	21.6	35.0	38.1	3.1	0.9	1.0	0.3
ASIANS	M	10.9	15.4	18.4	3.4	0.2	0.8	0.6
	F	14.9	18.6	13.9	2.0	0.2	0.5	0.2
	Total	25.8	34.0	32.3	5.2	0.9	1.3	0.8
BLACKS	M	25.2	16.7	5.4	0.4	0.1	0.08	0.03
	F	27.4	18.2	5.7	0.3	0.2	0.08	0.01
	Total	52.6	34.9	11.1	0.7	0.3	0.16	0.04
TOTAL	M	21.8	15.7	8.1	1.7	0.2	0.5	0.3
	F	24.0	17.3	8.2	1.4	0.3	0.4	0.1
	Total	45.8	33.0	16.3	3.1	0.5	0.9	0.4
1985								
WHITES	M	6.4	6.4	15.4	10.7	1.6	5.3	3.2
	F	6.3	6.2	18.5	10.2	2.3	5.8	1.7
	Total	12.7	12.6	33.9	20.9	3.9	11.1	4.9
COLOUREDS	M	8.7	15.1	19.9	2.8	0.5	0.8	0.3
	F	9.1	16.7	21.9	2.2	0.9	1.0	0.1
	Total	17.8	31.8	41.8	5.0	1.4	1.8	0.4
ASIANS	M	8.4	13.8	19.6	5.3	0.4	1.1	0.8
	F	11.8	17.1	16.5	3.8	0.3	0.8	0.3
	Total	20.2	30.9	36.1	9.1	0.7	1.9	1.1
BLACKS	M	18.6	19.5	6.9	0.9	0.04	0.08	0.03
	F	21.8	22.7	8.2	1.0	0.10	0.13	0.02
	Total	40.4	42.2	15.1	1.9	0.14	0.21	0.05
TOTAL	M	16.1	17.6	9.4	2.4	0.2	0.7	0.4
	F	18.9	20.4	10.3	2.2	0.4	0.8	0.2
	Total	35.0	38.0	19.7	4.6	0.6	1.5	0.6

Source: **Department of Statistics (1980 b)**
Central Statistical Services (1985 c)

Although Fleisher and Kniesner (1980 : 20) note "one (such) condition of the quality of the labour force is the educational level of the labour force, it is Brijlal's (1990 : 186) assertion that "the professional and academic qualifications of the teachers, the quality of the facilities and the pupil : teacher ratio determine the standard of education".

3.6.2 THE SKILL LEVEL OF THE WORKFORCE

Five skill levels that are matched with minimum educational qualifications have been identified to assist in determining the distribution thereof in the population (Dostal, 1985):

* Skill Level I (A degree)

  This skill level is represented by 70% Whites, Asians 23.5% and the Coloureds and Blacks 0.5% and 5.5% respectively. Of the 27% females 72% are Whites and 19% Asians.

* Skill Level II (Undergraduate diploma)

  In 1985 there were 59% Whites, 19.6% Blacks and 19.4% Asians. Of the 47% females in this group, Whites contributed 53% of the total number and Blacks 27%.

* Skill Level III (Standard 8 to 10)

  In this skill level, Blacks account for 38% with Whites 35%, Asians 25% and Coloureds 2%.

* Skill Level IV (Standard 4 to 7)

  Blacks are represented by 78% of those in this level with Asians 15%, Coloureds 3% and Whites 4%. A total of 39% of females are represented here, with 84% being Black.

* Skill Level V (less than Standard 4)

A total of 94% Blacks are found here compared to 0.7% of Whites, 3.3% of Asians and 1.7% Coloureds (Table 3.10).

TABLE 3.10

SKILL LEVELS OF THE ECONOMICALLY ACTIVE POPULATION OF NATAL / KWAZULU (1 000's)

RACE	SKILL LEVELS				
	I	II	III	IV	V
1980					
WHITES M	14.40	22.10	90.26	24.21	4.21
F	4.85	14.30	52.81	7.25	2.01
Total	19.25	36.40	143.07	31.46	6.22
COLOUREDS M	0.08	0.42	2.51	8.36	6.32
F	0.02	0.62	1.69	6.11	3.90
Total	0.10	1.04	4.20	14.47	10.22
ASIANS M	4.22	6.86	55.90	67.94	16.37
F	0.85	3.66	17.33	21.02	8.89
Total	5.07	10.52	74.23	88.96	25.26
BLACKS M	1.03	7.00	56.36	232.45	451.57
F	0.34	9.99	36.50	148.31	204.32
Total	1.37	16.99	92.86	380.76	655.89
TOTAL M	19.73	36.38	205.03	332.06	478.47
F	6.06	28.57	108.33	182.68	221.57
Total	25.79	64.95	313.36	515.64	700.04
1985					
WHITES M	17.42	30.68	86.60	16.55	3.29
F	7.00	23.21	52.44	5.32	1.51
Total	24.42	53.89	139.04	21.87	4.80
COLOUREDS M	0.13	0.65	3.91	10.37	6.75
F	0.05	0.94	2.81	6.80	4.11
Total	0.18	1.59	6.72	18.17	10.86
ASIANS M	6.28	10.58	73.33	63.60	12.04
F	1.91	7.14	26.92	23.42	8.24
Total	8.19	17.72	100.25	87.02	20.20
BLACKS M	1.21	6.04	83.84	256.47	379.33
F	0.72	11.84	67.65	187.01	213.95
Total	1.93	17.88	151.49	443.48	593.28
TOTAL M	25.04	47.95	247.68	346.99	401.41
F	9.68	43.13	149.82	222.55	227.81
Total	34.72	91.08	397.50	569.54	629.22

Source: Adapted from Central Statistical Services (1987)

It is evident that while the percentage of Whites decreased in number from Skill Level I (the most skilled) to Skill Level V (the least skilled), the number of Blacks increased from a small percentage in the higher skilled to a majority of those in the lower skilled jobs (Table 3.10).

TABLE 3.11

DISTRIBUTION OF EMPLOYMENT IN NATAL / KWAZULU OCCUPATIONAL CATEGORIES RACE AND SEX - 1985 (1000's)

*	M	F	T	*	M	F	T
WHITES							
1	33.0	20.4	53.5	6	6.9	0.5	7.5
2	25.2	5.4	30.6	7	27.3	1.5	28.8
3	24.0	52.8	76.8	8	14.0	1.0	15.0
4	8.1	1.5	9.6	9	0.4	0.04	0.4
5	12.8	4.5	17.3	10	2.8	1.9	4.7
COLOURED							
1	1.1	2.0	3.1	6	0.7	0.1	0.8
2	0.2	0.3	0.5	7	5.5	0.2	5.7
3	1.4	5.6	7.0	8	8.1	0.3	11.1
4	0.8	0.1	0.9	9	0.6	0.2	0.8
5	0.8	2.2	3.0	10	2.4	2.0	4.2
ASIANS							
1	14.2	8.4	22.6	6	3.3	0.2	3.5
2	6.5	0.8	7.3	7	15.8	0.6	16.4
3	44.9	20.6	65.5	8	40.2	21.7	61.9
4	12.6	0.3	12.9	9	5.0	1.9	6.9
5	9.8	3.2	13.0	10	13.6	9.7	23.3
BLACKS							
1	18.6	38.8	57.4	6	152.3	80.0	232.2
2	2.4	0.4	2.8	7	12.6	1.1	13.7
3	40.0	27.7	67.7	8	189.8	53.9	243.7
4	69.2	2.8	72.0	9	57.8	9.6	67.4
5	81.7	154.4	236.1	10	102.8	112.2	215.0
TOTAL							
1	66.9	69.6	136.6	6	163.2	80.8	244.0
2	34.3	6.9	41.2	7	61.2	3.4	64.6
3	110.3	106.7	217.0	8	252.1	79.6	331.7
4	90.7	4.7	95.4	9	63.8	11.7	75.5
5	105.1	164.3	269.4	10	121.6	125.8	247.4

Source: Central Statistical Services (1985 d) * = Category

Key to Categories:-

1. Professional, semi professional, mechanical. 2. Managerial, executive, administrative. 3. Clerical and sales. 4. Transport and communication. 5. Service workers 6.Farming, fishing, hunting. 7. Tradesmen and apprentices. 8. Mining, quarrying and production worker. 9.Unskilled. 10.Workers not classifiable

The Black labour force (65%) is concentrated in the less skilled occupations of the service, farming, transport and mining sectors (Table 3.11).

In the White population 77% of the workforce is employed within the occupational categories of professional workers, management, clerical workers and tradesmen.

In the Coloured population 64% work in the clerical, tradesmen and mining sectors.

Asians were concentrated in the clerical and mining group (55%) with 7% being in the tradesman category and 10% in the professional and technical sector.

In showing how the different racial groups are distributed throughout the various occupational categories, it is submitted that although the number of AIDS cases reported between 1982 and May 1991 in Natal / Kwazulu is small (220), this number represents an insignificant portion of those infected with the HIV virus. As the number of HIV infected individuals progress the ultimate effects will pervade all occupations and have a direct impact upon the active labour market.

3.7 LABOUR AND THE HIV VIRUS

According to J E Wiltshire (1990 : 10) the Group Corporate Planning Manager for the Tongaat-Hulett Group, "there are approximately 1500 people who are HIV positive for every one reported AIDS case", with 330 000 HIV positive cases in Natal / Kwazulu at present. A. Whiteside (Personal Communication, July 15, 1991) believes, however, that for every one reported AIDS case, there are between 10 and 20 HIV positive cases.

Both A. Whiteside (Personal Communication, July 15, 1991) and D. Pudifin (Personal Communication, June 26, 1991) concur that the number of HIV positive cases is still increasing at an exponential rate and there were "more than 100 new cases of HIV infection being identified in Natal every month" (Spier & Edwards 1990 : 2). Professor D.

Pudifin (Personal Communication, June 26, 1991) confirmed that in June 1991 the number of known HIV positive cases was increasing by approximately 100 every week (Table 3.12).

TABLE 3.12

A COMPARISON OF THE HIV POSITIVE CASES REPORTED IN APRIL AND MAY 1991 IN NATAL / KWAZULU						
RACE	MALE		FEMALE		TOTAL	
	APRIL	MAY	APRIL	MAY	APRIL	MAY
BLACK	1 222	1 366	1 393	1 585	2 615	2 951
WHITE	109	111	10	10	119	121
ASIAN	16	16	7	7	23	23
COLOURED	4	4	15	19	19	23
UNKNOWN					178	197
TOTAL	1 351	1 497	1 425	1 621	2 954	3 315

Source: Pudifin, D. 1991. University of Natal Medical School, Monthly Report on HIV Cases. April and May 1991, p1.

3.8 PROJECTED HIV FIGURES FOR NATAL / KWAZULU

When projecting the number of HIV positive cases in Natal / Kwazulu, a number of variables are related :-

* The time span used to estimate the future growth of the pandemic (the doubling time)
* The incubation time of the virus
* The relationship between HIV positivity, AIDS related complex, and full blown AIDS (Spier & Edwards, 1990).

As a result of these variables and essentially the doubling time, different projections have been made. According to Spier and Edwards (1990 : 62), "forecasts range from the

assumption that the pandemic will fizzle out within a number of years to complete disaster scenarios which will totally restructure human existence".

According to Wiltshire (1990) the doubling time for HIV is six to ten months while it is Keir's (1990) opinion that the number of HIV cases doubles every eight or nine months. Considering the doubling time of 9 months and the 4192 HIV positive cases in Natal / Kwazulu in May 1990, it is projected that by the year 2000 there will be over 17 million HIV positive cases in Natal / Kwazulu (Table 3.13). Doubt can be placed on this alarming figure since the estimated size of the Natal / Kwazulu population in the year 2000 will be 9.5 million (Grobbelaar, 1985). Direct extrapolation from past trends into the future would suggest that the entire Natal / Kwazulu population would be infected with the HIV virus, however, these are reasons that do not support this eventuality:

* Not every person in the Natal / Kwazulu region is involved in high risk behaviour
* Direct extrapolation does not take into account changing behavioural patterns
* The doubling time lengthens over time (Spier & Edwards, 1990)
* The pool of uninfected people shrinks with the increase in infected numbers.

TABLE 3.13

THE PROJECTED GROWTH OF HIV POSITIVE CASES IN NATAL/KWAZULU USING A DOUBLING TIME OF 9 MONTHS

YEAR/MONTH	TOTAL NO OF CASES
1991 MAY	4 192
1992 FEBRUARY	8 384
1992 NOVEMBER	16 768
1993 AUGUST	33 536
1994 MAY	67 072
1995 FEBRUARY	134 144
1995 NOVEMBER	268 288
1996 AUGUST	536 576
1997 MAY	1 073 152
1998 FEBRUARY	2 146 304
1998 NOVEMBER	4 292 608
1999 AUGUST	8 585 216
2000 MAY	17 170 432

SOURCE : Department of National Health and Population Development (1991).

Spier and Edwards (1990 : 63) believe that "direct extrapolation over an extended period is bound to be incorrect because of the dynamic nature of the epidemic". They believe that the growth of HIV in Natal / Kwazulu will follow an S-Curve where the growth of the disease is slow in the beginning, increasing at an exponential rate until a peak is reached, and finally declining to an endemic level with the number of HIV positive cases remaining constant.

Based on this scenario it is A. Whiteside's (Personal Communication, July 15, 1991) opinion that the number of HIV positive cases will double at the onset every 12 months and thereafter every 15 months in years to come (Table 3.14). It cannot be stated with certainty when the disease will peak and then become endemic, although this is not expected to happen before the year 2000 (Spier & Edwards, 1990).

TABLE 3.14

THE PROJECTED GROWTH OF HIV POSITIVE CASES IN NATAL/KWAZULU USING A 12 and 15 MONTHS DOUBLING TIME

YEAR/MONTH	TOTAL NO OF CASES
1991 MAY	4 192
1992 MAY	8 384
1993 MAY	16 768
1994 MAY	33 536
1995 AUGUST	67 072
1996 AUGUST	134 144
1997 AUGUST	268 288
1998 AUGUST	536 576
1999 AUGUST	1 073 152
2000 AUGUST	2 146 304

Source : Department of National Health and Population Development (1991)
A. Whiteside (Personal Communication, July 15, 1991)

It has been estimated that of the 2.1 million HIV positive cases at the year 2000, over 1.9 million will occur in the Black population (Table 3.15). Excluding figures released by the Blood Bank it can be seen that the number of infected Black females outweighs the

number of HIV infected Black males. In the White population projections suggest that HIV will remain a homosexual disease while in the Coloured population more females than males will be infected (Table 3.15).

TABLE 3.15

THE PROJECTED HIV POSITIVE FIGURES FOR NATAL/KWAZULU BY 2000

RACE	MALE	FEMALE	BLOOD BANK	TOTAL
BLACK	699 392	811 520	422 912	1 933 824
WHITE	56 832	5 120	12 800	74 752
COLOURED	2 048	9 728	5 632	17 408
ASIAN	8 192	3 584	7 680	19 456
UNKNOWN				100 864
TOTAL	766 464	829 952	449 024	2 146 304

Source : Department of National Health and Population Development (1991). A. Whiteside (Personal Communication, July 15, 1991)

Using the age distribution of reported AIDS cases for South Africa as a basis for the HIV distribution of cases in Natal / Kwazulu, it is estimated that 60,3% of HIV infection will occur in the 20 - 49 year old age group, and 65% in the 20 - 59 year olds (Table 3.16). In terms of the total HIV cases, 22% of the Natal / Kwazulu population will be infected, of which between 1,2 and 1,4 million could be workers.

TABLE 3.16

REPORTED AIDS CASES BY AGE GROUP IN SOUTH AFRICA

AGE GROUP	NUMBER	% OF TOTAL
0 - 9	104	14.4
10 - 19	17	2.3
20 - 29	142	19.6
30 - 39	210	29.08
40 - 49	84	11.63
50 - 59	33	4.57
60 - 69	9	1.2
70+	3	0.41
UNKNOWN	120	16.6
TOTAL	**722**	**100**

Source : Department of National Health and Population Development (1991).

With an estimated 65% of the reported HIV positive cases occurring amongst those people who are part of the potential labour supply of the Natal / Kwazulu region, it can be expected that after infection, full blown AIDS will be experienced leading to ultimate death. The consequences of the effects of the HIV virus and death will have a severe influence on the economy in general and business sectors in particular.

3.9 THE EFFECT OF HIV AND AIDS ON THE LABOUR FORCE

3.9.1 THE BLACK POPULATION

Where Blacks constitute the largest percentage of the population in the Natal / Kwazulu area and form the largest segment of the economically active population, the effects of HIV and AIDS will have a major influence on them.

The major proportion of Black youths are sexually active and it is their belief that "monogamy is just not feasible for Zulu men" (Akehurst & Fitzsimons 1990 : 11). With this attitude towards life the potential exists for a major human disaster to materialise. Views have been expressed that "the highest seroprevalence and fastest spread (of the HIV virus in the country) are in Natal / Kwazulu" (Akehurst & Fitzsimons 1991 : 9).

The presence of infected individuals in certain jobs in the market place will have an adverse effect on output. Since much of the Black population in Natal / Kwazulu is poorly educated and occupies over 85% of the low level and unskilled jobs, it can be expected that between 1.08 million and 1.26 million Blacks who are employed mainly in the farming, transport, mining and service sectors of the economy will be infected with the HIV virus and eventually develop AIDS.

Finally, because it is projected that almost 90% of the HIV positive cases will occur in the Black population of the Natal/Kwazulu, it follows that job categories which rely on Black workers will be most seriously affected. This will undoubtedly cause a high staff

turnover in specific labour intensive sections of the economy and will adversely affect productivity and ultimately profitability.

3.9.2 THE WHITE POPULATION

Although the White population is declining in size relative to the other population groups in the region they nevertheless constitute a numerically significant sector of the region with their population expected to reach 692 000 by the year 2000.

However, the major importance of the Whites, lies in the fact that they occupy 89% of the high-skill and middle skill jobs in the economy. These jobs include :

- Professional, semi-professional, technical
- Managerial, executives, administrative
- Clerical and sales
- Tradesmen and apprentice.

Based on extrapolations, almost 75 000 Whites are expected to be HIV positive by the year 2000. This could undermine, and in certain cases even decimate the efficient functioning of business enterprise.

Notwithstanding the aforementioned, two structural factors suggest that the AIDS pandemic will have a limited effect on the White population as opposed to the Black population.

Firstly, the better quality education enjoyed by Whites in the past, together with greater efforts by educators to inform the youth about the crisis, means that the danger of contracting the HIV virus through lack of awareness will be reduced. As a result of the superior White education, it is unlikely that a situation similar to the one in the Black community of Natal / Kwazulu will occur where 68% did not know AIDS was present in their community and "35% believed AIDS to be a joke" (Van Niftrik 1990 : 9).

Secondly, the White population is "ageing", with 67% of their population falling within the 15 - 64 age group in 1990. It is less likely that these individuals will engage in high risk behaviour, thereby reducing the risk of infection.

Despite these two positive influences, business could be burdened with the recruitment, selection, and training of new skilled personnel as well as high costs associated with group life insurance if they have a large number of HIV infected employees.

3.9.3 THE COLOURED AND ASIAN POPULATION

Although the Coloureds and Asians represent vastly different proportions of the region's total population both groups account for relatively small and roughly equal proportions of the HIV positive cases (0.8% Coloured as opposed to 0.9% Asian).

The economically active population in the Coloured and Asian communities is decreasing relative to the overall scenario. Moreover, both populations are "ageing" which suggests that the risk of contracting AIDS could be somewhat diminished.

The projected HIV positive figures for Natal / Kwazulu in the year 2000 are 17408 for the Coloureds and 19 456 cases for Asians. These figures in the least infected groups illustrate the possible enormity of human tradegy and economic catastrophe.

The standard of education in schools for Coloureds and Asians is between that of the Whites and Blacks. This equates with the majority of Coloureds and Asians that are employed in the mid-level skill and low level skill jobs of 82.8% and 85.4% respectively. The main areas of employment affected by HIV positive employees could be clerical and sales workers, tradesmen and apprentices, and mining, quarrying and production workers.

These categories of employment are vital to the functioning of any enterprise as they form an important interface between the skilled and the unskilled workers.

3.10 CONCLUSION

The theoretical and definitional framework pertaining to the Natal / Kwazulu labour market and its participants provided the framework against which the population composition was positioned and the possible shift in trends could take place.

Due to the complexity of cultural and social norms in the composition of the population, an analysis of each group accentuates the impact that HIV and AIDS could have on their different activities in the economy.

A general prognosis and extrapolation of HIV positive figures furnished for the Natal / Kwazulu region can guide the business sector to engage in strategic planning and take pro-active action. It is Keir's (1990 : 8) opinion that "although rare today it will not be long before most companies will have experienced an AIDS case within their staff", which could have devastating consequences for the work environment if employers and employees are unprepared.

CHAPTER 4

AIDS AND THE WORKPLACE

4.1 INTRODUCTION

The presence of employees with AIDS in the business arena will force management to direct their thought processes towards a problem-solving approach which will need to assess issues inside and outside the organization.

The organization is considered a living organism and cognizance must be taken of the greater environment in which it is operating. The external environment exercises power over the direction an organization takes and places obstacles in its way which need to be assessed by management to determine their potential relevance and impact.

Management can be viewed as a science, and is concerned with utilizing functions and activities which can be employed when handling problems generated by AIDS, and thereby ensuring organizational growth and survival.

In the course of choosing to act pro-actively and assess the obstacles, management will engage in the planning process to pre-determine their course of action. The strategies that are developed will help ensure that the impact of the AIDS phenomena could be combated in the most appropriate manner. With the development of pertinent AIDS policies, support will be afforded to management to make uniform decisions within the framework of the planning function.

Within the context of human resources management the interaction between the external environment and players within the organizational context is recognized. Human resource management can fulfil the role of diagnostic agent within the organization to reduce the impact AIDS may have on its destiny.

In South Africa efforts have been made to make management aware of the effects AIDS can have in the workplace. Concerns have been expressed with regards to the composition of the employees in the job market, the process of recruiting and selecting employees, the level of productivity, educational and medical costs, the frequency of claims for disability, life insurance as well as those for the provident and pension funds.

Taking cognizance of these concerns, organizations face certain legal implications when formulating strategies to minimize the impact of AIDS and to ensure the best possible actions are acceptable to all concerned. The continued viability of the organization will thus be protected and enhanced.

4.2 THE ENVIRONMENT

The environment can be defined as "everything that is external to the organisation's boundaries" (Szilagyi & Wallace 1983 : 474). According to Ivancevich, Donnelly and Gibson (1980 : 528) " all organizations operate in uncertain environments" and the degree of uncertainty will depend on several elements. These include not only the moral climate and the legal, economic and political environments (Dyer, Daines & Giauque, 1990), but also social, ethical and psychological environmental factors (Van Niekerk, 1988).

The nature of the organization (Longenecker & Pringle, 1981) and its culture (Scarpello & Ledvinka, 1988) will determine the relative significance of these factors on the entity.

As a consequence of the pervasive effect and constant interaction of these environmental forces with the organization, "the interface between organizations and their environments is an area of importance ..... to the process of management" (Longenecker & Pringle 1981 : 55). It is for this reason that these environmental forces must be systematically controlled especially by dominant organisations whose "commitment to a

course of action largely creates the circumstances to which they, and the periphery firms that surround them, are obliged to respond" (Fombrun, Tichy & Devana, 1984 : 4).

An awareness of the disparate environmental elements "assists managers in performing the functions of management" (Ivancevich et al, 1980 : 528). In order for managers to formulate their own response to these factors, they will have to forecast and evaluate environmental conditions (Hodgetts, 1986).

It is Baird, Post and Mahon's (1990 : 124) opinion that "through the process of environmental scanning managers will be able to comprehensively research and analyze the environment. This should be done in a systematic and regular manner and should address all possible influences on the organisation or any of its components parts". The benefit of environmental scanning is an improvement in the quality of decision-making which is made possible by the increased knowledge and heightened awareness afforded by the process (Longenecker & Pringle, 1981).

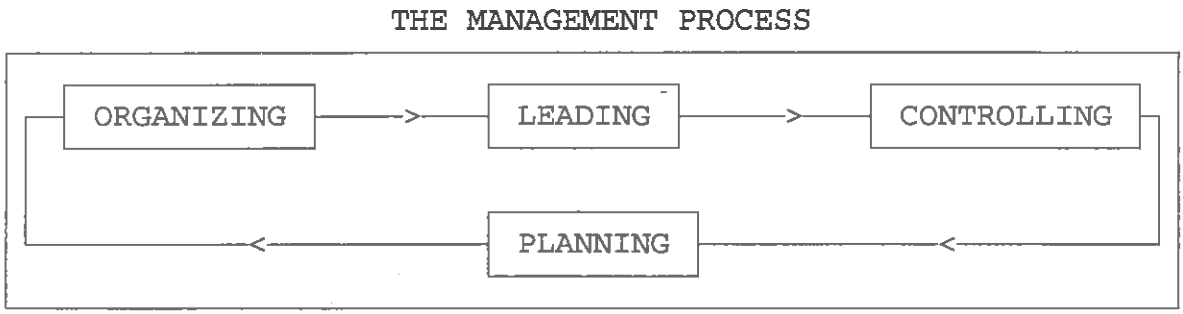
Utilising the process of environmental scanning in the context of AIDS and HIV, the potentially widespread effect on business can be highlighted. This will enhance management's ability to make plans and formulate pragmatic policies to counter the threat posed by the disease. This type of "scanning" process in the AIDS context is termed an "AIDS audit and risk analysis" (Spier & Edwards 1990 : 169).

4.3 MANAGEMENT WITHIN THE ORGANISATION

Management is the "process of setting and accomplishing goals through the use and co-ordination of human, technical and financial resources within the context of the environment" (Baird et al, 1990 : 7). It is a dynamic process which consists of the "on-going, related activities and tasks of planning, organising, leading and controlling" (Hellriegel & Slocum 1989 : 6).

* **Planning** - the process of planning entails predetermining future developments (Van Niekerk, 1988).
* **Organising** - the "process of creating a structure of relationships among people that will enable these people to carry out management's plans and meet their objectives" (Hellriegel & Slocum 1989 : 13).
* **Leading** - entails the "setting of goals, decision making and the conveying of these decisions and instructions to subordinates" (Dyer et al, 1990 : 119).
* **Controlling** - relates the standards and objectives derived from planning, to actual progress (Hampton, 1986) and monitors organizational performance in case corrective action is necessary (Hellriegel & Slocum, 1989).

FIGURE 4.1 THE RELATIONSHIP OF PLANNING TO THE MANAGEMENT PROCESS



Dyer, J.W., Daines, R.H. & Giauque, W.C. 1990. The Challenge of Management, p 119.

Figure 4.1, shows that planning is the "keystone management function" (Ivancevich et al, 1980 : 52) and the decisions made in this process are carried out by the functions of organising, leading and controlling (Dyer et al, 1990).

4.3.1 PLANNING

The Nature of Planning

Planning consists of all "activities involved in choosing courses of action to achieve company objectives" (Longenecker & Pringle 1981 : 114).

These objectives fall into three categories:

* Service Objectives
* Profit Objectives
* Social objectives.

Planning is a process which "focuses on the future" (Dyer et al, 1990 : 118). As a result management is forced to evaluate conditions in the environment and formulate a response which is compatible with their organisational system and their organisation's resource constraints (Hodgetts, 1986). This response will be based on assumptions or premises concerning the environment and the risk profile of the overall scenario.

According to Dyer et al (1990 : 121) planning is an indispensable part of the management function and is "the critical tool that enables managers to cope with change". It helps bridge the gap "between where the organisation is at the moment and where it will be in the short or long term" (Van Niekerk 1988 : 29).

The important issue facing management is whether planning should occur pro-actively (in anticipation of an event), or in response to a scenario and thus be defensive and reactive (Schneier, Beatty & Mc Evoy, 1986). The approach adopted will reflect the prevailing attitudes of management and the environment in which the organization operates.

As a part of the managerial function, planning guides management decisions, identifies environmental opportunities, facilitates teamwork, and encourages consistency (Longenecker & Pringle, 1981).

Entwined in the planning process is forecasting which Stoner and Wankel (1986 : 102) believe is "crucial to planning". The process of forecasting involves predicting future environmental and organisational circumstances which may impact on plans and affect their effectiveness in the future. While the importance of forecasting is acknowledged, two factors limit the significance of this process:

* An organisation is continually being affected by changes in the environment.
* As a result of constant changes, forecasts will be accurate and hence valid and valuable to the organisation only for a short period of time (Baird et al, 1990).

4.3.2 STRATEGY AND STRATEGIC PLANNING

The process of developing a strategy is interwoven in the planning activities of an organisation (Hampton, 1986). According to Scarpello and Ledvinka (1988 : 68) a strategy is a "generic term used to define the means the organisation will use to meet its long range goals". Strategy is the ultimate responsibility of management (Kreitner, 1989) and variables responsible for shaping it include the environment, organisational resources and the value system of management (Longenecker & Pringle, 1981).

The process whereby organizational strategies are developed is known as strategic planning and is according to Hampton (1986 : 175), "the most fundamental and far-reaching planning that managers do for their organisations". Due to every organisation having unique activities, strategic planning methods and the values they reflect will vary among organisations (Baird et al, 1990).

Through strategic planning the organisation will be able to determine how " to pursue the organisation's long term goals with the resources expected to be available" (Kreitner 1989 : 151). To achieve efficiency an organisation should integrate its strategy, provide for flexibility and accommodate for factual basis changes (Zimbabwe Weekender, June 1 1990).

According to Baird et al (1990) effective strategic planning has been rendered essential by :

* Organisational growth

  As growth takes place, more effective monitoring and co-ordinating are needed.

* Organisational diversity

  Strategic planning provides coherence as organisations become diversified.

* Environmental change

  Strategic planning "helps managers assess the organisation's preparedness for an uncertain future" and enables them to "anticipate and respond to changes more and more effectively" (Baird et al, 1990 : 130).

Four phases have been identified in the strategic planning process :

* An analysis and diagnosis of strengths, weaknesses, opportunities and threats. The organisation is analyzed for strengths and weaknesses, while the environment is analyzed for threats and opportunities.

* A choice of action

* The implementation of a strategy

* An evaluation of the strategy (Hampton, 1986).

The advantages of strategic planning have been highlighted by Backer (1988) who believes that it is the catalyst behind successful organisational changes. As well as promoting objectivity on contentious issues, strategic planning also encourages "top management support and realistic analysis of what financial and human resources will be needed to make a program a success" (Backer 1988 : 935).

Once a strategy has been developed, policies are implemented "which guide decision-making and constrain discretion to stay within the bounds prescribed by strategy" (Hampton 1986 : 200).

4.3.3 POLICIES

Policies are broad statements or guidelines which are developed by the top echelon of management and which "influence decision-making in the organisation" (Tansik, Chase & Aquilane, 1980 : 64). By channelling the thinking of management so that it is consistent with organisational objectives defined by strategy, policies will reflect a company's attitude and / or value system toward a particular issue, and provide clarity to employees concerning the organisation's stance (Stoner & Wankel, 1986).

Since policies prevent analysis of the same or similar problems by predicting these issues and offering a unified structure, they do save time when confronted with comparable questions (Rue & Byars, 1989). However, while policies may ensure consistency, it may be argued that they inhibit flexibility and do not allow the merits of each case to be assessed individually.

In order for an effective policy to be formulated, a thorough knowledge of the relevant issues are necessary (Dyer et al, 1990). By encouraging a detailed analysis of the facts, policy-making ensures that mistakes are curtailed (Schwartz, 1980) and decisions are not short-sighted and based on expediency (Steiner, Miner & Gray, 1986).

Although the degree of comprehensiveness of policies might vary with the size of business, it is Spier and Edwards'(1990) opinion that policies must be tailored to meet the specific needs of each enterprise. Furthermore, to ensure its successful implementation a policy should be accepted by employees subject to it.

Newman, Summer and Warren (1972) identify four characteristics of a policy:

* It is specific or broad in content
* It deals with one or more issues
* It delineates boundaries for action
* It specifies the steps to reach a decision.

In order for a policies to be "sound", normative judgements are necessary to ensure they are not only consistent with plans and objectives but are also easily amendable and frequently reviewed (Schwartz, 1980).

While policies may have many advantages, they are not iron clad structures free from any influence. According to Steiner et al (1986 : 23) "the most important single influence on organisational policy and strategy is the environment inside and outside the organisation. The more complex, turbulent and changing is the environment, the greater is its impact on human attitudes, organisational structures and policies".

The creation of policies is the task of human resource experts who have gained prominence as management theory has developed.

4.4 HUMAN RESOURCE MANAGEMENT WITHIN THE ORGANIZATION

The human resources concept recognises the interaction between the environment and the world and adopts an open systems approach to dealing with this relationship (Burach & Smith, 1977). Although intangible and unquantified, human resources encompass the "knowledge, competencies, skills and attitudes of the members of the organisation" (Gilley & Eggland 1989 : 4).

According to Baron (1983 : 11) there have been "three major phases of development in organisational behaviour", commencing with scientific management whose main proponent was F.W. Taylor. Scientific management sought to maximise efficiency by attending to job design, ensuring each employee had clear cut goals, and enhancing and maximising human motivation in the workplace.

Although substantial gains in productivity were initially made using scientific management, this method failed to recognise the motivational abilities of factors other than monetary reward (French, 1990).

This weakness was highlighted by the Hawthorne Studies which emphasised the social nature of work settings and highlighted the role of employees in an organisation (Gilley & Eggland, 1989). This approach evolved into the human relations model where attention was focused on human needs, motives and relationships, as it was believed that only through "attention to such factors could organisational growth and effectiveness be encouraged" (Baron 1983 : 16).

Although the human relations approach persists in some quarters, this approach has evolved and been refined and has to a great extent been superseded by the human resources approach, which views humans "as individuals who possess untapped resources" (Baron 1983 : 17).

The human resources model attempts to develop an integrative approach which combines "information from many disciplines, including the study of human behaviour, into a comprehensive picture of behaviour in organisational settings" (French 1990 : 10). It recognises that objectives can only be achieved through effective people producing goods, marketing products and setting strategies.

The vital link between human resources and an organisation's success (Heneman, Schwab, Fossum & Dyer, 1989) means satisfactory management is imperative to enhance the worker's contribution by means of plans, policies and programmes.

4.4.1 THE ROLE OF HUMAN RESOURCES MANAGEMENT AND AIDS

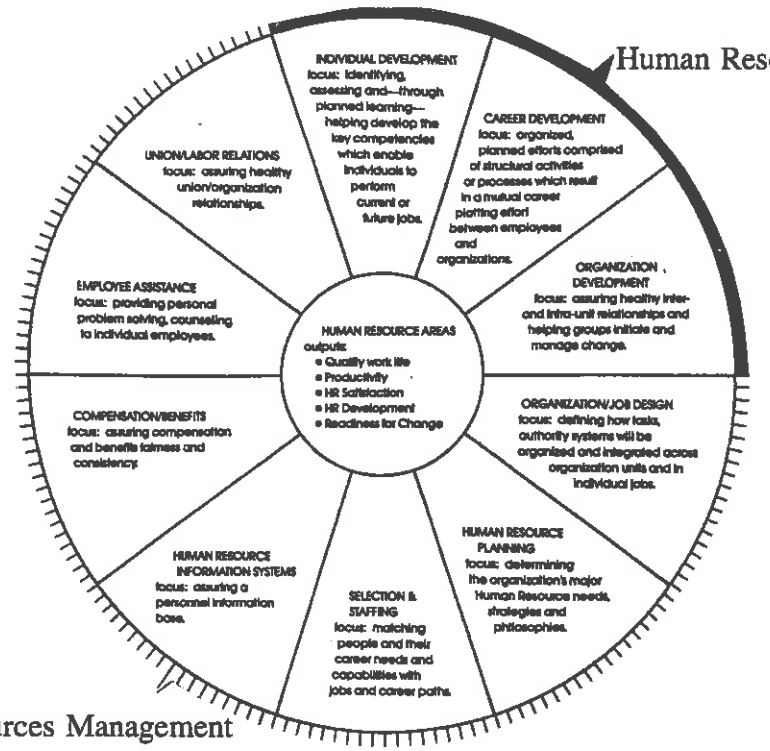
Human resource management "involves the management decisions and practices that directly affect and influence the people who work for the organization" (Fisher, Schoenfeldt & Shaw, 1990 : 6). It is a process which is intended to influence the effectiveness of both employers and employees and is aimed at "attracting, developing and maintaining an effective workforce" (Smith, Arnold & Bizzell, 1985 : 346). This requires a balance between the

economic needs of the entity and the human needs of the workers (Scarpello & Ledvinka, 1988).

The main activities of human resource management have been identified by Gilley and Eggland (1989) in the "Human Resource Wheel".

The Human Resource Wheel shows the many areas of focus pertaining to human resources, and divides the field into "Human Resource Development" and "Human Resource Management". The former "represents the learning and development orientation of both the individual and the organisation" while the latter "represents the selection, management, planning, forecasting, compensation, and staffing of vital human resources within the organisation" (Gilley & Eggland 1989 : 19). All these activities merge as an integrated whole in the human resources portfolio.

FIGURE 4.2 : THE HUMAN RESOURCES WHEEL



Source : Gilley, J and Eggland, S. 1989. Principles of Human Resource Development, p 19.

The role of human resource management in combating AIDS cannot be ignored as the impact of the disease becomes more apparent. Nevertheless, the relative importance of such management has been debated.

On the one hand Dr Lawton (Van der Merwe, 1988) of Allstate Insurance maintains that AIDS is not a significant issue for human resources professionals. His reasons for this view include:

* A belief that AIDS will infect few workers
* Fear that a robust approach could cause alarm amongst employees and result in a decline in productivity
* The possibility of negative media exposure and a poor public image.

On the other hand Arendse (1991 : 226) highlights the role of human resources experts in an organization's fight against AIDS and emphasizes that it "is important (for these experts) to outline policies and procedures to be used by managers, supervisors and employees in general with respect to any AIDS-related incident".

The planning, staffing and educative functions of human resource management can all play a prominent role in curbing the spread of AIDS. It has been suggested that human resource planning is one of the most significant aspects of managing AIDS ("AIDS in the Workplace", 1990).

4.4.1.1 HUMAN RESOURCES PLANNING

Human resource planning is the "process by which management determines how the organisation should move from its current human resource conditions to its desired human resource conditions" (Milkovich & Boudreau 1988 : 269). Since human resource planning is "an integral part of the larger organisation planning process" (Dyer et al 1990 : 498), short and long term personnel needs should be identified and considered in "connection with the overall long-range and strategic plans of the organisation" (Dyer et al 1990 : 498).

Although costly and time consuming human resource planning enables an organisation to adopt "a preventative and pro-active corporate strategy" towards managing AIDS in the workplace ("AIDS in the Workplace", 1990 : 3). In addition to providing situational guidelines and evaluating the cost implications of AIDS, such planning will assess and forecast the "firm's future demand for human resources" (Hughes & Kapoor 1985 : 231). Furthermore, human resource planning will :

* Ensure compliance with the law
* Evaluate the cost implications of AIDS
* Provide leadership
* Assess the "public relations issues which could significantly impact the organisation's image" ("AIDS in the Workplace", 1990 : 4).

4.4.1.2 HUMAN RESOURCES STAFFING

In addition to the planning function of human resource management, the staffing needs and policies of the organisation will also have to be established in anticipation of HIV infection in the workplace (Gilley & Eggland, 1989). According to Hellriegel and Slocum (1989 : 739) the "staffing process includes the entrance of employees into a company as well as their movement through and out of the organisation". Two essential components of the staffing process include recruitment and selection of employees. The purpose of the recruitment process is to "attract suitably qualified and capable people for employment" (Dyer et al, 1990 : 498), while the selection process involves choosing the appropriate applicant (Hughes & Kapoor, 1985).

Due to the potentially high staff turnover and loss of skilled manpower as a result of HIV infection, organisations will need to assess relevant issues such as pre-employment testing and the testing of existing employees, and clarify their position in this regard (Lutgen, 1987).

4.4.1.3 HUMAN RESOURCES EDUCATION

The education of management and employees concerning AIDS is also a primary function of human resource management and falls partly into the planning component of the Human Resources Wheel (Gilley & Eggland, 1989).

While employees may have "legitimate concerns regarding contagion by individuals infected with AIDS", it is up to employers and human resource managers to "address these concerns in the context of non-discrimination laws and current medical information regarding the disease" (Lutgen 1987 : 57).

According to J. Koorneef (Personal Communication, July 15, 1991) education is so vital that unless a large segment of the workforce is educated on AIDS issues "it will be very difficult to formulate any sensible policy". This view is supported by Wagel (1988 : 7) who suggests that "some kind of education program is essential to make a corporate policy of AIDS work". Educative methods used by business include (Arendse, 1991):

* Training management to transmit clear information about AIDS to workers. Backer (1988) suggests that managers should be trained in a conference environment where video tapes, lectures and discussions on employment-related AIDS issues are presented. Additionally manuals and videotapes should be given to participants so that they may be used once the conference is over.
* Publishing newsletters and notices on the prevention of AIDS.

  While Wells Fargo Bank in the United States of America send employees regular newsletters on AIDS, Pacific Northwest Bell mail both the Surgeon General's report on HIV and a letter by the company's director of health care services, to all employees (Backer, 1988).
* Provide counselling to infected or alarmed employees.

Levi Strauss in the United States of America provide counselling and referral services to employees who need or request them (Backer, 1988).

* Hold meetings between medico-legal experts and staff concerning the disease. This approach has been adopted by Warner-Brothers Video who provide an AIDS education program utilising videos and lectures presented by AIDS experts (Backer, 1988).

While employers may want to allay and dispel the fears of uninfected employees and customers and thus provide a safe workplace for them, at the same time they "do not want to discriminate against AIDS victims" (Letchinger 1986 : 58). Thus for the purpose of planning, staffing and the formulation of the relevant policies, the general points of impact of AIDS on the South African economy must be identified and assessed by human resource managers.

4.4.2 THE IMPACT OF AIDS ON HUMAN RESOURCES FUNCTIONS

Although "AIDS has a horrifying multiplier effect and could bring the South African economy to a standstill" (Raphaely 1989 : 14), the disease is expected to have its most profound effect on individuals and the economy around the year 2000 (Osborn, 1990).

The impact and associated expenses of dealing with HIV and AIDS will vary amongst organizations. The disease is expected to have different points of impact on individuals, organizations and the economy, and as a result, even enterprises which remain free of AIDS cases will experience costs in determining their policy toward infected employees (Matthews, 1990).

4.4.2.1 THE JOB MARKET

The potentially pervasive effect of AIDS on all levels of the job market could be significant (Spier & Edwards, 1990). Over 85% of Blacks are employed in low level and unskilled jobs, 82.8% and 85.4% of Coloureds and Asians respectively are engaged in middle

and low-level skilled jobs, and 89% of Whites occupy middle and high-level skilled jobs (Brijlal, 1990).

While Finnemore (1990 : 40) suggests that these infected employees will have to continue working "as long as possible because the economy needs their skills and because they would otherwise be a burden on the State", Osborn (1990) believes that there could even be a shortage of healthy unskilled labour by the year 2000, the implications of which could include:

* Upward pressure on wages
* Greater disparities in wages for skilled and unskilled labour
* Greater emigration by healthy skilled labour
* Increases in the cost structure of industry
* Higher prices for goods
* Greater capital intensity in industry.

The impact of foreign workers from states such as Zimbabwe and Malawi where AIDS has reached epidemic proportions is expected to weigh heavily on the agricultural and mining sectors of the South African economy (Spier & Edwards, 1990). In an attempt to pre-empt this effect on the mining industry, the South African Chamber of Mines has closed their recruitment offices in Malawi (Anonymous, 1990).

A further consequence of AIDS among South Africa's neighbours could be the destruction of their domestic markets and an inability to pay for exports (Osborn, 1990).

4.4.2.2 RECRUITMENT / SCREENING / TRAINING OF REPLACEMENT COSTS

The cost in financial and human terms cannot be ignored when the need to recruit, train and possibly screen job applicants for HIV is considered . According to Spier and Edwards (1990) possible costs for business include:

* Training skilled / semi-skilled staff to replace infected and incapable employees

* Providing counselling services for infected employees
* Appointing an employee in larger organisations who understands the facets of AIDS and is skilled in "interviewing, conflict management and negotiation" (Spier & Edwards 1990 : 168)
* Medically screening employees either during or prior to employment.

In terms of such medical screening the Eliza Test, which screens HIV positive cases costs R30, while the confirmatory Western Blot test costs R150 a time (Levy, 1991). These costs can be substantial as was highlighted by the HIV testing program adopted by Escom, who in 1988 tested 2 520 job applicants at a cost of R21 420 (Sunday Times, 02.07.1989).

4.4.2.3 PRODUCTIVITY

As a result of HIV infection productivity is expected to decline and the loss of production is expected to reach 230 million man-hours per year by 1994 ("AIDS in the Workplace", 1990). The effects of the AIDS pandemic are expected to cause and result in:

* Increasing levels of absenteeism and sick leave by infected workers
* Reduced effectiveness as a result of AIDS dementia complex-a side-effect of AIDS which severely affects performance through impaired judgement and behaviour
* Deaths during employment
* Increasing absenteeism by healthy workers due to the obligatory funeral attendance demanded by local culture (Spier & Edwards, 1990).

4.4.2.4 EDUCATIONAL COSTS

Although it has been claimed "AIDS awareness and education has reached saturation point" (Van Niftrik 1990 : 9), a recent study by Dr Hackland, Secretary of the Kwazulu Department of Health, indicated that not even the most basic educational requirements have been fulfilled.

Van Niftrik (1990 : 9) contends that it is the responsibility of the employer to limit the spread of AIDS by means of education because he is "uniquely placed to disseminate information to those who depend upon him for a livelihood". This can be viewed as an extension of the employer's common law duty to provide safe working conditions for his employees (Spier & Edwards, 1990).

Due to the cultural, educational, religious and linguistic disparities and diversities in the South African population, a multi-dimensional educational campaign to counter AIDS is necessitated (Spier & Edwards, 1990). This should be broad based and involve business, the State, the medical fraternity and non-profit institutions (Van der Merwe, 1988).

Due to the ongoing nature of the educational campaign (Du Plessis, 1990a) which should be constantly reviewed and updated to ensure its innovative and imaginative approach is maintained (King, 1990), the cost component of AIDS-related education could be substantial for business enterprises. An example of an educational approach to AIDS by employers includes the mining industry which has a counselling service, videos and pamphlets (Raphaely, 1989).

4.4.2.5 MEDICAL COSTS

Several estimates have been made by Van der Merwe (1988) and Osborn (1990) concerning the costs of treating an AIDS sufferer. While it has been suggested by Van der Merwe (1988) that the medical expenses of treating an AIDS patient until death will be R41 000 per case, Osborn (1990) the chief economist of Nedbank provides a figure of R80 000 to R100 000 for the treatment of each HIV positive individual.

The costs of treatment can be divided into three components: "the cost of repeated testing plus the cost of treatment with AZT in the case of seropositivity in order to delay the onset of full-blown AIDS including the treatment costs of the serious side effects of AZT; the

treatment of AIDS - related complex depending entirely on how serious the symptoms are; and the treatment of terminal AIDS" (Spier 1990 : 5).

Based on projected annual AIDS-related costs rising to R90 billion in South Africa next century (Osborn, 1990), Du Plessis (1990a) believes that medical aid premiums will escalate and medical aid schemes will become more restrictive and exclusionary towards AIDS sufferers. It is Du Plessis'(1990a) opinion that if only 1% of a medical aid funds membership were to contract AIDS, there would have to be a 31.65% increase in premium to cover payout costs.

In terms of such a rise in premiums, companies who have their own medical-aid schemes may formulate their own rules and regulations to protect members who do not have HIV or AIDS. Anglo-Alpha Limited have insisted on R100 per month limit on individual expenses arising from AIDS - related illnesses. But, in terms of their group medical-aid scheme, the management committee has discretionary powers to permit individuals to exceed the R100 limit up to R10 000 per case. If expenses exceed the R10 000 ceiling the remaining sum is paid by the organisation's benefit fund. In contrast to Anglo-Alpha Limited's position is the approach adopted by Pick 'n Pay who do not cover the costs of employees who become infected with HIV either before or after joining the medical-aid scheme (Cameron, 1991a).

4.4.2.6 DISABILITY AND LIFE INSURANCE CLAIMS

Whether the group life and disability insurance schemes offered by organisations are self insured or insured by a life assurer, "the contributions paid by the employers and / or employees must, in the long run, be adequate to pay the emerging claims" (Keir 1990 : 8).

Changes in premiums could occur in group life and disability insurance since AIDS culminates in death. At present certain existing group life policies held by benefit funds do not exclude AIDS sufferers (Du Plessis, 1990b), but there could be a doubling or tripling of premiums as the situation worsens (Van der Linde, 1990). This could result in higher

reserves and reduced bonuses by insurance companies in order to cover existing policies, and the ultimate solvency of the local insurance industry could be threatened (Osborn, 1990).

For new disability and life insurance policies, HIV tests have been required for cover above R200 000 since 1988. In those instances where individuals have objected to HIV tests, life cover is provided on the proviso that death is not caused by any AIDS-related illnesses (Spier & Edwards, 1990).

In the United States of America an intermediate approach has been adopted by the insurance industry where "they pay out a reduced sum before death in the case of AIDS (the Living Benefits Option), to defray high medical costs" (Spier & Edwards 1990 : 186).

4.4.2.7 RETIREMENT POLICIES / PROVIDENT FUNDS / PENSIONS

In South Africa the impact of the AIDS pandemic has not been felt in its entirety, and consequently the long term implications of paying out benefits is still hypothetical, "something only contemplated on paper" (Du Plessis 1990b : 20).

Due to the uncertain effect AIDS could have on company benefit schemes, certain pension, death and ill health retirement fund rules have no AIDS exclusions and normal benefits are paid to infected employees (Du Plessis, 1990b).

Spier and Edwards (1990 : 186) contend that "contribution - driven pension and benefit funds will not be affected, because there is no mortality or survival risk involved" and "benefit - driven pension funds may show a savings in contributions, to the extent that fewer people will survive to claim a retirement pension". Brown of Southern Life's employee benefit actuarial service disagrees. He maintains that AIDS will affect pension fund assets and investments because of declining demand, lower company profits and falling share prices (Sunday Tribune Finance, 22.09.1991).

Spouse and orphan pensions are also expected to be paid more frequently "because there will be more employee deaths resulting in the payment of such benefits" (Van der Linde 1990 : 2).

4.4.2.8 LEGAL AND FINANCIAL EXPOSURE

Legal action resulting from dismissals and retrenchments of HIV infected workers could occur in the industrial court if an employer commits an unfair labour practice as defined by the amended Labour Relations Act 28 of 1956.

Furthermore, a damages suit in the civil court could transpire, if an employee contracts AIDS in the normal course and scope of his employment, and can prove his employer was negligent in causing the infection. The facilification of HIV infection through an employer failing to provide safe working conditions would be an example of such negligence (Van Wyk, 1990).

The employer could also be held liable to outsiders if, for example, a customer or patient is infected by an employee during the execution of his duties. Such an incident would probably be restricted to certain employment categories like paramedics, surgeons and emergency workers (Van Wyk, 1990).

Germane isues will need to be considered in the employment context to curtail possible legal and financial exposure as it is Baird et al's (1990 : 321) opinion that "the most important external constraint to the organization is the law".

4.5 LEGAL ISSUES TO CONTEND WITH IN HUMAN RESOURCE MANAGEMENT

The legal approach to the AIDS pandemic is not universal but is dictated by the needs and constitutions of different countries.

While the United States of America has legislation which pertains to the handicapped and disabled and in terms of which individuals with HIV or AIDS are protected in the employment context, elsewhere in the world a similar situation does not exist (Strauss, 1988).

In terms of English law, Napier (1989 : 95) of Queens College Cambridge notes that "the present legal position regarding AIDS in employment law has established that the law can be said still to be in a state of flux". This is because there is no specific or separate legislation addressing AIDS and its associated problems in employment.

In her discussion of Australian legislation pertaining to HIV and AIDS, Alison Orme (1991) highlights how different jurisdictions have adopted different approaches to dealing with AIDS. New South Wales and Victoria have laws which deal with similar HIV scenarios, but in different ways.

In South Africa there is no "separate body of rules dealing with AIDS" (Cameron 1991b : 105). The only laws which directly relate to AIDS are the Health Act of 1987 where AIDS is defined as a communicable disease (Cameron, 1991b), and the Admission of Persons to the Republic Regulation Act of 1987 (Strauss, 1990a).

The disease is dealt with in terms of the amended Labour Relations Act 28 of 1956 (Cameron, 1991a), because court decisions have not set precedents with respect to AIDS cases and no legislation has been passed which relates to employment practices and AIDS.

The core dimension of the Labour Relations Act is the Unfair Labour Practice definition which includes "any labour practice or any change in any labour practice ..... which may have the effect that - any employee or class of employee is or may be unfairly affected or that his or their ..... work security ..... is or may be prejudiced or jeopardised thereby" (Strauss 1988 : 146). It is Cameron's (1991b : 102) contention that the "unfair labour practice will be crucial to working out the law of employment regarding AIDS" since it will take into account the views and interests of all concerned parties.

4.5.1 PRE-EMPLOYMENT HIV TESTING OF JOB APPLICANTS

In the employment arena, the issue of HIV testing of job applicants has received attention. Not only do the rights of the employer need to be considered, but also the interests and needs of the prospective employees.

4.5.1.1 AN INTERNATIONAL PERSPECTIVE

In their "Statement from the Consultation on AIDS and the Workplace" presented jointly by the World Health Organisation and International Labour Organisation in 1989, they declare that pre-employment HIV screening to ascertain work fitness should not be required. Furthermore, the World Health Organization and International Labour Organization also advise that indirect screening of prospective employees through specific questionnaires designed to ascertain whether individuals belong to high risk groups or engage in high risk behaviours, should also be prohibited. This standpoint has been supported by the Health Ministers of the European Community (Trebilcock, 1989).

In the United States of America the Centres for Disease Control do not recommend the use of pre-employment HIV tests (Wing, 1986). While this recommendation is grounded in the belief that such testing will serve no valid purpose, the areas of Dade County Florida, New Jersey and Newark "are looking at an ordinance that would require all food handlers to be free of communicable diseases, including AIDS" (Letchinger 1986 : 61).

It is Letchinger's (1986 : 63) opinion that "to exclude an applicant who currently can perform the job because he or she has AIDS, has tested positive for the AIDS virus, or is prone to getting AIDS would be unlawful, unless the job relatedness of that decision can otherwise be justified". While he stresses that pre-hiring questions and physical examinations are not unlawful, Letchinger (1986 : 63) cautions that pre-employment decisions must "not be based on anything other than the individual's ability to do the job". Furthermore, Masi

(1987 : 58) points out that "it would be considered discriminatory to request tests only from selected potential employees".

Legal opinion in the United States of America maintains that the HIV testing of job applicants would be unwise (Wing, 1986). This view is based not only on laws which protect the handicapped and disabled , but on additional federal legislation enacted in July 1990 which "bars discrimination against the disabled in private and public employment, public accommodation, communication and transport services (Spier & Edwards 1990 : 132). The only exception to this would be applicants who are involved in invasive procedures, such as certain hospital employees. In this regard only the questioning of a job applicant about his possible exposure to HIV infection is permitted (AIDS International Policy Report, 1988).

In Britain, it is Dancaster's (1989) view that pre-employment HIV tests may be construed as being indirectly discriminatory in terms of the Sex Discrimination Act (1975) and the Race Relations Act (1976). However, in his discussion of English law, Napier (1989 : 86) notes that "neither sex nor race discrimination is obviously involved where there is refusal to employ because of actual or suspected AIDS or an associated reason (such as AIDS-related illnesses). "In terms of English law an employer is free to employ whatsoever he wishes, the only exceptions being where employment is refused on the basis of race, sex or past criminal record. Unless HIV pre-employment testing "impinges upon such standards, the unsuccessful job seeker is left without remedy" (Napier 1989 : 86).

4.5.1.2 A SOUTH AFRICAN PERSPECTIVE

In terms of South African law a "mere applicant for an appointment is not an employee" (Strauss 1988 : 144) and thus prospective employees are not covered by the amended Labour Relations Act 28 of 1956. As a result the common law applies which permits an employer unfettered discretion in employing job applicants (Cameron, 1991a).

Although employers are not restricted in law to decide whom they wish to employ and are entitled to use pre-employment HIV tests to screen potential employees (Cameron, 1991a), these procedures must be "applied and administered in a fair manner" (Dancaster 1991 : 64). While employees must consent to a blood test, the issue of whether explicit consent is required to test for the HIV virus has received wide coverage. It has been argued on the one hand that since testing for HIV is not routinely conducted as part of an employee's pre-employment medical examination, informing the patient that blood is being taken for "tests" and then conducting an HIV test, does not represent valid consent on the part of the patient. On the other hand Strauss (1990a : 7) argues that "in the past, doctors have routinely taken blood samples without informing the patient of all (or any) conditions for which it would be tested. Why should possible HIV positivity be singled out as a condition of which the patient must be informed beforehand?"

In addition to using pre-employment HIV test results as a means of screening potential employees, a further legal method would be to screen applicants by questioning them at the interview stage about their HIV status. While applicants may take exception to questions of a personal nature, it may be stipulated that honest participation in the interview is a pre-condition for employment. Should it come to the employer's attention at a later stage that the applicant who was employed supplied "materially false information or fraudulent details" employment "may be terminated by the employer by common law on the basis of misrepresentation" (Strauss 1988 : 144).

The decision to test job applicants for the HIV virus is ultimately a policy issue which will reflect the prevailing viewpoints in an organisation (Van Wyk, 1990).

Escom, South African Airways (Levy, 1991) and the Pretoria and Bloemfontein City Councils (Cameron, 1991a) have mandatory pre-employment HIV tests. The perceived need

for these tests may be grounded in economic, safety, medical or legal principles. In line with these principles, the rationale for using HIV tests in the pre-employment context is :

* They are important for long term strategic planning as they give an employee insight into the lifespan of an infected employee (Van Niftrik, 1989)
* The test results ensure the recruitment of a healthy workforce which in turn "ensures high productivity, a good return on any training investment, low labour turnover and minimal absenteeism" (Finnemore 1990 : 35)
* Testing protects the health of co-workers and outsiders and indirectly reduces the possibility of litigation against the organisation (Van Wyk, 1990)
* Since HIV can impair the sensory and motor functions of an individual, HIV tests could "become part of the skill determination" (Sher 1989 : 46) of bus and train drivers or airline pilots, who must be capable of carrying out their occupational duties safely.

Contrary views are expressed by Anglo Alpha Limited who are not in favour of pre-employment HIV testing. Their policy on life threatening diseases which specifically refers to AIDS states:- "Anglo Alpha acknowledges the sensitivity of requiring prospective new employees to have AIDS antibody tests and rejects this as a procedure. The Company does not believe that testing prospective employees is effective either in stopping the spread of AIDS or protecting existing employees ..... Prospective employees will not be required to undergo HIV testing as a condition of the selection procedure" (Cameron 1991a : 203).

Additional reasons given for not making HIV pre-employment tests mandatory are:

* The tests and the resultant non-employment of infected individuals is perceived to be unethical (Levy, 1991)

* In addition to undermining any company commitment to social responsibility (Finnemore, 1990), test costs are high and the money could be better spent on education (Cameron, 1991a)
* There is no general link between infection and job performance (Trebilcock, 1989) and positive HIV tests can result in the loss of productive and skilled workers before the onset of full-blown AIDS. Such a depletion of skilled and competent workers will adversely affect the organisation, the economy and the country (Finnemore, 1990)
* "Confidentiality of information is difficult to ensure in situations where employment decisions are made on the basis of the HIV test" (Finnemore 1990 : 39). Consequently the danger of litigation against an organisation for breech of confidentiality exists
* Apart from delaying employment appointments (Du Plessis, 1990a), the tests are imperfect and cannot "guarantee a sanitized AIDS - free workforce" (Cameron 1991a : 202).

4.5.2 HIV TESTING OF EXISTING EMPLOYEES

When discussing the legal dilemma of conducting HIV testing of existing employees, a number of issues need to be considered. From both the employer's and employee's standpoint, the legitimacy of mandatory HIV tests needs to be ascertained. Entwined in this issue is the rationale behind using these tests. Should HIV tests be used to "weed out" infected employees or, to ascertain their work fitness? Is there a place for HIV testing procedures in the employment arena? Having examined these questions, the employee's right to privacy and fair treatment as well as the lawfulness of the insertion of a clause requiring HIV testing into existing employment contracts, will be established.

4.5.2.1 AN INTERNATIONAL PERSPECTIVE

Mandatory AIDS testing of existing employees has been rejected as inappropriate by the European Community. The United Kingdom has suggested that infected workers should be treated no differently from those with other terminal diseases (Trebilcock, 1989). Indeed, in Britain the Social Services Committee of the House of Commons has stated that "with the exception of employments (such as airline pilots) where the neurotrophic effects of the virus could put lives at risk, employers have no reason for testing for HIV" (Napier 1989 : 86). While no specific legislation exists in Britain which either supports or negates the use of HIV testing of current employees, Napier (1989 : 91) suggests that "any attempt to insist on testing could well amount to a fundamental breech of contract, on the basis that such an act by the employer was destructive of mutual confidence in the relationship".

In the United States of America, the Centres of Disease Control do not recommend testing existing employees for the virus (Wing, 1986). This view is based on data which shows that "no evidence exists that AIDS can be spread through the casual contact characterising the typical workplace" (Letchinger 1986 : 60). In a review of the case histories of 10 000 HIV positive patients, the Centres for Disease Control found that no modes of transmission other than contaminated blood products and syringes, in utero transmission or intimate sexual contact were responsible for infection (Letchinger, 1986).

According to Lutgen (1987 : 55) of the Minneapolis Hennespin County Medical Center, from a legal perspective "the diagnosis of AIDS is not by itself sufficient to support an employer's contention that an individual is unqualified to do the job. An employer who routinely conducts AIDS screening on current employees may be accused of invading the employee's privacy. One who attempts to use AIDS test results in making hiring, firing or promotional decisions may be accused of discrimination against the handicapped". In addition to this, charges of discrimination could also be levelled against an employer who requests that

only selected individuals who are suspected of having the virus or engaging in high risk behaviour, be tested (Masi, 1987).

In a more recent development a federal district judge in the American state of Nebraska ruled that a mandatory HIV-antibody testing program for employees at a facility for the mentally retarded was a "constitutionally impermissible infringement on the right of the employees to be free from unreasonable searches and seizures under the Fourth Amendment of the Constitution" (Murphy, Barlow & Hatch, 1988 : 27).

4.5.2.2 A SOUTH AFRICAN PERSPECTIVE

In terms of South African law and its interpretation concerning the HIV testing of existing employees, Sher (1989) points out that once individuals have been employed a contractual relationship exists between the employer and employee. Unless stipulated in the employment contract, any attempt by the employer to force the employee to undergo an HIV test, is illegal. Notwithstanding, a clause could be negotiated into existing employment contracts which requires an HIV negative test result as a basis for continued employment. However, any unilateral amendment of the contract would be deemed an unfair labour practice by the industrial court (Dancaster, 1991).

Although the screening of all employees could be justified for epidemiological or educational purposes, Cameron (1991a : 208) notes that individual testing of existing employees is "difficult if not impossible to justify in the employment context". It is for this reason that in South Africa "consensus appears to rally around offering tests for employees who request them" (Du Plessis 1990b : 17).

The approach of screening employees who request to be tested has been adopted by South African Airways who offer voluntary HIV tests for existing flight crew. Anglo-Alpha Limited has adopted a similar approach which offers both voluntary HIV tests and counselling if requested (Levy, 1991). These developments are in concurrence with the guidelines for

HIV testing of existing employees furnished by the South African Society of Occupational Medicine which stipulate that:

* "Testing is voluntary
* Informed consent is obtained prior to testing
* Confidentiality of results is assured
* High quality laboratory services are utilised
* Confirmatory testing is performed if the screening testing is positive
* Individuals are informed of the results
* Employees are referred for counselling where appropriate" (Du Plessis 1990b : 20).

4.5.3 CONFIDENTIALITY AND DISCLOSURE OF HIV TEST RESULTS

The confidentiality and disclosure of HIV test results is an issue which centres on the individual's right to privacy and the employer's need and right to know of an employee's HIV positive test result. Included in this scenario is the medical practitioner and whether or not he is legally entitled to disseminate the employee's HIV status to his employer.

4.5.3.1 AN INTERNATIONAL PERSPECTIVE

The World Health Organisation in association with the International Labour Organisation stress the confidentiality of medical information and maintain employees should not be obliged to inform their employers about their HIV status (Spier & Edwards, 1990). As Cameron (1991a : 207) notes" this is in accordance with the consideration that there can be no rational reason for the employer to have to know of an otherwise healthy worker's HIV status."

Legislation in the United States of America differs between states and in California the individual's constitutional right to privacy is guaranteed. In terms of this legislation "an employee's health condition is personal and confidential" (Wagel 1988 : 7). As a

consequence of this law, Bank of Americas' policy concerning HIV and AIDS is that infected employees need not inform the company of their condition (Wagel, 1988).

Insofar as the medical profession is concerned, the Centres for Disease Control in the United States of America recommend that doctors "make every effort to keep (HIV test) results confidential" (Spier & Edwards 1990 : 131). The only exception to this could be when a doctor decides to inform a third party who "is at risk of contracting AIDS from his patient" (Burchell 1990 : 256).

4.5.3.2 A SOUTH AFRICAN PERSPECTIVE

According to Horning (1990) there is no obligation or legislation compelling an infected employee to inform his employer of his HIV status. However, once his condition deteriorates to the extent that he becomes unable to perform his work satisfactorily, a duty arises to inform the employer of the grounds for his incapacity. If the employee fails to do so, reasonable grounds may exist for his dismissal (Spier & Edwards, 1990).

In addition to this, Van Wyk (1990) submits that there is a legal duty on the part of an HIV infected employee to inform the employer if the disease poses a health threat in the workplace, or if there is an express term in the employment contract which stipulates such a disclosure in the event of HIV infection.

With respect to confidentiality, a doctor is not permitted to inform an employer of a patient's HIV status without written consent (Strauss, 1988). Any disclosure of a confidential nature would expose the doctor to a possible civil action for violation of an individual's right to privacy and there is a breach of Rule 16 of the South African Medical and Dental Council. This rule clearly states that "divulging verbally or in writing any information which ought not to be divulged regarding the ailments of a patient except with the express consent of the patient, or in the case of a minor, with the consent of his parent or guardian .... is not permitted" (Strauss 1988 : 145).

Taking into account the consequences of a disclosure to third parties which include "social isolation and refusal of employment and life insurance" (Ijsselmuiden et al, 1988a : 458), Cameron (1991a : 207) cautions that " an employer who comes to know of an employee's condition regarding AIDS or HIV bears a heavy duty of confidentiality".

It is for this reason that in addition to rejecting AIDS specific tests the National Union of Mineworkers stipulate that any voluntary test and its results should be anonymous and confidential (Matthews, 1990). In contrast to the National Union of Mineworkers, while Anglo Alpha Limited also stresses the confidential nature of AIDS-related information, it is a conditional confidentiality which depends on "special circumstances either in the employee's own interests or in the interests of fellow employees" (Cameron 1991a : 211).

On the issue of disclosure of HIV infection to the company, Anglo Alpha Limited requires employees "who are aware they have a life threatening disease to only inform the Company once they are unable to perform their tasks or if they are recommended to do so by a counsellor or medical practitioner" (Cameron 1991a : 210).

4.5.4 DISMISSAL ON THE BASIS OF DIAGNOSIS

In discussing whether or not a company can legitimately dismiss a worker because of HIV infection, the rights of the individual need to be assessed and balanced against those of the company. The issue of an individual's fitness to perform the work for which he was hired, is also critical.

4.5.4.1 AN INTERNATIONAL PERSPECTIVE

According to the guidelines of the World Health Organisation and the International Labour Organisation, the diagnosis of HIV infection does not constitute a reason for dismissal and sufferers should be able to work as long as they are medially fit to perform the available work (Spier & Edwards, 1990). These views have also been encouraged and sanctioned by the Centres for Disease Control in the United States of America who do not recommend

restricting infected employees from work. This is based on current available scientific and medical evidence that HIV is not communicable through social interaction in the workplace (Wing, 1986).

While few jurisdictions in the United States of America have "statutes directly governing an employee's treatment of people suffering from AIDS, the state of New York and the cities of San Francisco, Los Angeles and California expressly prohibit discrimination by employers against persons who have or are perceived to have AIDS" (Letchinger 1986 : 59).

In those states which do not have legislation specifically covering AIDS, patients are protected by the same legislation which "prohibits discrimination against handicapped people" (Lutgen 1987 : 55), since this legislation is couched in such broad terms, that a potentially wide range of medical conditions can be covered (Lutgen, 1987).

According to Letchinger (1986 : 59) of the American Bar Association, "any intention to dismiss an HIV infected employee that is based solely on a prediction the individual with AIDS will at some future time become so weakened by the disease that he / she will be unable to perform the job, is likely to be considered unlawful".

A similar approach to that which is used in the United States of America, has been adopted in Germany where a 1987 decision by the Berlin Labour Court "held that the mere fact of HIV infection of a worker does not justify dismissal" (Strauss 1988 : 149).

4.5.4.2 A SOUTH AFRICAN PERSPECTIVE

Professor Strauss (1988 : 149) of the University of South Africa maintains that there is "no authority to support the proposition that dismissal of an employee would be substantively fair following the mere diagnosis of AIDS, when at the stage of consideration of dismissal he is perfectly capable of performing his occupational duties".

An employer cannot rely on his contractual or common law rights "to the exclusion of fairness and equity" when terminating the employment contract (Dancaster 1991 : 61).

This type of summary dismissal of an HIV infected worker "would be seen as an unfair labour practice and would end up in an industrial court" (King 1991 : 5). Van Wyk (1990 : 10) is supportive of Sher's viewpoint, with the proviso that the infected person's presence in the workplace presents "no demonstrable risk to other employees".

Matthews (1990) suggests that even the suspension of an employee on the basis of suspicion of HIV infection would be considered an unfair labour practice, as would the unilateral transfer of an infected employee to another workplace. Only the consensual termination of the employment agreement between the employer and the employee after diagnosis of HIV infection would be legal provided the employee is not subject to duress. Furthermore the unilateral amendment of the employee's employment contract to introduce an AIDS termination clause would also be an unfair labour practice (Strauss, 1990b).

4.5.5 DISMISSAL DUE TO NON-ACCEPTANCE BY CO-WORKERS

When considering the issue of dismissal of a worker as a result of non-acceptance by co-workers, the legitimacy of the termination needs to be established from the standpoint of the infected individual, fellow workers and the employer.

4.5.5.1 AN INTERNATIONAL PERSPECTIVE

According to the World Health Organisation - International Labour Organisation guidelines "persons in the workplace affected by or perceived to be affected by HIV / AIDS must be protected from stigmatization and discrimination by co-workers, unions, employers or clients" (Spier & Edwards 1990 : 159). In the precedent setting case of the "School Board of Nassau County vs Arline", the Supreme Court of the United States of America concluded that in terms of the Rehabilitation Act of 1973 an AIDS victim cannot be dismissed because of "fear of contagion" (Masi 1987 : 57 & 58). The crux of this ruling was that an individual with AIDS was defined as being handicapped and in this manner was protected against job sanctions (Masi, 1987).

In Australia, although laws vary in different jurisdictions, no specific AIDS / HIV-related legislation has been passed. However, in New South Wales the Anti-Discrimination Act of 1977 is sufficiently broad in its scope to address the refusal of co-workers to work with an infected colleague (Watchiris, 1990).

4.5.5.2 A SOUTH AFRICAN PERSPECTIVE

In South Africa, if employees demand the dismissal of an HIV infected co-worker and refuse to work with him, a summary dismissal of the sufferer would be an unfair labour practice if the employer has not taken all the steps "one can reasonably expect from him as an employer" (Dancaster 1991 : 62).

Strauss (1988) stresses that in such a case the industrial court will apply the norm of the "reasonable employer". He adds that "in order to comply with the standard of reasonableness, an employer would first have to do everything that is reasonably within his ability to encourage a realistic and compassionate approach on the part of the general body of employees toward a company employee who is known to be HIV positive" (Strauss 1988 : 152).

In addition to the employer ensuring his staff receives AIDS education the norm of "reasonable employer" would include, taking the necessary steps to prevent the spread of the disease in the workplace; transferring the infected individual to another part of the organisation; "allowing him to work from home where possible or giving consideration to the possibility of the employee working at different times when there are fewer employees at work" (Dancaster 1991 : 63).

If all these steps have been taken and employees persist in refusing to work with an HIV sufferer, two alternative solutions have been suggested. On the one hand Strauss (1990b) and Matthews (1990) support the termination of the sufferer's employment. Botha (1989) concurs with this view by adding that the dismissal of the infected worker would not

constitute an unfair labour practice provided the employer could show a real economic threat to his business if he failed to take this preventative measure.

Cameron (1991a) on the other hand favours disciplinary action against the recalcitrant workers. His view is supported by the AIDS-related policy of Anglo-Alpha Limited which states that "should an employee, after reassurance and with all appropriate safety and health precautions being taken and supplied by the Company remain unwilling to work with the HIV positive employee and this refusal affects productivity, he / she will be warned that his / her reaction is unreasonable, scientifically unjustified, that his / her own employment situation is in jeopardy and that disciplinary action may be taken against him / her" (Cameron 1991a : 205).

4.5.6 DISMISSAL DUE TO INCAPACITY

The issue of dismissal due to incapacity is not precise because the notion of what constitutes incapacity is subjective and differs between individuals and countries. In the United States of America incapacity is interpreted in terms of the Disability Act whereas in Australia it is covered by legislation pertaining to impaired and handicapped individuals. Common features of these definitions include damage to an employee's physical and mental functions.

4.5.6.1 AN INTERNATIONAL PERSPECTIVE

The issue of dismissal for incapacity is covered by legislation pertaining to handicapped individuals in the United States of America. Such legislation includes the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1970 (Watchiris, 1990).

In terms of the Disabilities Act which incorporates public services and transport as well as public accommodations and private sector employment, a disability has been defined "as a physical or mental impairment that substantially limits one or more of the major life activities of an individual" (Watchiris 1990 : 26).

Seen in this light, should HIV / AIDS limit the individual's functions in such a way that he is incapable of performing the job for which he was hired, and having exhausted all other avenues of accommodating the person, dismissal is legal (Murphy, Barlow & Hatch, 1988).

This view is in concurrence with the "Convention on Termination of Employment at the Initiative of the Employer" which the International Labour Conference has adopted (Orme, 1991). In terms of this convention "employment shall not be terminated unless there is a valid reason for such termination connected with the capacity or conduct of the worker or based on the operational requirements of the undertaking, establishment or service" (Orme 1991 : 36).

While Australia has not ratified these conventions, in Southern and Western Australia and in New South Wales, HIV infected individuals are protected by the broad interpretation of legislation pertaining to handicapped and impaired persons (Watchiris, 1990). Although the question of dismissal based on incapacity " has not yet been judicially determined or sanctioned" (Watchiris 1990 : 14) with respect to HIV and AIDS, it is the opinion of Watchiris (1990) of the Department of Health, Housing and Community Services in Australia, that such a dismissal would be lawful.

4.5.6.2 A SOUTH AFRICAN PERSPECTIVE

If an HIV infected worker is too ill to perform the work for which he was employed dismissal is legally justified in South Africa on the grounds of incapacity, (Strauss,

1988) where incapacity "may refer to health, physical power or competence and mental health or ability" (Matthews 1990 : 12).

However, Cameron (1991a) maintains that there cannot be a summary dismissal of an employee for HIV based incapacity. It is his opinion that (1991a : 206) "there should be prior notice to the employee concerned, prior consultation and due observance of any applicable agreement. Consultation here shall encompass ascertainment of the employee's actual medical condition, the amount and nature of the work he or she is still capable or might in the future again be capable of performing, and any alternatives to outright dismissal that might exist".

The necessity for such a thorough procedure has also been highlighted by Botha (1989) who suggests a five step approach preceding a dismissal based on incapacity:

* A warning to the employee that his work is substandard
* A request for the employee to explain his performance
* An investigation of the reasons for his poor performance
* An opportunity for the employee to improve his performance
* A final warning and consultation to find an acceptable solution to the incapacity.

Even after these steps have been followed, the personal circumstances, job record and potential effect of the dismissal on the employee should be considered prior to a final decision on dismissal (Botha, 1989).

In order to avoid any allegations of an unfair labour practice, Strauss (1988 : 150) suggests that in addition to the above-mentioned procedures the possibility of alternative employment should be considered and where appropriate "a competent authority should conduct a test with a view to ascertaining whether the employee is indeed capable". These comprehensive steps ensure that dismissal of an infected, incapable employee is both substantively and procedurally fair.

4.6 CONCLUSION

The nature of an enterprise interacting with a multi-faceted disease in the form of AIDS could result in many different points of impact in the economy, with enormous cost implications.

For reasons of social responsibility, self interest and survival, strategic planning should be essential for all organisations in the context of the AIDS pandemic. The formulation and implementation of policies which deal either specifically with AIDS or with all terminal diseases could become increasingly relevant for an organisation's self preservation and survival.

From an organisation's point of view, the development and implementation of policies relating to AIDS falls within the portfolios of management with the assistance of human resources management. With knowledge of pertinent legal issues, management will be able to decide whether they intend to adopt and develop an AIDS policy.

While it is recognised that organisations will adopt different approaches to dealing with AIDS, it is submitted that these differences will reflect the knowledge, awareness and attitudes of the management in these organisations. The attitudes of management towards an AIDS policy will highlight the prevalent degree of knowledge and awareness, the stance vis-a-vis HIV testing, the anticipated effect of AIDS on company benefit schemes, and views on policy related matters.

CHAPTER 5

METHODOLOGY

5.1 INTRODUCTION

In this chapter the research methods used to determine the attitudes of management towards an AIDS policy for the workplace, will be presented. Having highlighted the objectives of the study, the sample that was used will be discussed and the procedures used to obtain the sample will be described.

In order to determine the attitudes of management, a questionnaire was developed consisting of three sections. The process of developing these research instruments and the statistical techniques used to analyze the data will be described.

5.2 THE RESEARCH DESIGN

The objectives of the current study were as follows:

(i) To establish the attitude of management towards implementing an AIDS specific employment policy in the workplace

(ii) To determine the attitude of management towards pre-employment testing to ascertain the HIV status of potential employees

(iii) To investigate the views of management and hence the company towards employees infected with the HIV virus and whether they qualify for the usual fringe benefits in their respective companies.

5.3 DESCRIPTION OF THE SAMPLE

Through the process of sampling "inferences can be made about the population on the basis of characteristics of the sample" (Schaeffer, Mendenhall & Ott 1990 : 1). It is a

procedure which "encompasses the process of drawing people or things from the larger population" (Black & Champion 1976 : 265).

According to Yates (1981 : 9) the "principal object of any sampling procedure is to secure a sample which, subject to limitations of size, will reproduce the characteristics of the population, especially those of immediate interest, as closely as possible". "In many cases therefore, sampling results in great economy of effort" (Yates 1981 : 3), time and money.

In this study, both of the sampling methods that were used, were examples of non-probability sampling plans. "Non-probability sampling plans are those that provide no basis for estimating how closely the sample characteristics approximate the parameters of the population from which the sample was obtained" (Black & Champion 1976 : 267).

The research was conducted using a sample of 100 subjects who were selected from 13 companies. The companies were located in the greater Durban area and were situated in the food and beverage, manufacturing and service sectors of industry.

Eight of these companies are public entities and are listed on the Johannesburg Stock Exchange (JSE) either under their trading name or their holding company's name. The other 5 companies are all privately owned and range in size from employing as few as 11 people, to as many as 1200.

The subjects involved in the research satisfied the following conditions:

- They were informed of the nature of the study
- They voluntarily completed the questionnaires.

No restrictions were placed on the variables of sex, age, race, educational qualifications, levels of management experience or managerial position. This was because the possible interaction of these variables with clusters of data revealed by the questionnaire was to be statistically assessed in terms of their relevance, importance and effect. The singularly important criterion was that all subjects be part of the management structure of

their respective companies. This included those individuals in top, middle and supervisory management positions. These levels of management can be defined as:

Top Level Management

This level consists of those people who determine the "long range objectives and the direction for the organization" (Donnelly, Gibson & Ivancevich 1990 : 29), and are also known as the strategic level of management.

Middle Management

This level includes "all employees below the top management level who manage others" (Rue & Byars 1989 : 10).

Supervisory Management

Also known as the operational level of an organisation (Donnelly et al, 1990) this level consists of supervisors. A supervisor can be defined as an individual "who manages operative employees - those who physically produce an organization's goods and services" (Rue & Byars 1989 : 10).

Demographic information concerning the respondents in the study is provided in Table 5.1.

TABLE 5.1

RESPONDENTS - BIOGRAPHICAL INFORMATION N = 100	
	NUMBER
SEX	
MALE	72
FEMALE	28
AGE	
18 - 29	24
30 - 40	42
41 - 50	26
51 - 60	8
RACE	
WHITE	88
INDIAN	6
OTHER	6
HOME LANGUAGE	
ENGLISH	100
EDUCATIONAL QUALIFICATIONS	
STANDARD 10	38
DIPLOMA	33
DEGREE	17
POST GRADUATE	12
LENGTH OF SERVICE IN PARTICULAR COMPANY	
Less than 1 year	15
1 - 3 years	30
4 - 6 years	19
7 - 10 years	17
11 - 15 years	9
16+	10
MANAGEMENT POSITION	
Top Management	5
Middle Management	58
Supervisory Management	37
EXPERIENCE IN MANAGERIAL POSITIONS	
Less than 1 year	11
1 - 3 years	27
4 - 6 years	24
7 - 10 years	17
11 - 15 years	7
16+	14
INDUSTRY	
Foods and Beverages	50
Manufacturing	29
Service	21

5.4 PROCEDURE

The sampling method that was used to select the companies who participated in the study was the quota method. According to Black and Champion (1976 : 302) this method of sampling entails "obtaining a desired number of elements by selecting those most accessible to the researcher and those that possess certain characteristics of interest to him".

Having consulted the personnel managers of the organizations and explained the nature of the research, the questionnaires were then distributed to the relevant staff. Since the aim of the questionnaire was to assess management attitudes towards an AIDS policy for the workplace, it was essential that only managers be included in the study. For this reason the purposive or judgmental method of sampling was used.

Purposive sampling "allows the sampler to make a judgement about which individuals will or will not be included in the sample" (Mendenhall, Reinmuth & Beaver 1989 : 307). Due to the "high degree of selectivity accompanying this technique" (Black & Champion 1976 : 305), the inclusion of the relevant strata (namely management) in the research is virtually guaranteed (Black & Champion, 1976).

Subjects who participated in the study were made aware of the purpose of the investigation and were asked to answer all the questions as honestly as possible. Participation took place voluntarily and individuals were requested to complete the questionnaires at their leisure. No time limit was placed on the completion of questionnaires though it was stressed that this process should not take more than half an hour.

Furthermore, the confidential nature of the questionnaire and its use for research purposes alone, was emphasized. The anonymity of participants was also stressed and ensured by not asking for respondents' names (Appendix A).

A total of 115 questionnaires were administered, but 15 papers could not be used in the study due to incomplete responses. This research is consequently based on a sample of 100 subjects.

In an attempt to determine management attitudes towards an AIDS policy for the workplace, a questionnaire consisting of three sections was developed. This questionnaire will be described in the following section.

5.5 RESEARCH INSTRUMENTS

The research instruments used in this study consisted of a questionnaire divided into three sections and consisted of the following:

* A description of the company
* Biographical information form
* AIDS attitude questionnaire.

5.5.1 A DESCRIPTION OF THE COMPANY (Appendix B)

Information obtained in this section of the questionnaire revealed the name of the company and what it produced. In addition to establishing the number of staff employed and their union status, the existence of a company AIDS policy was also determined. If an AIDS policy existed it was ascertained who designed it and when it was implemented. If the company did not have an AIDS policy, whether a policy was being planned or not was determined.

5.5.2 BIOGRAPHICAL INFORMATION FORM (Appendix C)

Biographical data which was revealed included the subjects' sex, age, race, and educational qualifications. Subjects were asked to indicate their managerial position and length of service in the company as well as their total amount of management experience.

These personal variables were considered to be of significance in relation to managerial levels of knowledge regarding AIDS, their views on HIV testing, their attitudes towards an AIDS policy and policy related issues, and their views concerning the effect the disease would have on benefit schemes.

5.5.3 AIDS ATTITUDE QUESTIONNAIRE (Appendix D)

Items for the questionnaire were derived from a review of the literature concerning AIDS, from interviews with persons knowledgeable about AIDS (D. Pudifin, personal communication, June 26, 1991; and A. Whiteside, personal communication, July 15, 1991), and from an analysis of questionnaires already developed (Boulle, 1991; Knight, 1990).

The purpose of the questionnaire was to establish management attitudes towards an AIDS policy for the workplace. An attitude can be defined as being concerned with "feelings about particular social objects, physical objects, types of people, particular persons, social institutions, government policies and others (Nunnally 1967 : 515).

The questionnaire was developed along the lines of a summated rating or Likert type scale. According to Black and Champion (1976 : 186 - 187) the Likert type scale is "by far the most popular of all measurement methods" and was developed to "differentiate between subjects according to their possession of some ordinal characteristic, typically attitudinal in nature".

The questionnaire consisted of 40 statements which are concerned with management attitudes towards certain workplace-related aspects of AIDS which need to be dealt with when deciding whether or not to implement an AIDS policy. These aspects include:

* Knowledge and awareness of the HIV virus and AIDS
* Attitudes toward HIV testing of job applicants and current employees
* Attitudes toward employee benefits
* A series of AIDS - workplace related questions

* Attitudes toward an AIDS policy for the workplace.

The item pool was evenly divided between positive and negative statements and no neutral statements were included in the scale. Each item included in the questionnaire had the same attitudinal value as any other item (Kerlinger, 1973).

In the AIDS attitude questionnaire five response alternatives or anchors are presented for each item. These anchors range from strongly agree, agree, uncertain, disagree, and strongly disagree and are weighted from a score of 1 (strongly agree) to a score of 5 (strongly disagree). By assigning values to each of the responses, it is possible to measure "the intensity with which a person reacts to any given statement" (Black & Champion 1976 : 187).

According to Kerlinger (1973) the ability to offer five response choices and thus provide for differing degrees of attitude expression, is the main advantage of summated rating scales. This is because such a variety of choices provides "an opportunity for a greater variance of results" (Kerlinger 1973 : 496). Other advantages of summated rating scales is that they are easy to construct (Nunnally, 1967) and interpret (Black & Champion, 1976), and have a flexibility that "is unparalleled by any other measurement technique (Black & Champion 1976 : 194). This is because "the researcher is at liberty to include as many or as few items in his measure as he chooses" (Black & Champion 1976 : 194).

In an effort to summarize and reduce the data to a limited number of factors, to establish the reliability of the AIDS attitude questionnaire and to analyze the levels of association between variables, various statistical procedures were utilized. These procedures will be described in the next section.

5.6 STATISTICAL ANALYSIS OF DATA

Five statistical procedures were used to analyze the data revealed by the AIDS attitude questionnaire. All of these procedures were computed on the SAS computer package. The techniques that were used are:

* Factor Analysis : this procedure was aimed at the summarization and reduction of data to a limited number of dimensions or factors
* Cronbach's alpha coefficient : the purpose of this technique was to establish the internal reliability of the questionnaire
* Analysis of Variance: was used to determine whether a relationship existed between the variables and the factor
* Duncan's Multiple-range Test: If a relationship was revealed by the Analysis of Variance procedure, Duncan's Multiple-range test was used to establish which groups exhibit a specific behaviour to a significant degree
* Pearson's correlation co-efficient: was used to assess the relationship between variables when one of the variables was continuous.

5.6.1 FACTOR ANALYSIS

The field of multivariate analysis "involves a complicated but important set of methods for studying the relationships among variables" (Kaplan & Saccuzzo 1989 : 85). These methods or techniques are concerned with "data that consists of sets of measurements on a number of individuals or objects" (Anderson 1984 : 1), and inquires into the "structure of interrelationships among multiple measures" (Bernstein 1988 : 1). One of these methods is factor analysis.

Factor analysis is a multiple correlational technique (Keppel & Saufley, 1980) which is responsible for data reduction (Kaplan & Saccuzzo, 1989) and the "summary of information about the relationship among a large number of variables" (Murphy & Davidshofer 1988 : 103).

According to Hair, Anderson, Fatham and Grablowsky (1979 : 218), factor analysis "addresses itself to the problem of analyzing the interrelationships among a large number of variables and then explaining these variables in terms of their common, underlying dimensions (factors)". A factor can be defined as a "construct, a hypothetical entity that is assumed to underlie tests, scales, items, and indeed measures of almost any kind" (Kerlinger 1973 : 659).

In addition to providing construct validity and ascertaining "whether the expected pattern of relationships among variables does indeed exist" (Murphy & Davidshofer 1988 : 103), factor analysis uses the relationship between several variables to achieve a "level of prediction and correlation that is not possible if variables are correlated one pair at a time" (Keppel & Saufley 1980 : 353). It is for these reasons that Nunnally (1967 : 371) believes factor analysis is "indispensable" and Kerlinger (1973 : 659) describes it as "the queen of analytic methods".

When computing the data for factor analysis on the SAS computer package, the principal components factor analytic approach was employed. This method conformed with the objective of summarizing "most of the original information in a minimum number of factors" (Hair et al 1979 : 221). The factors were extracted using the orthogonal factor model. In this model "each factor is independent from all other factors", and since the initial goal of using factor analysis was to "reduce the number of original variables" (Hair et al 1979 : 221), this method was considered to be the most relevant. In order to "simplify the rows of the factor matrix", that is "to make as many values in each row as close to zero as possible" it was decided that the "popular" varimax method of rotation would be used (Hair

et al 1979 : 230). More specifically it was decided that the "N FACTORS = n" option provided by the SAS computer package would be optimally beneficial. This belief was grounded in the fact that by using this option it is possible to "specify the maximum number of factors to be extracted" (SAS / STAT User's Guide 1988 : 459). According to Hair et al (1979 : 236) when interpreting the data from factor analysis, "the lowest factor loading to be considered as significant would in most instances be ± 0,30". When interpreting the data from factor analysis the guideline of 0,3 will be followed.

5.6.2 CRONBACH'S ALPHA COEFFICIENT

In order to establish the internal consistency of the AIDS attitude scale, the PROC CORR option ALPHA on the SAS computer package was used. The statistical method employed in this package is called Cronbach's alpha or coefficient alpha.

Cronbach designed his coefficient alpha specifically to "estimate the internal consistency" of personality and attitude scales which have no right or wrong answers (Kaplan & Saccuzzo 1989 : 103). As a result, coefficient alpha has been described as "the most general case of internal consistency reliability" (Kaplan & Saccuzzo 1989 : 103) and "the most widely used" (Murphy & Davidshofer 1988 : 69).

According to Murphy and Davidshofer (1988 : 69) "internal consistency methods estimate the reliability of a test based solely upon the number of items in the test and the average intercorrelation among test items". Coefficient alpha, was determined using the following formula (Kaplan & Saccuzzo, 1989).

$$R = x = \left(\frac{N}{N - 1}\right)\left(\frac{S^2 - \sum S^2 i}{S^2}\right)$$

When interpreting the data and establishing "how high a reliability coefficient must be before it is high enough" (Kaplan & Saccuzzo 1989 : 103), the guideline of 0.70 suggested by Kaplan and Saccuzzo (1989) will be followed.

5.6.3 THE ANALYSIS OF VARIANCE

The analysis of variance statistical procedure, which is "often referred to by a contraction of its name: ANOVA" (Minium 1978:407); was chosen to test for difference in the relationship between the identified factors and the various variables.

Identified as an "extremely important method of statistical inference" (Korin 1975:325), the objective of ANOVA is "to locate important independent variables in a study and to determine how they interact and affect the response" (Mendenhall, Schaeffer & Wackerly 1986:528).

Using the ANOVA technique, all date are treated simultaneously (Downie & Heath 1965) and the "total variation present in a set of data is partitioned into several components. Associated with each of these components is a special source of variation, so that, in the analysis, it is possible to ascertain the magnitude of the contribution of each of these sources to the total variation" (Daniel & Terrell 1989:385).

Although there are three assumptions which govern the use of ANOVA, namely that the populations are normally distributed have homogeneity of variance and are "independent from one another both within each treatment population or across populations" (Keppel & Saufley 1980:96); Keppel and Saufley (1980:97) are of the opinion that in psychological research and experimentation the assumptions of "normality and homogeneity of variance" are rarely met. This viewpoint is supported by Nainaar (1991:155) who suggests the accuracy of results will not be affected "even if the homogeneity assumption is violated, as long as the sample sizes are the same or very similar in number. Similarly the assumption of normality of distribution

may be violated provided the departure from normal is not too large". While Keppel and Saufley (1980:97) concur with Nainaar (1991) and support the principles of her viewpoint, they are of the opinion "that even relatively severe deviations from the conditions assumed have little effect on the evaluation process".

When using the ANOVA procedure in this research, the significance of group differences will be assessed using the F-test instead of the t-test. This decision was based on the belief that the "f test is the most able to demonstrate the significance of group differences" irrespective of the manner in which group means differ (Bernstein 1988:10). According to Bernstein (1988:10) this is because the F-test assumes that error within groups is normally distributed, equal in magnitude and independent among groups".

Furthermore, Keppel and Saufley (1980:109) stress that the while F test and t test are algebraically equivalent and can be used interchangeably in most situations, the F test is more versatile since it can "also be applied in situations where the t test cannot be used".

Having computed the data on the SAS computer package, the results of the F test will be used to assess and test the various null hypothesis. As is the case with ANOVA, the null hypothesis will specify "the complete absence of differences among the treatment means, that is the absence of treatment effects" (Keppel & Saufley 1980:52). For the research hypothesis to gain support the null hypothesis will be rejected at the 5% level of significance, since this is "the standard against which most researchers assess the null hypothesis" (Keppel & Saufley 1980:89).

5.6.4 DUNCAN'S MULTIPLE-RANGE TEST

Should the ANOVA reveal a significant result which would indicate the rejection of the null hypothesis, it will be necessary to establish which groups are significantly different from one another (Huysamen, 1981).

Tests which are "used to find group differences after the null hypothesis has been rejected are called post hoc or a posterior tests" (SAS/STAT User's Guide 1988:102). For the purposes of this research, Duncan's multiple-range test will be performed on the SAS computer package "to investigate differences between levels of our independent variable" (SAS/STAT User's Guide 1988:102).

5.6.5 PEARSON'S CORRELATION COEFFICIENT

The final statistical procedure that will be used is the Pearson product-moment correlation coefficient, commonly known as Pearson r. Pearson's r is a parametric statistical procedure which is more powerful than its non-parametric counterparts (Siegel & Castellan, 1988), and will be used in situations where variables are continuous and correlational techniques are called for.

Pearson's r will be used to "measure the degree of linear association" between variables (Pfaffenberger & Patterson 1977:429). While a strong correlation indicates an association between variables (Siegel & Castellan, 1988), this does not mean that a causal relationship exists (Spatz & Johnston, 1989). According to Owen and Jones (1990:476) the meaning of a correlation is to "give added weight to a relationship that theory suggests exists".

The correlation coefficients which emerge from the computation of data range in value from +1,00 to -1,00 with a value of 0,00 indicating no relationship between variables (Spatz & Johnston, 1989). The magnitude of the correlation indicates the strength of the relationship and the "nature of the relationship is indicated by the sign of the correlation coefficient" (Jaccard & Becker 1990:402).

5.7 CONCLUSION

In this chapter a review was given to outline the research methodology used to investigate the attitudes of management towards an AIDS policy for the workplace. The sample that was used in the research was described and the procedures used to obtain the sample were discussed. This was followed by an investigation of the research instruments and a summary of the manner in which they were compiled. The statistical methods that were used to analyze the data and the relationship among variables was also described. The results of this analysis will be presented in the following chapter.

CHAPTER 6

THE PRESENTATION AND DISCUSSION OF RESULTS

6.1 INTRODUCTION

In this chapter the results of the statistical investigation used to assess management attitudes towards an AIDS policy for the workplace, will be presented and discussed.

The relationship between variables will be assessed using the analysis of variance technique (ANOVA), and should any relationship exist, Duncan's multiple-range test will be used to establish the nature of that relationship. The relationship between continuous variables as determined by Pearson's correlation coefficient will be presented and discussed.

A brief summary of each subtest and what it aimed to measure will be presented together with tables containing the items in that subtest. The results of the factor analysis procedure whose purpose was to reduce and summarize the data into a limited number of factors, will be presented and discussed in terms of the similarity between the subtests and the factors revealed by factor analysis. The factors revealed by factor analysis will then be presented and discussed in terms of its loadings and eigenvalues.

Following this will be the presentation of the results of Cronbach's coefficient and a discussion of the meaning of these results in terms of the internal consistency of the questionnaire as a whole, as well as the factors comprising it.

The presentation and discussion of the results of these procedures will not only be limited to this study, but include the incorporation of any related research and supplementary investigations.

6.2 ANOVA, DUNCAN'S MULTIPLE RANGE TEST, PEARSON'S COEFFICIENT: PRESENTATION AND DISCUSSION

When analyzing the data revealed by the statistical analysis, the results of the ANOVA procedure will be presented and should any correlation be revealed, the extent of that relationship will be determined using Duncan's multiple-range test. In those instances where one of the variables was continuous, the results of Pearson's r correlation will be reported instead of ANOVA. These results will then be discussed with reference to any related or pertinent research.

6.2.1 Hypothesis 1

"All managers, irrespective of level or business sector, are equally knowledgeable and aware of HIV and AIDS".

TABLE 6.1 ***ANALYSIS OF VARIANCE SCORES OF THE RELATIONSHIP BETWEEN KNOWLEDGE AND AWARENESS, AND ECONOMIC SECTOR AND MANAGERIAL POSITION.***

VARIABLES	F VALUE	Pr > F
Knowledge and Awareness/ Sector	1,86	0,1611
Knowledge and Awareness/ Managerial Position	5,12	0,0077

With an F value of 1,86 and the probability of obtaining a value this large by chance alone being 0,1611, it can be concluded that at the 0,05% level there is no significant relationship between the economic sector in which management work, and their level of knowledge and awareness concerning AIDS (Table 6.1).

When the relationship between a manager's position and his/her level of knowledge and awareness is assessed, a significant relationship does emerge. With a probability value of 0,0077 it can be concluded that the levels of knowledge and awareness of managers varies according to their managerial position (Table 6.1).

TABLE 6.2 *DUNCAN'S MULTIPLE-RANGE TEST FOR MANAGEMENT POSITION*

DUNCAN GROUPING		MEAN*	N	MANAGEMENT POSITION
	A*	4,343	56	Middle
	A			
B	A	4,108	40	Supervisory
B				
B		3,944	4	Top

*Means with the same letter are not significantly different.

Using Duncan's multiple-range test to assess which managers are the most knowledge about AIDS has been established that middle managers are significantly more knowledgeable and aware concerning AIDS, than are top level managers (Table 6.2). No significant difference was established between the levels of knowledge and awareness of supervisory and middle managers, and between top and supervisory managers.

This result is not consistent with the fact that since it is the responsibility of top level management to develop policies for the workplace (Tansik et al, 1980), and that in order for an effective policy to be formulated a thorough knowledge of the relevant issues concerned is necessary (Spier & Edwards, 1990), it would be expected that top echelon managers would be more knowledgeable and aware about AIDS than middle level managers.

6.2.2 Hypothesis 2

"No relationship exists between a managers length of service and amount of managerial experience, and his level of knowledge and awareness concerning AIDS".

TABLE 6.3 ***PEARSON r CORRELATION COEFFICIENTS OF KNOWLEDGE AND AWARENESS WITH DURATION OF SERVICE AND MANAGERIAL EXPERIENCE***

VARIABLE	r VALUE
Knowledge and Awareness/Duration of Service	-0,10824
Knowledge and Awareness/Managerial Experience	-0,09338

Examining the relationship between managerial levels of knowledge and awareness, and their length of service and managerial experience, the Pearson statistical procedure reveals an insignificant relationship in both instances (Table 6.3). These results indicate the acceptance of the null hypothesis and hence an acknowledgement of the absence of any relationship between a managers length of service and level of experience, and his level of knowledge and awareness concerning AIDS.

Due to the paucity of research examining management attitudes towards an AIDS policy for the workplace, no direct comparisons can be made with similar studies. Most studies focussing on AIDS and HIV have dealt with legal concerns and the rights of employer and employee.

6.2.3 Hypothesis 3

"Neither sexual nor racial group can be considered important determinants of managerial knowledge and awareness regarding AIDS".

TABLE 6.4 ***ANALYSIS OF VARIANCE SCORES OF THE RELATIONSHIP BETWEEN KNOWLEDGE AND AWARENESS, AND RACIAL AND SEXUAL GROUP.***

VARIABLES	F VALUE	Pr > F
Knowledge and Awareness/Race	8,60	0,0004
Knowledge and Awareness/Sex	0,01	0,9074

When examining the relationship between managements level of knowledge and awareness concerning AIDS and their sexual groups, an insignificant relationship at the 0,05% level can be observed. However, when analyzing the relationship between racial group and levels of knowledge and awareness, a probability of 0,0004 indicates a significant relationship (Table 6.4).

TABLE 6.5 ***DUNCAN'S MULTIPLE-RANGE TEST FOR RACIAL GROUP***

DUNCAN GROUPING	MEAN*	N	RACIAL GROUP
A*	4,301	85	White
B	3,889	10	Indian
B			
B	3,833	5	Other

*Means with the same letter are not significantly different.

The relationship between racial group and levels of knowledge about AIDS is highlighted by Duncan's multiple-range test which shows that White managers are more knowledgeable and aware about AIDS than both Indian managers and managers in the "Other" category. No significant difference between the levels of knowledge and awareness of Indians and "Others" was observed (Table 6.5).

When it is considered that the White population is better educated than both the Asian and Black population of South Africa, and that Whites occupy predominantly the most skilled occupations in the economy (Brijlal, 1990); it is not surprising that White managers are more knowledgeable and aware about HIV and AIDS than their Asian and Black counterparts.

In addition, in terms of educational qualifications and occupational levels, this finding can be substantiated on a cultural and political level. In a study conducted by Dr Daryl Hackland in Natal, one third of Black school children in KwaZulu aged 17 to 23 believed "AIDS was a joke" and that warnings of AIDS were "sinister propaganda drives aimed at limiting Black population growth" (Sunday Tribune 14.10.1990).

6.2.4 Hypothesis 4

"There is no correlation between a manager's age and his/her level of knowledge and awareness concerning AIDS".

TABLE 6.6 ***ANALYSIS OF VARIANCE SCORES OF THE RELATIONSHIP BETWEEN KNOWLEDGE AND AWARENESS, AND AGE.***

VARIABLES	F VALUE	Pr > F
Knowledge and Awareness/Age	0,85	0,4691

When examining the relationship between managerial age and their levels of knowledge and awareness concerning AIDS, the probability of obtaining an F value of 0,85 by chance alone is 0,4691. It can be concluded that no significant relationship exists between managerial age and their levels of knowledge and awareness at the 5% level (Table 6.6).

Although there is a paucity of research concerning the relationship between a managers age and his level of knowledge and awareness concerning AIDS, a poll of 600 senior human resources executives conducted by Masi (1987:57) in the United States of America showed that only 14% felt "great concern over the AIDS problem" whereas 50% felt "some concern" and 31% "not much concern at all".

This finding suggests that the overall level of knowledge and awareness concerning AIDS and HIV is poor, for if managers were sufficiently knowledgeable about the disease, the majority of management would feel "great concern" about the AIDS pandemic.

6.2.5 Hypothesis 5

"The relationship between the educational qualifications of management and their attitudes towards an AIDS policy and policy related issues, and their knowledge and awareness concerning AIDS is non-existent or negligible".

TABLE 6.7 ***ANALYSIS OF VARIANCE SCORES OF THE RELATIONSHIP BETWEEN EDUCATIONAL QUALIFICATIONS AND KNOWLEDGE AND AWARENESS, ATTITUDES TOWARDS AN AIDS POLICY AND POLICY RELATED ISSUES***

VARIABLE	F VALUE	Pr > F
Knowledge and Awareness/Educational qualifications	3,14	0,0289
Policy/Educational qualifications	1,80	0,1529
Policy related issues/Educational qualifications	0,69	0,5584

Analyzing the relationship between attitudes toward an AIDS policy and the educational qualifications of management, it can be seen that no significant relationship exists. Similarly, the relationship between managerial educational qualifications and their views on policy related AIDS matters is insignificant (Table 6.7).

When evaluating the relationship between managerial educational qualifications and their levels of knowledge and awareness concerning AIDS, the probability of obtaining an F value of 3,14 by chance is 0,0289 (Table 6.7). At the 0,05% level of significance it can be concluded that there is a significant difference in knowledge and awareness according to the level of educational qualification.

TABLE 6.8 ***DUNCAN'S MULTIPLE-RANGE TEST FOR EDUCATIONAL QUALIFICATIONS***

DUNCAN GROUPING		MEAN*	N	EDUCATIONAL QUALIFICATIONS
	A*	4,398	12	Post Graduates
	A			
B	A	4,333	17	Degree
B	A			
B	A	4,292	35	Diploma
B				
B		4,074	36	Standard 10

*Means with the same letter are not significantly different.

Using Duncan's multiple-range test it can be established that the significant difference exits between those who have post graduate qualifications and those who possess standard 10; with the post graduates significantly more knowledgeable and aware concerning HIV and AIDS. Looking further, no significant differences exist between any of the other groups (Table 6.8).

This result is not surprising since it could be expected that those managers who were better educated (graduates) would be more knowledgeable and aware about HIV and AIDS than those managers who were less well educated (possessed a standard 10).

However, the level of education is not the only determining factor of levels of knowledge and awareness concerning AIDS. Cultural factors are also significant in this regard especially in the African community where "polygamy and concubinage are still tacitly accepted as normal cultural practices" (Du Plessis 1990 b:21).

This finding is substantiated by Dr Daryl Hackland who found that 60% of school principals (with assumed education) in KwaZulu did not believe a "proper man could stick to one women" (Sunday Tribune 14.10.1990).

6.2.6 Hypothesis 6

"Neither sex, age or race are important variables with respect to management attitudes towards an AIDS policy and policy related issues".

TABLE 6.9 ***ANALYSIS OF VARIANCE SCORES OF THE RELATIONSHIP BETWEEN THE ATTITUDES MANAGERS POSSESS CONCERNING AN AIDS POLICY AND POLICY RELATED ISSUES, AND THEIR AGE, SEX AND RACE.***

VARIABLES	F VALUE	Pr > F
Policy/Age	0,65	0,5860
Policy Related/Age	0,43	0,7335
Policy/Sex	0,31	0,5777
Policy Related/Sex	0,44	0,5092
Policy/Race	3,42	0,0366
Policy Related/Race	0,55	0,5793

When analyzing the relationship between the age of managers and their attitudes towards an AIDS policy and policy related matters, it can be concluded from the data (Table 6.9) that no significant relationship exists.

Similarly, the relationship between the sex of the manager and their attitudes on AIDS policy and policy related matters also reveals an insignificant relationship (Table 6.9).

Furthermore, at the 5% level of significance the relationship between the racial group and attitudes of managers towards policy related matters is also insignificant.

However, an analysis of the relationship between the racial group of managers and their views towards an AIDS policy, does reveal significant results. A probability value of 0,0366 indicates that at the 5% level of significance a relationship does exist between the attitudes managers possess concerning an AIDS policy, and their racial group (Table 6.9).

TABLE 6.10 ***DUNCAN'S MULTIPLE-RANGE TEST FOR RACIAL GROUP.***

DUNCAN GROUPING		MEAN*	N	RACE
	A*	4,339	85	White
	A			
B	A	4,200	10	Indian
B				
B		3,857	5	Other

*Means with the same letter are not significantly different.

Analyzing the relationship between racial group and the attitudes managers possess concerning an AIDS policy (Table 6.10), Duncan's multiple-range test reveals that White managers have significantly more favourable attitudes towards an AIDS policy, than do their counterparts who comprise the "Other" group. No significant difference between Indians and Whites and Indian and "Others" exists.

The possible explanation for White managers having more favourable attitudes toward an AIDS policy than the "Other" group (who comprise mainly of Blacks), is that White managers are better educated (Brijlal, 1990) and more knowledgeable about AIDS than the "others". Moreover, Whites occupy a greater proportion of skilled jobs compared to the "Other" group (Brijlal, 1990).

6.2.7 Hypothesis 7

"The sector of the economy in which managers operate is not a determinant of their attitudes towards an AIDS policy or policy related issues".

TABLE 6.11 ***ANALYSIS OF VARIANCE SCORES OF THE RELATIONSHIP BETWEEN MANAGEMENT ATTITUDES TOWARDS AN AIDS POLICY AND POLICY RELATED ISSUES, AND THE ECONOMIC SECTOR IN WHICH THEY ARE EMPLOYED.***

VARIABLES	F VALUE	Pr > F
AIDS policy/Economic Sector	0,79	0,4562
Policy related issues/Economic Sector	2,75	0,0691

When examining the relationship between management attitudes towards an AIDS policy and the economic sector in which they operate, a probability of 0,4562 indicates the absence of any significant relationship (Table 6.11).

TABLE 6.12 ***DUNCAN'S MULTIPLE-RANGE TEST FOR ECONOMIC SECTOR.***

DUNCAN GROUPING		MEAN*	N	SECTOR
	A*	3,565	21	Service
	A			
B	A	3,362	28	Manufacturing
B				
B		3,272	51	Food and Beverage

*Means with the same letter are not significantly different.

Although an analysis of the relationship between managerial views on AIDS policy related matters and the economic sector in which they operate, indicates an insignificant relationship (Table 6.11); Duncan's multiple-range test suggests that those managers in the service sector of the economy possess significantly more favourable attitudes towards policy related AIDS issues, than do managers in the food and beverage sectors (Table 6.12). No significant difference exists between the views of managers in the manufacturing sector and their counterparts in the service and food and beverage sector.

Although the literature review suggests that no similar studies have been undertaken which differentiate between managers in different sectors of the economy, Levine (1986) found that of the 124 responses to a survey of 400 Human Resources managers in the United States of America, barely 4% had formal policies dealing with AIDS in the workplace. A similar though more startling finding was revealed by Holding (1991:12) who discovered that "66% of companies (in South Africa) have not even considered implementing a specific AIDS policy".

This finding suggests that irrespective of their economic sector managers are not sufficiently knowledgeable about AIDS and the complex legal and social aspects of the disease, to adequately address the policy related AIDS issues that could occur in the workplace.

6.2.8 Hypothesis 8

"Managerial experience, position and duration of service in the company, are not significant determinants of management attitudes towards an AIDS policy and policy related issues".

TABLE 6.13 ***ANALYSIS OF VARIANCE SCORES OF THE RELATIONSHIP BETWEEN ATTITUDES ON AIDS POLICY AND POLICY RELATED ISSUES, AND MANAGEMENT POSITION.***

VARIABLES	F VALUE	Pr > F
Policy/Management position	1,10	0,3367
Policy Related issues/Management Position	1,50	0,2293

An analysis of the relationship between both the attitudes of management towards an AIDS policy and policy related issues and their managerial position, reveals an insignificant relationship at the 5% level of significance (Table 6.13).

TABLE 6.14 ***PEARSON r CORRELATION COEFFICIENTS OF ATTITUDES TOWARDS AN AIDS POLICY AND POLICY RELATED ISSUES, WITH DURATION OF SERVICE AND MANAGERIAL EXPERIENCE.***

VARIABLES	r VALUE
Policy/Duration of Service	-0,01648
Policy related issues/Duration of Service	-0,05925
Policy/Managerial Experience	-0,07505
Policy related issues/Managerial experience	0,08206

Similarly, using Pearson's r correlation technique to determine the relationship between managements views on AIDS policy and policy related matters and their length of service in the company on the one hand; and managerial experience and managements attitudes towards an AIDS policy and policy related issues on the other hand; it has been established that an insignificant relationship exists (Table 6.14).

Discussing the absence of any relationship between a managers position and his attitudes towards an AIDS policy and policy related issues, it could be expected that because the development of policies is a function of the top echelon of management (Tansik et al, 1980), the attitudes of management would be determined by their managerial position. Based on this premise, top level managers would have more favourable attitudes concerning an AIDS policy and policy related issues than their middle and lower level counterparts.

6.2.9 Hypothesis 9

"Neither the level of managerial experience, the management position in the company or the managers duration of service are relevant to managerial concerns regarding the effects of HIV and AIDS on company benefit schemes".

TABLE 6.15 ***ANALYSIS OF VARIANCE SCORES OF THE RELATIONSHIP BETWEEN MANAGERIAL POSITION AND ATTITUDES TOWARD THE EFFECT AIDS WILL HAVE ON COMPANY BENEFIT SCHEMES.***

VARIABLES	F VALUES	Pr > F
Benefits/Management position	0,38	0,6861

With an F value of 0,38 and the probability of obtaining this value by chance alone being 0,6861, it can be concluded that at the 5% level of significance no significant relationship exists between a manager's position and his/her views concerning the effects of AIDS on company benefit schemes (Table 6.15).

TABLE 6.16 ***PEARSON r CORRELATION COEFFICIENTS OF ATTITUDES TOWARDS THE EFFECTS AIDS WILL HAVE ON COMPANY BENEFIT SCHEMES, WITH MANAGERIAL EXPERIENCE AND DURATION OF SERVICE.***

VARIABLES	r VALUE
Benefits/Duration of Service	0,11638
Benefits/Managerial Experience	0,11179

Similarly, when determining whether a relationship exists between managements views concerning the effects of AIDS on benefit schemes, and their length of service on the one hand and their managerial experience on the other; Pearson's r indicates the absence of any significant relationship (Table 6.16).

Although the present study reveals no relationship between a manager's position, level of experience or duration of service; Earle (1989) suggests that top managers, because of their role in the planning and development of policies, would be more aware of the effect of AIDS on company benefit schemes than other management staff.

In so far as whether the amount of experience or length of service of management is a determinant of their attitudes towards the effect of AIDS on company benefit schemes, Du Plessis (1990 a:7) comments that for many companies "the whole issue of benefit currently remains unresolved because the long-term impact of treating AIDS patients and paying out benefits is ... still something only contemplated on paper using hypothetical projections".

Coupling the paucity of research concerning the length of service or level of experience of management and the "hypothetical" nature of the effect of AIDS on benefits, it is not possible to either support or refute the finding of this study that no significant relationship exists between a managers length of service or level of experience and his attitudes concerning the effect of HIV and AIDS on benefit schemes.

6.2.10 Hypothesis 10

"There is no significant relationship between managerial gender and race, and their views on the effect AIDS will have on company benefit schemes".

TABLE 6.17 ***ANALYSIS OF VARIANCE SCORES OF THE RELATIONSHIP BETWEEN THE RACE AND SEX OF MANAGERS AND THEIR VIEWS ON THE EFFECTS AIDS WILL HAVE ON COMPANY BENEFIT SCHEMES***

VARIABLES	F VALUE	Pr > F
Benefits/Race	0,37	0,6950
Benefits/Sex	0,33	0,5699

Analyzing the relationship between the racial and sexual group of managers, and their attitudes towards company benefit schemes and the effect AIDS will have on these benefit schemes; it can be seen from Table 6.17 that with probability values of 0,6950 and 0,5699, no significant relationship exists at the 5% level of significance.

When it is considered that in South Africa over 70% of Whites belong to medical aid schemes as opposed to 8% of Blacks (Spier & Edwards, 1990); and that HIV is spread mainly in a homosexual manner among Whites and heterosexually in the Black community (Sher, 1989), it is surprising that the different racial and sexual groups do not have different views on the effect AIDS will have on company benefit schemes.

Differences among the attitudes of men and women concerning the impact of AIDS on company benefit schemes would be expected to be more pronounced since it is anticipated that "with a distribution of 60% men and 40% women and homosexual transmission, costs (of death and disability benefits) would rise 20%. For a company with 80% men and 20% women and heterosexual transmission the cost increase could be as much as 120%" (Natal Mercury 20.04.1989).

6.2.11 Hypothesis 11

"All sectors of the economy are equally knowledgeable and aware of the effects AIDS and HIV will have on their company benefit schemes".

TABLE 6.18 ***ANALYSIS OF VARIANCE SCORES OF THE RELATIONSHIP BETWEEN ECONOMIC SECTOR AND VIEWS CONCERNING THE EFFECTS AIDS WILL HAVE ON COMPANY BENEFIT SCHEMES.***

VARIABLES	F VALUE	Pr > F
Benefits/Economic Sector	0,95	0,3915

When examining the relationship between the sector of the economy in which managers operate, and their views on the effect AIDS and HIV will have on their company benefit schemes; a probability of 0,3915 indicates the absence of a significant relationship at the 5% level of significance (Table 6.18).

While no significant relationship has been established between the economic sector in which managers operate and their attitudes concerning the effect AIDS will have on their company benefit schemes, "the real effect of AIDS on medical aid and pension schemes can only be extrapolated from thorough epidemiological studies on workplace populations who are members of these funds. No such data exists and consequently speculation has to be resorted to" (Finnemore 1990:39).

The concern of managers is understandable considering that most companies will have an HIV infected staff member (Keir, 1990). However, given the lack of current research it is not possible to speculate that managers either in the food and beverage, manufacturing or service sectors of the economy have different views concerning the effect AIDS and HIV will have on company benefit schemes.

6.2.12 Hypothesis 12

"Attitudes toward HIV testing and the effect AIDS will have on company benefit schemes, is not related to the age of managerial staff".

TABLE 6.19 ***ANALYSIS OF VARIANCE SCORES OF THE RELATIONSHIP BETWEEN MANAGEMENT'S AGE AND THEIR VIEWS CONCERNING COMPANY BENEFITS AND THE HIV TESTING OF JOB APPLICANTS AND EMPLOYEES.***

VARIABLE	F VALUES	Pr > F
Testing/Age	0,39	0,7594
Benefits/Age	0,43	0,7292

The F value is 0,39 and the probability of obtaining this value by chance alone is 0,7594 (Table 6.19). Since the probability is greater than the 5% level of significance it can be concluded that no significant relationship exists between a managers attitude toward HIV testing and his/her age.

Similarly, Table 6.19 reveals that no relationship exists between the age of a manager and the attitudes he possesses toward the effect AIDS will have on company benefit schemes.

When it is considered that over 60% of HIV infection occurs in the 20-49 year old age group (Department of National Health and Population Development, 1991) it could have been anticipated that since these individuals will be the major claimants on benefit funds, there would be distinct difference between their attitudes toward the effect of AIDS on company

benefit schemes and the attitudes of other management. For example in Zimbabwe, "the retirement age of some pension funds has been altered to 20 years of age" (Finnemore 1990:36). This has been done primarily to protect pension funds and the pensions of older individuals from the AIDS related claims of younger members so that there "will not be a drain on the fund" (Finnemore 1990:39).

6.2.13 Hypothesis 13

"The relationship between management views on HIV testing and their managerial experience, position and length of service in the company, is insignificant".

TABLE 6.20 ***PEARSON r CORRELATION COEFFICIENTS OF ATTITUDES TOWARDS HIV TESTING WITH MANAGERIAL EXPERIENCE AND DURATION OF SERVICE.***

VARIABLES	r VALUE
Testing/Managerial experience	0,00392
Testing/Duration of service	0,02552

Assessing the relationship between management's attitude toward HIV testing, and their level of experience and duration of service, it can be concluded that in both these instances an insignificant relationship exists (Table 6.20).

In her discussion of the decision to use HIV testing, Van Wyk (1990) contends that this is ultimately a policy issue. When it is considered that policy formulation is a function of top management (Tansik et al, 1980), and that in order to develop effective policies a thorough knowledge of the relevant issues is necessary (Dyer et al, 1990); it can be argued that attitudes toward HIV testing should not only be related to management position but also to managerial levels of knowledge and awareness concerning AIDS.

This view is enhanced by the fact that "the usefulness of screening in the workplace is not supported by clinical or epidemiological evidence" (Ijsselmuiden et al, 1886b:462). Nevertheless, 3% of companies in the United States of America (Levine, 1986), 10% of

business enterprises in South Africa (Holding, 1991), and 22,3% of organizations in Zimbabwe (Jackson & Pitts, 1991), insist on having some form of AIDS screening in the workplace. These figures lend credence to the notion that management levels of knowledge and awareness about AIDS and HIV is insufficient and that when the levels of knowledge increase, the amount of HIV testing in the workplace will decrease and will only be used in instances of "skill determination" (Sher, 1989).

TABLE 6.21 ***ANALYSIS OF VARIANCE SCORES OF THE RELATIONSHIP BETWEEN MANAGEMENTS ATTITUDES TOWARD HIV TESTING AND THEIR MANAGEMENT POSITION.***

VARIABLE	F VALUE	Pr > F
Testing/Management position	2,36	0,0998

When examining the relationship between managerial position and views toward HIV testing, the ANOVA procedure reveals that the probability of obtaining an F value of 2,36 by chance alone is 0,0998 (Table 6.21). Since this value exceeds the 5% level of significance, it can be concluded that an insignificant relationship exists between a managers position and his view concerning the HIV testing of prospective or current employees.

6.2.14 Hypothesis 14

"The influence of racial group and gender as a determinant of management attitudes towards HIV testing of both prospective and current employees is insignificant".

TABLE 6.22 ***ANALYSIS OF VARIANCE SCORES OF THE RELATIONSHIP BETWEEN MANAGEMENT ATTITUDES TOWARD HIV TESTING AND THEIR RACIAL AND SEXUAL GROUP.***

VARIABLES	F VALUE	Pr > F
Testing/Race	1,30	0,2763
Testing/Sex	0,02	0,8829

Examining the relationship between attitudes toward HIV testing and the racial group of managers, it can be concluded that at the 5% level of significance a probability of 0,2763 indicates the absence of any significant relationship (Table 6.22).

Similarly data concerning the relationship between managerial attitudes toward HIV testing and their sexual group, reveals that no significant relationship exists (Table 6.22).

As no significant relationship exists between the sexual and racial group of managers and their attitudes toward HIV testing, it would appear that these characteristics are not determinants of management attitudes. In South Africa it has been found that 10% of companies "used HIV testing to screen out jobs applicants" (Holding 1991:12) whereas 3% of companies used such procedures in the United States of America (Levine, 1986). This could be attributed to the fact that 64% of companies in South Africa "have not considered

implementing an AIDS education programme" (Holding 1991:12). This underscores the lack of knowledge and awareness about the disease, which in turn highlights the low priority given to AIDS and HIV in the workplace by management, irrespective of racial or sexual group.

6.2.15 Hypothesis 15

"No sector of the economy is more positively orientated towards the HIV testing of current and prospective employees, than any other sector".

TABLE 6.23 ***ANALYSIS OF VARIANCE SCORES OF THE RELATIONSHIP BETWEEN ATTITUDES TOWARD HIV TESTING AND THE ECONOMIC SECTOR IN WHICH MANAGERS WORK.***

VARIABLES	F VALUE	Pr > F
Testing /Economic sector	0,71	0,4963

Analyzing the relationship between views on HIV testing and the various economic sectors, an F value of 0.71 and a probability of 0,4963 confirm that no significant relationship exists at the 5% level (Table 6.23).

Although there is a paucity of research in this area, Diane Holding's investigation of the corporate reaction to AIDS did establish that "small companies irrespective of economic sector are more likely to treat HIV infected job applicants and employees in a manner which violates their human or legal rights" (Holding 1991:12).

6.2.16 Hypothesis 16

"There is no relationship between managerial educational qualifications and their views concerning benefit schemes on the one hand, and their attitudes toward HIV testing on the other".

TABLE 6.24 ***ANALYSIS OF VARIANCE SCORES OF THE RELATIONSHIP BETWEEN THE EDUCATIONAL QUALIFICATIONS OF MANAGEMENT AND THEIR VIEWS CONCERNING BENEFITS AND HIV TESTING.***

VARIABLES	F VALUE	Pr > F
Benefits/Educational qualifications	0,84	0,4768
Testing/Educational qualifications	1,55	0,2066

ANOVA scores of the relationship between managerial views towards benefit schemes and their educational qualifications indicates the absence of any significant relationship. Similarly, there is no significant relationship between managerial views toward HIV testing and their educational qualifications (Table 6.24).

While no significant relationship exists between attitudes toward HIV testing and the educational qualifications of management, in an investigation of employer attitudes Doehring (1990:76) "found that the better educated are less likely to discriminate against HIV positive job applicants". This could be because of the realization that in "the vast majority of jobs, there is no dangers of an AIDS carrier infecting his fellow workers, nor is his ability to work impaired" (Hermanus, 1990:26).

Results yielded by ANOVA, Duncan's multiple-range test and Pearson's coefficient, show that in terms of this study:

* White managers are more knowledgeable and aware about HIV and AIDS than their Indian and "Other" (mainly Black) counterparts.

* Middle managers are more knowledgeable and aware about HIV and AIDS than top level managers.

* Managers with post graduate degrees are more knowledgeable and aware about HIV than managers with a standard 10.

* Managers in the service sector have more favourable attitudes towards policy related AIDS issues than their counterparts in the food and beverage sector of the economy.

* White managers have more favourable attitudes towards an AIDS policy than managers in the "Other" group (mainly Blacks).

The subtests that were used in this questionnaire to asses management attitude towards an AIDS policy for the workplace, will now be presented and discusses in terms of factor analysis.

6.3 FACTOR ANALYSIS: PRESENTATION AND DISCUSSION

The approach adopted toward presenting and discussing the results yielded by factor analysis in this study, has been firstly to describe the hypothetical grouping of statements referred to as subtests, which were perceived to represent the factors under investigation. Secondly, these subtests were then compared with the factors revealed by factor analysis in an attempt to highlight any discrepancies in item content. Finally, the factor that was revealed by factor analysis was then presented and discussed in terms of its loadings.

Following the guidelines established by Bernstein (1988), only items with loadings greater than 0,3 or less than -0,3 were used to interpret a factor. In addition to discussing the loadings of items, the amount of variation explained by the factor will be discussed in terms of its eigenvalue. Only eigenvalues in excess of 1,00 will be considered significant (Tabachnick & Fidell, 1983).

6.3.1 SUBTEST 1: *KNOWLEDGE AND AWARENESS*

This subtest assessed managerial levels of knowledge and awareness concerning the HIV virus and AIDS (Table 6.25). It included statements which questioned the methods of contracting the disease, whether or not it was a fatal disease, whether infection is obviously manifested in outward appearance and whether individuals with HIV or AIDS should be treated differently to other sick individuals. Finally in an attempt to assess the seriousness with which managers viewed the disease it was asked whether or not too much attention was being focused on the HIV and AIDS issue.

TABLE 6.25 SUBTEST *1: KNOWLEDGE AND AWARENESS*

Item No	Item
1	AIDS leads to death.
8	In so far as the workplace is concerned, AIDS should be regarded in the same light as any other serious illness (for example hepatitis B).
9	The AIDS virus infections weaken the bodies ability to fight off disease.
10	Someone who has the AIDS virus can pass it on to me by coughing or sneezing.
17	A person can be infected with the AIDS virus and not have the disease AIDS.
19	There is a cure for AIDS but due to its expensive nature the majority of AIDS sufferers cannot afford it.
27	Looking at a person is enough to tell if a person has the HIV virus.
32	In a normal working environment doing my day to day job, I am at no risk of contracting the HIV virus from a fellow worker.
40	This entire AIDS problem is really a storm in a tea-cup, and much-a-do about nothing.

It can be seen from Table 6.26 that not all of the items in the subtest correspond with those items revealed by factor analysis. The factor revealed by factor analysis can be identified as one which assesses knowledge and awareness concerning AIDS and HIV, as it contains 5 items included in the original subtest. However, it also contains 3 statements aimed at assessing management attitudes towards an AIDS policy.

TABLE 6.26 ***A COMPARISON OF THE ITEMS IN THE "KNOWLEDGE AND AWARENESS" SUBTEST WITH THOSE ITEMS REVEALED BY FACTOR ANALYSIS.***

Subtest Items No*	Factor Analysis Item No
1+	**1**
8	**10**
9	**19**
10	20
17	**27**
19	**32**
27	34
32	36
40	

* The number of each item refers to its location in the questionnaire.

\+ Numbers in bold type signify occurrence in the subtest and the factor revealed by factor analysis.

The results of the factor analysis procedure can be seen in Table 6.27 which highlights the definite knowledge character of this factor. In terms of the loadings of each item (that is, the correlation between item and factor) factor analysis reveals that all questions have loadings in excess of 0,3 and are therefore significant (Bernstein, 1988). Since loadings range from 0,3 to 0,7 the relationship between all the items and the factor of knowledge and awareness can be described as moderate (Kaplan & Saccuzzo, 1989). Loadings on items range from 0,369 (item 1) to 0,659 (item 27) with the eigenvalue of the factor being 4,02.

TABLE 6.27 ***FACTOR 1: KNOWLEDGE AND AWARENESS***

Item No	Loading	Item
1	0,369	AIDS leads to death.
20	0,577	Instead of being alarmist, companies should rather wait until there is an incidence of HIV/AIDS in the workplace and then develop an AIDS policy.
10	0,451	Someone who has the AIDS virus can pass it on to me by coughing or sneezing.
36	0,619	Companies should be prepared in the event of an HIV or AIDS case occurring in the workplace, and should therefore develop an AIDS policy before the first HIV case occurs in the workplace.
19	0,559	There is a cure for AIDS but due to its expensive nature the majority of AIDS sufferers cannot afford it.
27	0,659	Looking at a person is enough to tell if a person has the HIV virus.
32	0,482	In a normal working environment doing my day to day job, I am at no risk of contracting the HIV virus from a fellow worker.
34	0,649	If a company develops an AIDS policy, there should be a separate AIDS policy for management and a separate policy for the workers.
(Eigenvalue 4,02; variance explained 10,05%)		

6.3.2 SUBTEST 2: *POLICY*

This subtest was called "policy" and aimed to establish whether or not managers felt an AIDS policy was necessary for the workplace (Table 6.28). It included items regarding whether there was a need for an AIDS policy, when a policy should be developed and who should develop it. It questioned the necessity for ongoing AIDS awareness once a policy was developed, and posed the question of whether there should be a separate AIDS policy for managers and a separate one for workers.

TABLE 6.28 SUBTEST 2: *POLICY*

Item No	Item
3	There is no need for an AIDS specific policy in the workplace.
12	The company should organise a multi-faceted task force comprising of representatives from all different departments, to develop an appropriate AIDS policy.
13	It's not really necessary to keep abreast of the AIDS situation once a company has an AIDS policy in place.
20	Instead of being alarmist, companies should rather wait until there is an incidence of HIV/AIDS in the workplace and then develop an AIDS policy.
21	An AIDS policy must not only be cost effective, but as human as possible.
34	If a company develops an AIDS policy, there should be a separate AIDS policy management and a separate policy for the workers.
36	Companies should be prepared in the event of an HIV or AIDS case occurring in the workplace, and should therefore develop an AIDS policy the first HIV case occurs in the workplace.

From Table 6.29 it can be seen that Factor 2; labelled as one which assessed management attitudes towards an AIDS policy; contained two of the expected seven items but also consisted of two knowledge and awareness items, one policy related item, and two statements expected in the benefits factor.

TABLE 6.29 ***A COMPARISON OF THE ITEMS IN THE "POLICY" SUBTEST WITH THOSE ITEMS REVEALED BY FACTOR ANALYSIS***

Subtest Item No*	Factor Analysis Item No
3	**13**
12	15
13+	17
20	18
21	**21**
34	39
36	40
	40

* The number of each item refers to its location in the questionnaire.

\+ Numbers in bold type signify occurrence in the subtest and the factor revealed by factor analysis.

In terms of the factor revealed by factor analysis, all items within the factor have significant positive loadings in excess of 0,3. This suggests that the relationship between the items and the factor is moderate (Kaplan & Saccuzzo, 1989). Although the eigenvalue (2,868) is significant since it is in excess of 1,00 (Tabachnick & Fidell, 1983), this factor accounts for 7,17% of the variance in the data set (Table 6.30).

TABLE 6.30 FACTOR 2: *POLICY*

Item No	Loading	Item
13	0,646	It's not really necessary to keep abreast of the AIDS situation once a company has an AIDS policy in place.
15	0,444	Existing insurance and medical funds are comprehensive enough without having to be modified to cater for HIV and AIDS.
17	0,566	A person can be infected with the AIDS virus and not have the disease AIDS.
18	0,614	Dismissal of a worker with HIV/AIDS should only be considered when there is incapacity on the part of the infected worker.
21	0,474	An AIDS policy must not only be cost effective, but as human as possible.
39	0,363	Our policy on sick leave will not be changed to accommodate HIV infected individuals. They will be entitled to the same sick leave as other terminally ill workers.
40	0,540	This entire AIDS problem is really a storm in a tea-cup, and much-a-to about nothing.

(Eigenvalue 2,868; variance explained 7,17%)

6.3.3 SUBTEST 3: *TESTING*

This represented management's attitude toward HIV testing of both prospective and existing employees (Table 6.31). It contained items which questioned the legitimacy of HIV tests in general and asked managers whether they felt it was their right to request HIV testing, or whether such tests should only be used in certain situations. Managers were also asked to indicate whether they felt it was the company's responsibility to provide pre- and post-test counselling for individuals being tested for HIV.

TABLE 6.31 SUBTEST 3: *TESTING*

Item No	Item
4	Regardless of whether a person is HIV positive or not, the best man will get the job.
14	HIV testing is perfectly acceptable when used as part of skill determination to determine whether a person is capable of performing work safely.
22	It is management's right to hire a healthy work force, and if pre-employment HIV testing excludes individuals who are potentially unhealthy, then it is acceptable to use HIV tests as the basis for an employment decision.
23	All employees must undergo regular, compulsory blood tests for HIV.
28	There's no reason why the medical screening of existing employees for HIV should not be allowed.
31	Should a company decide to conduct HIV testing, it is the company's responsibility to provide both pre-test and post-test counselling.
37	Applicants for jobs should not be tested for HIV.

From Table 6.32 it can be seen there is a large discrepancy between the number of items in the subtest and those revealed by factor analysis. Whereas only seven items were included in the subtest, factor analysis revealed twelve items in the testing factor. Although five of the seven items in the subtest were included in the factor, there were also two policy items, one benefit item and four items intended to assess management attitudes towards policy related AIDS issues.

TABLE 6.32 ***A COMPARISON OF THE ITEMS IN THE "TESTING" SUBTEST WITH THOSE ITEMS REVEALED BY FACTOR ANALYSIS***

Subtest Item No*	Factor Analysis Item No
4	2
14+	3
22	7
23	11
28	12
31	**14**
37	**22**
	23
	26
	28
	33
	37

* The number of each item refers to its location in the questionnaire.

\+ Numbers in bold type signify occurrence in the subtest and the factor revealed by factor analysis.

The loadings of the items revealed by factor analysis ranges in value from 0,731 to -0,565 (Table 6.33). However, because items all had loadings greater than 0,3 or less than -0,3 they can all be considered significant (Bernstein, 1988). It is relevant to note that item 2, "My employer must not expect me to work with anybody who has AIDS", and item 23, "All employees must undergo regular, compulsory blood tests for HIV"; had loadings in excess of 0,7. This would suggest that there is a strong positive correlation between these items and factor 3. Furthermore, items 3, 12, 14 and 22 had negative loadings indicating a strong negative correlation between the item and the factor.

The factor also had the highest eigenvalue (5,616) of all the factors revealed by factor analysis which underscores the fact that this factor also contained the "most variance" (14,04%) (Tabachnick & Fidell 1983:385).

TABLE 6.33 FACTOR 3: *TESTING*

Item No	Loading	Item
2	0,704	My employer must not expect me to work with anybody who has AIDS.
3	-0,565	There is no need for an AIDS specific policy in the workplace.
7	0,699	There is no duty on the part of an employee diagnosed as HIV positive to inform his employer.
11	0,469	An employer should be able to fire any employee who has AIDS regardless of the type of work.
12	-0,359	The company should organise a multi-faceted task force comprising of representatives from all different departments, to develop an appropriate AIDS policy.
14	-0,425	HIV testing is perfectly acceptable when used as part of skill determination to determine whether a person is capable of performing work safely.
22	-0,499	It is management's right to hire a healthy workforce, and if pre-employment HIV testing excludes individuals who are potentially unhealthy, then it is acceptable to use HIV tests as the basis for an employment decision.
23	0,731	All employees must undergo regular, compulsory blood tests for HIV.
26	0,508	Should colleagues of an infected employee refuse to work with him, it would be best to immediately transfer the infected employee to an area where he does not come into contact with other people.
28	0,618	There's no reason why the medical screening of existing employees for HIV should not be allowed.
33	0,664	In the majority of cases, AIDS is an avoidable disease and thus it is not unfair to refuse employment to HIV carriers whose claims for benefits will deplete benefit funds at the expense of uninfected workers.
37	0,569	Applicants for jobs should not be tested for HIV.

(Eigenvalue 5,616; variance explained 14,04%)

6.3.4 SUBTEST 4: *BENEFITS*

Subtest 4 was labelled "benefits" and contained items concerning the need for education, as well as items expressing management attitudes toward the effect HIV and AIDS will have on company benefit schemes (Table 6.34). Issues raised questioned whether or not existing company benefits should be modified to cater for HIV sufferers; whether infected individuals should be employed at all; or whether they should be employed but excluded from benefit schemes.

TABLE 6.34 SUBTEST 4: *BENEFITS*

Item No	Item
5	Individuals who are HIV positive should be employed but excluded from all benefit schemes.
6	It makes no difference whether you educate your workforce before the first case of HIV occurs in you company, or once the first case has occurred.
15	Existing insurance and medical funds are comprehensive enough without having to be modified to cater for HIV and AIDS.
16	It is the company's responsibility to educate and counsel the workforce regarding HIV and AIDS.
24	Current medical, pension and insurance policies that are in place in the workplace do not adequately deal with AIDS and the HIV problem.
29	An AIDS education programme must be multi-faceted and include the use of pamphlets, lectures and videos.
30	Protection of medical aid and pension schemes is not the function of the employer and should rather be left to the underwriters of the scheme who are free to sponsor and implement their own tests.
33	In the majority of cases, AIDS is an avoidable disease and thus it is not unfair to refuse employment to HIV carriers whose claims for benefits will deplete benefit funds at the expense of uninfected workers.
39	Our policy on sick leave will not be changed to accommodate HIV infected individuals. They will be entitled to the same sick leave as other terminally ill workers.

It can be seen from Table 6.35 that there was a very close approximation between the items in the subtest and those revealed by factor analysis. Of the nine items included in the subtest, six were present in the factor which also included one policy related and one knowledge and awareness item.

TABLE 6.3 ***A COMPARISON OF THE ITEMS IN THE "BENEFITS" SUBTEST WITH THOSE ITEMS REVEALED BY FACTOR ANALYSIS***

Subtest Item No*	Factor Analysis Item No
5+	**5**
6	**6**
15	8
16	**16**
24	**24**
29	**29**
30	**30**
33	35
39	

* The number of each item refers to its location in the questionnaire.

\+ Numbers in bold type signify occurrence in the subtest and the factor revealed by factor analysis.

Although the loadings of all items in factor 4 are significant since they exceed the 0,3 cutoff (Bernstein, 1988), the relationship between all items and the "benefits" factor can be considered moderate. Loadings range from 0,388 to 0,690 and it can be seen from Table 6.36 that six of the items have a distinct "benefits" orientation. The eigenvalue of 2,456 is significant and it can be concluded that 6,14% of the variance associated with the set of variables being analyzed, is accounted for by the benefits factor (Table 6.36).

TABLE 6.36 FACTOR 4: *BENEFITS*

Item No	Loading	Item
5	0,458	Individuals who are HIV positive should be employed but excluded from all benefit schemes.
6	0,384	It makes no difference whether you educate your workforce before the first case of HIV occurs in you company, or once the first case has occurred.
8	0,452	In so far as the workplace is concerned, AIDS should be regarded in the same light as any other serious illness (for example hepatitis B).
16	0,685	It is the company's responsibility to educate and councel the workforce regarding HIV and AIDS.
24	0,481	Current medical, pension and insurance policies that are in place in the workplace do not adequately deal with AIDS and the HIV problem.
29	0,388	An AIDS education programme must be multi-faceted and include the use of pamphlets, lectures and videos.
30	0,602	Protection of medical aid and pension schemes is not the function of the employer and should rather be left to the underwriters of the scheme who are free to sponsor and implement their own tests
35	0,690	Should an employee become HIV infected, it is not the companies job to refer the person to experts and to see that they and their families receive the necessary counselling.

(Eigenvalue 2,456: variance explained 6,14%)

6.3.5 **SUBTEST 5:** ***POLICY RELATED ISSUES***

Subtest 5 was termed "policy related issues" as it raised questions which managers could consider if developing an AIDS policy (Table 6.37). These issues include certain legal questions which deal with the dismissal of individuals, when an individual should inform the company of his HIV status and how the company should treat such information. The rights of co-workers of infected individuals are also considered. The issue of counselling of infected employees, and managers views on the question of whether or not an HIV termination clause can be inserted into the employment contracts of new employees, is also dealt with.

TABLE 6.37 SUBTEST 5: *POLICY RELATED*

Item No	Item
2	My employer must not expect me to work with anybody who has AIDS.
7	There is no duty on the part of an employee diagnosed as HIV positive, to inform his employer.
11	An employer should be able to fire any employee who has AIDS regardless of the type of work that they do.
18	Dismissal of a worker with HIV/AIDS should only be considered when there is incapacity on the part of the infected worker.
25	It is essential that knowledge of a workers HIV positivity be kept strictly confidential by management.
26	Should colleagues of an infected employee refuse to work with him, it would be best to immediately transfer the infected employee to an area where he does not come into contact with other people.
35	Should an employee become HIV infected, it is not the companies job to refer the person to experts and to see that they and their families receive the necessary counselling.
38	It's not unreasonable for employers to insert an HIV termination clause into the employment contracts of prospective new employees.

When comparing the items in the subtest with those revealed by factor analysis (Table 6.38), the results are disappointing. In developing the subtest to assess management attitudes toward policy related AIDS issues, eight statements were included in the hypothesized grouping of statements believed to represent this factor. However, factor analysis isolated only five statements in this factor. Two of these statements correspond with items in the hypothesized grouping of statements, one statement assesses knowledge and awareness and two statements are aimed at determining attitudes toward HIV testing.

TABLE 6.38 *A COMPARISON OF THE ITEMS IN THE "POLICY RELATED" SUBTEST WITH THOSE ITEMS REVEALED BY FACTOR ANALYSIS*

Subtest Item No*	Factor Analysis Item No
2	4
7	9
11	**25**
18	31
25+	**38**
26	
35	
38	

* The number of each item refers to its location in the questionnaire.

\+ Numbers in bold type signify occurrence in the subtest and the factor revealed by factor analysis.

The results of the factor analysis procedure can be seen in Table 6.39. Although all the items meet the requirement of having loadings in excess of 0,3 or less than -0,3 (Bernstein, 1988), item 25 barely makes the cutoff with a loading of 0,302. Furthermore, item 4; "Regardless of whether a person is HIV positive or not, the best man will get the job"; had a negative loading of -0,443 suggesting a moderately negative correlation between item and factor.

The eigenvalue of 1,985 is the lowest of all the factors revealed factor analysis, accounting for 4,96% of the variance in the data set.

TABLE 6.39 FACTOR 5: *POLICY RELATED ISSUES*

Item No	Loading	Item
4	-0,443	Regardless of whether a person is HIV positive or not, the best man will get the job.
9	0,597	The AIDS virus infection weakens the bodies ability to fight off disease.
25	0,302	It is essential that knowledge of workers HIV positivity be kept strictly confidential by management.
31	0,561	Should a company decide to conduct HIV testing, it is the company's responsibility to provide both pre-test and post-test counselling.
38	0,554	It's not unreasonable for employers to insert an HIV termination clause into the employment contracts of prospective new employees.

(Eigenvalue 1,985; variance explained 4,96%)

In a comparison of the factors that were extracted using factor analysis and the subtests which consisted of hypothesized groupings of statements, it has been established that the relationship is approximate rather than exact.

Although the factors revealed by factor analysis contained some of the items which comprised the subtests, no factor was revealed which consisted of all the items in the hypothesized grouping of statements. This said, the factors that were revealed by the analysis, did in most instances contain sufficient numbers of the original statements to allow identification and labelling of the factor.

The question may be posed as to "why there is not a better fit between the subtests of the questionnaire and the factors revealed by factor analysis?" According to Tabachnick and Fidell (1983:379), in their discussion of factor analysis and it's results, they describe results yielded by "sample sizes of 50 as very poor, 100 as poor, 200 as fair, 300 as good, 500 as very good, and 1 000 as excellent." It can be concluded that the reasons for the unsatisfactory degree of similarity between the subtests and the factors revealed by factor analysis are that:

* The sample size of 100 used in this survey was bound to generate poor results. According to Tabachnick and Fidell (1983), small samples generally do not give good results when subjects are not homogenous.

* This was a self-developed questionnaire.

6.4 CRONBACH'S ALPHA COEFFICIENT: PRESENTATION AND DISCUSSION

Evaluating the statistical data in terms of Cronbach's coefficient and using the guidelines of 0,7 suggested by Kaplan and Saccuzzo (1989), it can be concluded that with an overall Alpha (α) value of 0,712 for standardized variables, the internal consistency of the AIDS attitude questionnaire has been established (Table 6.40).

TABLE 6.40 ***CRONBACH'S ALPHA COEFFICIENT OF THE AIDS ATTITUDE QUESTIONNAIRE AND ITS SUBTESTS***

SUBTEST	NAME	CRONBACH'S ALPHA
1	Knowledge and Awareness	0,552
2	Policy	0,680
3	Policy related issues	0,373
4	Testing	0,019
5	Benefits	0,412
OVERALL		0,712

When performing Cronbach's Alpha Coefficient on the five subtests in the questionnaire, the internal consistency of each of these subtests came under consideration. Only subtest 2 which aimed at assessing managements attitudes towards an AIDS policy, came close to meeting the internal consistency standard of 0,7, with an α value of 0,68 (Table 6.40).

The knowledge and awareness subtest was less internally consistent (0,55) with the benefits subtest having an α value of 0,4119, and the policy related subtest having an α value of 0,373. Subtest 4, which was used to assess management attitudes toward the HIV testing of current and prospective employees, yielded an α value of 0,019 (Table 6.40). This low alpha value suggests that not only is the internal consistency of this subtest questionable, but it is also unlikely that it measures management attitudes toward HIV testing. The varying alpha levels of the subtests can be attributed to the fact that this was a self developed questionnaire which would suggest that more indepth pilot studies need to be conducted to assess the questionnaires internal consistency and develop it further.

6.5 CONCLUSION

In this chapter, factor analysis was used to summarize the data and compare a hypothesized grouping of statements (subtests) to factors revealed by the statistical procedure.

Cronbach's coefficient was performed on these factors and on the questionnaire as a whole, to determine its internal consistency. The findings of this procedure was then presented and discussed.

The relationship between variables was then tested using the Analysis of Variance procedure. The results of this investigation were reported, and any significant relationship between variables was further analyzed using Duncan's multiple-range test.

In addition to these statistical procedures, Pearson's correlation coefficient was used to assess the relationship between variables when one of these variables was continuous.

The results of the statistical investigation were used to test various hypothesis aimed at assessing management attitudes towards an AIDS policy for the workplace. These results revealed that:

* White managers are more knowledgeable and aware about HIV and AIDS than their Indian and "other" (mainly Black) counterparts.

* Middle managers are more knowledgeable and aware about HIV and AIDS than top level managers.

* Managers possessing post graduate degrees are more knowledgeable and aware about HIV and AIDS than managers with a standard 10.

* Managers in the service sector have more favourable attitudes towards policy related AIDS issues than their counterparts in the food and beverage sector of the economy.

* White managers have more favourable attitudes toward an AIDS policy than managers in the "Other" group (mainly Blacks).

These results have provided the necessary background against which an appreciation can be formed of the effects the variables have on one another, as well as providing a platform on which various conclusions and recommendations can be based.

CHAPTER 7

RECOMMENDATIONS AND CONCLUSIONS

This study investigated the attitudes of management towards an AIDS policy for the workplace in Natal/KwaZulu. The literature review examined AIDS from a medical and biological perspective, highlighting the labour market of Natal/KwaZulu and examining the possible impact of the disease on the workplace. Other areas such as planning and the development of strategies and policies as well as legal aspects pertaining to AIDS and employment; were also discussed owing to their relevance for this study.

The attitudes of management toward an AIDS policy for the workplace were most reflected by management's level of knowledge and awareness concerning AIDS, and their attitudes concerning policy related AIDS issues.

The conclusions drawn from the results of this study are summarily listed:

(1) White managers are more knowledgeable and aware of HIV and AIDS than Indians and "Other" managers.

(2) Middle managers are more knowledgeable and aware about HIV and AIDS than top level managers.

(3) Managers possessing post graduate degrees are more knowledgeable and aware about HIV and AIDS than managers with a Standard 10.

(4) Managers in the service sector have more favourable attitudes towards policy related AIDS issues than their counterparts in the food and beverage sector of the economy.

(5) White managers have more favourable attitudes towards an AIDS policy than managers in the "Other" group who comprise mainly Blacks.

The results indicate that management attitudes towards an AIDS policy for the workplace are influenced by the relationship between a managers level of knowledge and awareness concerning HIV and AIDS, and their racial group, managerial position and educational qualifications. Furthermore the relationship which exists between the attitudes of management concerning policy related AIDS issues and the economic sector in which they operate; as well as the relationship between the racial group of managers and their attitudes towards a policy; significantly influence the attitudes of management towards an AIDS policy for the workplace.

The findings also imply that because of the number of variables which influence management attitudes towards an AIDS policy for the workplace; and in light of the broad range of issues which have to be dealt with when developing a comprehensive AIDS policy; extensive input from a variety of individuals is needed when formulating a policy.

In light of these tentative findings arising from the results of this investigation, it is fairly clear that a relationship does exist between the attitudes of management towards an AIDS policy for the workplace, and certain managerial characteristics.

Based on these findings, certain recommendations concerning the approach of management towards an AIDS policy for the workplace, will be made.

7.1 RECOMMENDATIONS

More extensive research is considered necessary to examine the relationship between management attitudes towards an AIDS policy for the workplace and the racial group, educational qualifications, economic sector and managerial position of managers.

The possible interplay of a number of variables and limitations in this study, which have been difficult to control, could have influenced some of the findings.

Furthermore, should the questionnaire developed for this research be used in additional studies to assess management attitudes towards an AIDS policy for the workplace; attention would need to be focused on developing and updating the existing questionnaire so that all factors were internally consistent.

In light of the results of this study it would be appropriate to make certain recommendations regarding the possible usefulness of the findings for Human Resources Personnel in the business arena in South Africa.

* An AIDS policy for the workplace should be developed using a multi-faceted team approach which comprises individuals from a broad cross-section of functions in an organization. This cross section of individuals should not only include top, middle and lower level management staff, but also trade union personnel and blue-collar workers.

* A realization that the general level of knowledge and awareness about HIV and AIDS is satisfactory throughout the workforce, and that an AIDS policy will not only strengthen the capacity to deal with the disease in the workplace, but also at a local/community level.

* A comprehensive approach to the AIDS problem in the workplace will foster a spirit of mutual respect, caring and understanding between management and workers; and will establish and identify the rights and duties of employee and employer.

* The best way to deal with prejudice, ignorance and fear is to educate the workforce before the first HIV or AIDS case occurs in the workplace. Similarly the optimal approach to preparing the organisation for the first infected individual, is to pro-actively develop an AIDS policy. This two-pronged approach will put groundless fears to rest, prevent discrimination, reduce the incidence of and reaction to AIDS, as well as allow the objective evaluation of the possible effects of the disease on the workplace.

* Companies with a small workforce should develop some kind of policy to adequately prepare themselves for an HIV infected employee.

7.2 CONCLUSION

It is hoped that this study will stimulate research in the area of management attitudes towards an AIDS policy for the workplace. It is accepted though, that this investigation is not without methodological problems and limitations.

Since the emergence of AIDS in the early 1980's, the disease has spread throughout the world at an alarming speed; so much so that more than 140 countries around the world have reported incidences of the disease.

With the increasing incidence of HIV and AIDS in the community, it will only be a matter of time before infected individuals start appearing in the workplace, necessitating a response from management.

This is clearly not an issue which will pale into insignificance if ignored. Instead, if ignored, the effect of HIV and AIDS on society in general and more specifically the workplace, could be disastrous. This is especially true when it is considered that 64,6% of the total number of reported AIDS cases in South Africa comprise individuals in the economically active (20-59 year age group) sector of the population (Department of National Health and Population Development, June 1992).

Due to the delayed occurrence of HIV and AIDS in South Africa, managers are in a unique position to analyze the response of companies throughout the world; eliminate shortcomings in their approaches, and to establish an AIDS policy which is uniquely suited to their business and our culturally diverse society.

While the perception among South African managers may be that with such a small number of HIV infected individuals and AIDS deaths, any occurrence of the disease in the workplace will be on a minor scale, this view is grounded in hope rather than fact. An examination of the total number of reported AIDS cases in South Africa shows that there has been a 28% increase in the number of reported cases from 1990 (318) to 1991 (436).

Closer to home, from May 1991 to June 1992, there has been a 51,4% increase in the number of reported AIDS cases in Natal/KwaZulu.

Clearly, AIDS and HIV is going to effect all spheres of life, including business and therefore companies will need to assess the possible effects of the disease on their workplaces, and take the necessary precautions.

What would be needed is a multi-faceted task-force comprising individuals from all

levels of management throughout a company, as well as shop stewards and workers, who would be able to address the complexities of AIDS in the workplace. It would also be the responsibility of this task-force to continually update any policy, in the light of any new developments, approaches and refinements adopted by other companies.

Although these suggestions may seem to be unrealistic in terms of the time and money spent on developing such a policy, Du Plessis (1990b:15) notes that "companies which do not have a policy have regretted this in the face of dealing with both HIV positive employees and those with "full-blown" AIDS".

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APPENDIX A

QUESTIONNAIRE INSTRUCTIONS

The Acquired Immune Deficiency Syndrome, AIDS, has become one of the major health threats of the 1980's and 1990's. Being such a new disease, relatively little is known about how people are reacting to the threat of AIDS. This questionnaire forms part of research project aimed at the attitudes of management towards an AIDS policy for the workplace.

You will notice that you are not obliged to supply your name and neither are the questionnaires numbered. All the information which you provide in the questionnaire will therefore remain anonymous and will only be used for research purposes.

Please answer questions as honestly as possible, and try and avoid using the uncertain (UN) category as an answer.

APPENDIX B

DESCRIPTION OF THE COMPANY

1. Name of the Company? .....

2. What does the Company produce? .....

3. How many staff are employed? .....

4. If the employees are unionized, which union(s) do they belong to? .....

5. Does your Company have an AIDS policy? .....

   If YES: When was it started? .....

   Who designed it? .....

   If NO: Is a policy being planned? .....

APPENDIX C

BIOGRAPHICAL DATA

1. Sex: Male = 1; Female = 2

2. Age:

3. Race: White = 1; Black = 2; Indian = 3; Coloured = 4; Other = 5

4. Marital Status: Married = 1; Single = 2; Co-habitant = 3; Widowed = 4; Divorced = 5

5. Home Language: .....

6. What is your position in the Company? .....

7. What are your post-matric qualifications?

   .....

8. How long have you been with this Company? .....

9. How long have you been in a management/admin position?

   .....

APPENDIX D

AIDS ATTITUDE QUESTIONNAIRE

Please answer the following questions by encircling the letter(s) which most closely reflects your answer.

EXAMPLE: The HIV virus causes AIDS

STRONGLY AGREE	AGREE	UNCERTAIN	DISAGREE	STRONGLY DISAGREE
SA	A	UN	D	SD

1. AIDS leads to death.

   SA A UN D SD

2. My employer must not expect me to work with somebody who has AIDS.

   SA A UN D SD

3. There is no need for an AIDS specific policy in the workplace.

   SA A UN D SD

4. Regardless of whether a person is HIV positive or not the best man will get the job.

   SA A UN D SD

5. Individuals who are HIV positive should be employed but excluded from all benefit schemes.

   SA A UN D SD

6. It makes no difference whether you educate your workforce before the first case of HIV occurs in your company, or once the just case has occurred.

   SA A UN D SD

7. There is no duty on the part of an employee diagnosed as HIV positive, to inform his employer.

   SA A UN D SD

8. In so far as the workplace is concerned, AIDS should be regarded in the same light as any other serious illness (for example Hepatitis B).

SA A UN D SD

9. The AIDS virus infections weakens the bodies ability to fight off disease.

SA A UN D SD

10. Someone who has the HIV virus can pass it on to me by coughing or sneezing.

SA A UN D SD

11. An employer should be able to fire any employee who has AIDS regardless of the type of work that they do.

SA A UN D SD

12. The company should organise a multi-faceted task force comprising of representatives from all different departments, to develop an appropriate AIDS policy.

SA A UN D SD

13. It's not really necessary to keep abreast of the AIDS situation once a company has an AIDS policy in place.

SA A UN D SD

14. HIV testing is perfectly acceptable when used as part of skill determination to determine whether a person is capable of performing work safely.

SA A UN D SD

15. Existing insurance and medical funds are comprehensive enough without having to be modified to cater for HIV and AIDS.

SA A UN D SD

16. It is the company's responsibility to educate and counsel the workforce regarding HIV and AIDS.

SA A UN D SD

17. A person can be infected with the AIDS virus and not have the disease AIDS.

SA A UN D SD

18. Dismissal of a worker with HIV/AIDS should only be considered when there is incapacity on the part of the infected worker.

SA **A** **UN** **D** **SD**

19. There is a cure for AIDS but due to its expensive nature the majority of AIDS sufferers cannot afford it.

SA **A** **UN** **D** **SD**

20. Instead of being alarmist, companies should rather wait until there is an incidence of HIV or AIDS in the workplace and then develop an AIDS policy.

SA **A** **UN** **D** **SD**

21. An AIDS policy must not only be cost effective, but as human as possible.

SA **A** **UN** **D** **SD**

22. It is management's right to hire a healthy workforce, and if pre-employment HIV testing excludes individuals who are potentially unhealthy, then it is acceptable to use HIV tests as the basis for an employment decision.

SA **A** **UN** **D** **SD**

23. All employees must undergo regular, compulsory blood tests for HIV.

SA **A** **UN** **D** **SD**

24. Current medical, pension and insurance policies that are in place in the workplace, don't adequately deal with AIDS and the HIV problem.

SA **A** **UN** **D** **SD**

25. It is essential that knowledge of a workers HIV positivity be kept strictly confidential by management.

SA **A** **UN** **D** **SD**

26. Should colleagues of an infected employee refuse to work with him, it would be best to immediately transfer the infected employee to an area where he does not come into contact with other people.

SA **A** **UN** **D** **SD**

27. Looking at a person is enough to tell if a person has the HIV virus.

SA **A** **UN** **D** **SD**

28. There's no reason why the medical screening of existing employees for HIV, should not be allowed.

SA **A** **UN** **D** **SD**

29. An AIDS education programme must be multi-faceted and include the use of pamphlets, lectures and videos.

SA **A** **UN** **D** **SD**

30. Protection of medical aid and pension schemes is not the function of the employer and should rather be left to the underwriters of the scheme who are free to sponsor and implement their own tests.

SA **A** **UN** **D** **SD**

31. Should a company decide to conduct HIV testing, it is the company's responsibility to provide both pre-test and post-test counselling.

SA **A** **UN** **D** **SD**

32. In a normal working environment doing my day to day job, I am at no risk of contracting the HIV virus from a fellow worker.

SA **A** **UN** **D** **SD**

33. In the majority of cases AIDS is an avoidable disease, and thus it is not unfair to refuse employment to HIV carriers whose claims for benefits will deplete benefit funds at the expense of uninfected workers.

SA **A** **UN** **D** **SD**

34. If a company develops an AIDS policy, there should be a separate AIDS policy for management and a separate policy for the workers.

SA **A** **UN** **D** **SD**

35. Should an employee become HIV infected, it isn't the companies job to refer the person to experts and to see that they and their families receive the necessary counselling.

SA **A** **UN** **D** **SD**

36. Companies should be prepared in the event of an HIV or AIDS case occurring in the workplace, and should therefore develop an AIDS policy before the first HIV case occurs in the workplace.

SA A UN D SD

37. Applicants for jobs shouldn't be tested for HIV.

SA A UN D SD

38. It's not unreasonable for employers to insert an HIV termination clause into the employment contracts of prospective new employees.

SA A UN D SD

39. Our policy on sick leave will not be changed to accommodate HIV infected individuals. They will be entitled to the same sick leave as other terminally ill workers.

SA A UN D SD

40. This entire AIDS problem is really a storm in a tea-cup, and much-to-do about nothing.

SA A UN D SD

THANK YOU FOR YOUR CO-OPERATION, TIME AND EFFORT.
IT IS GREATLY APPRECIATED.