HIV AND AIDS STIGMA, CONTACT AND INDIRECT EXPOSURE TO PERSONS LIVING WITH HIV AMONGST HEALTH CARE WORKERS IN THE CAPE TOWN METROPOLE

TONI ABRAHAMS
Student Number: 261 5537

SUPERVISOR
Mr Mohamed Adam

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Toni Abrahams

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ABSTRACT

The appeal of Allport’s Contact Hypothesis lies in the simplicity of its core principle, which holds that contact between different groups may serve to reduce prejudices. Contact needs to meet key conditions, i.e. equal power, cooperation towards a common goal and institutional support. Support has been found for the Contact Hypothesis in its original form and for those contacts which fail to meet the specified conditions. This study sought to explore whether contact, in forms different to those traditionally defined by the Contact Hypothesis, i.e. *exposure*, had any bearing on group prejudice. The prejudice and its underlying negative attitudes of interest, were those informed by HIV and AIDS stigma. HIV and AIDS stigma, defined as a discrediting quality and informed by social processes, is of particular concern as it impedes prevention, treatment and care efforts in South Africa’s response to the HIV and AIDS epidemic. The health care context is often an area where Persons Living with HIV (PLHIV) are confronted with HIV and AIDS stigma. The research aims were thus to explore the extent of HIV and AIDS stigma amongst health care workers, the forms of *exposure* to PLHIV and the relationship between *exposure* and HIV and AIDS stigma. A quantitative, survey design was employed to accomplish these aims and to test formulated hypotheses, which were based on current literature and the core principle of the Contact Hypothesis. The sample consisted of 202 health care workers in the Cape Town metropole. Data analyses revealed the existence of low to moderate levels of HIV and AIDS stigma and also found that most of the sample had *exposure* to PLHIV in either its individual forms or overall form. Bivariate correlations revealed negative relationships between forms of *exposure,* overall *exposure* and stigma. The results provide support for a simpler version of contact, which could be utilised in stigma reduction initiatives and the need to focus these on health care workers with less contact with or exposure to PLHIV.

DECLARATION

I declare that *HIV and AIDS stigma, contact and indirect exposure to Persons Living with HIV amongst health care workers in the Cape Town metropole* is my own work, that it has not been submitted for any degree or examination at any other university, and that all sources I have used or quoted have been indicated and acknowledged as complete references.

Full name ____ Date ______________

Signed ____________________________

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CHAPTER ONE

INTRODUCTION

1.1. BACKGROUND TO THE STUDY

Since its appearance Allport's Contact Hypothesis has been afforded much review (Lee, Farell & Link, 2004; Pettigrew & Tropp, 2006). This is due in part to the perception of the simplicity of its core principle, i.e. contact between members of different groups results in an improvement of intergroup attitudes (Lee *et al*., 2004). According to Allport (1958), contact needs to meet four key conditions, namely, equal group status, institutionally sanctioned support for the contact, common goals and intergroup cooperation, in order to result in positive attitude change. Several research studies have found support for the original Contact Hypothesis (Desforges *et al*., 1991; Etter, 2007; Pettigrew, 1998; Smith, 1994; Tredoux, 2007). Although contact is usually conceptualised as face-to-face interaction, some researchers have proposed that different kinds of contact could precipitate an improvement in attitude (Lee *et al*., 2004; Liebkind, Haaramo & Jasinskaja-Lahti, 2000; Pettigrew & Tropp, 2006). In addition, according to Lee *et al*. (2004), a knowledge gap exists regarding the types of contact deemed to facilitate positive attitude change. Lee *et al*. (2004), for example, assert that contact may include observation or information about a particular group. Contact may also be vicarious in nature such as that proposed by Wright *et al*. (1997) and Herek and Capitanio (1997). The debate on what constitutes necessary and sufficient contact is thus ongoing. The current study seeks to add to this debate by exploring the types of contact, beyond and including face-to-face encounters, which may facilitate positive intergroup attitudes. Specifically, the study poses the question of whether varied types of contact, henceforth termed *exposure*, are related to lower levels of prejudice informed by HIV and AIDS-related stigma.

The construct of stigma is defined by Goffman (1963, p.13) as "an attribute that is deeply discrediting". It is also viewed as a social process in which individuals are separated and devalued from and by the normalised social order, thereby reinforcing existing social inequality (Parker & Aggleton, 2003). Disease stigma is seen as beliefs, forming part of a social rather than solely individual process of stigmatization, in which those with disease are differentiated in negative social and biological terms (Deacon, Stephney & Prosalendis, 2005). This allows for the projection of risk onto other groups (Deacon *et al*., 2005). The related but separate concept of prejudice translates to stigma when the comprising individually held negative attitudes equal societally held negative evaluations of attributes of a particular group (Herek, 2002).

Stigma has been documented to be related to a number of health conditions (Van Brakel, 2006). HIV and AIDS is one such condition as it is viewed and described as incurable, fatal and is associated with transgressions of social norms (Siyam'kela, 2003). Herek (2002) also notes that HIV and AIDS is stigmatised due to attributions of the bearer's responsibility for contracting the condition through engagement in socially-disapproved, voluntary and avoidable behaviours. These negative evaluations attached to the condition mean that Persons Living with HIV (PLHIV)[1] are significantly affected by stigma (Bond, Chase & Aggleton, 2002; Kalichman & Simbayi, 2003; Lee, Kochman & Sikkema 2002; Niang *et al*., 2003; Simbayi *et al*., 2007). In a country such as South Africa where the adult HIV prevalence is, according to UNAIDS (2007),

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[1] Language influences beliefs and potentially behaviour. Considered use of appropriate language has the power to strengthen the response to the HIV and AIDS epidemic. Use of the term "People Living with HIV (PLHIV) reflects the fact that an infected person may continue to live well and productively for many years (UNAIDS, 2008a).

more than 15%, it is essential to address the many aspects which contribute to the continuing epidemic. HIV and AIDS-related stigma is one such important social aspect as it negatively impacts on prevention, diagnosis and treatment efforts (Simbayi *et al*., 2007; UNAIDS, 2008b). Stigma prevents, both directly and indirectly, PLHIV from accessing treatment, resources and much needed support. It further prevents individuals in the community from being tested as a result of the anticipated shame and rejection accompanying an HIV-positive status (Kalichman & Simbayi, 2003). Within the family, PLHIV are rejected, shamed and isolated (Wichman, 2006). So too are the families of PLHIV ostracised by mere association with the disease (Deacon *et al*., 2005). A further context in which stigmatising attitudes are encountered is that of the health care setting.

The health care setting has been pinpointed as a context in which HIV and AIDS-related stigma is widespread (Bharat, Aggleton & Tyrer, 2001; Deacon *et al*., 2005; Foreman, Lyra & Breinbauer, 2003; Mahendra *et al*., 2007; Morrison & Cuadra, 2004; Reis *et al*., 2005). Due to this, health care institutions have been named as one of the priority groups for stigma reduction efforts (Nyblade, 2004). In light of this, the present study will focus on the health care context by studying HIV and AIDS-related stigma amongst health care workers. Health care facilities in Mitchells Plain and Guguletu in the Cape Town metropole will serve as the specific settings. In these historically disadvantaged communities, HIV and AIDS accounted for just under 150 deaths per 100 000 combined, hence the focus on these areas (Groenewald *et al*., 2008).

Several HIV and AIDS-related stigma initiatives have been developed. These have largely focused on the dissemination of information about HIV and AIDS. Others have included contact as an important factor in reducing stigma (Deacon *et al*., 2005; van der Meij & Heijnders, 2004).

Thus, further investigation of contact as a means to address HIV and AIDS-related stigma is important. The current study will address this need by exploring whether varied forms of *exposure* to PLHIV amongst health care workers in the Cape Town metropole may be related to lower levels of HIV and AID-related stigma including its encompassing negative beliefs, attitudes and prejudices. This may widen the forms of contact deemed important to facilitate positive attitude change. The present study was conducted as part of a broader project which focused on HIV and AIDS-related stigma. The broader project will be discussed in the next section.

1.2. THE MAIN RESEARCH PROJECT

The main research project from which this research stemmed was the ‘Capacity Building for Research on HIV and AIDS in South Africa’ project. The project, initiated in 2004, was funded by the National Institute of Mental Health in the USA and was a five year partnership between Pennsylvania State University (PSU), the Human Sciences Research Council (HSRC), the University of the Western Cape (UWC) and the University of Limpopo (UL). This project sought to develop research capacity amongst staff and postgraduate students based at these historically black universities in South Africa. The project’s overall objectives were to strengthen research capacity, develop and sustain cultural and gender based interventions for the elimination of stigma associated with HIV and AIDS prevention, care and support in South Africa and to develop an HIV and AIDS stigma index.

The partnership specifically aimed to: 1) establish a training programme for postgraduate students; 2) strengthen capacity of staff members to supervise students to conduct exploratory research on the stigmatisation of PLHIV in specified communities as part of the thesis requirements with the expectation that these projects would lead to the development and refinement of a stigma index; 3) reduce and eliminate HIV and AIDS stigma in the community including, health care centres, and 4) develop a network of black South African researchers at UWC and UL who work in the area of HIV and AIDS and stigma.

In year one and two, qualitative exploratory studies were conducted by UWC students in the specified communities. In year three and four, qualitative and quantitative research were conducted by UL students. Data from years one to four was then used to develop an HIV and AIDS stigma index. The index constituted the main focus of the quantitative survey research which was conducted by both UWC and UL students in year five.

1.3. RATIONALE FOR THE STUDY

Deacon *et al*. (2005) assert that despite much focus on HIV and AIDS-related stigma in the United States and a growing focus on Africa in general, relatively little scientific research has been conducted on the manifestation of HIV and AIDS-related stigma in sub-Saharan Africa. Holzemer and Uys (2004) also state that of the research conducted, most published studies lack rigorous scientific analyses, including that of quantitative methods. This necessitates the carrying out of rigorous empirical studies. The authors also highlight the need for psychometric studies to develop valid and reliable scales for measuring stigma in order to gain an understanding of the extent of stigma, its correlates and the impact of stigma reduction initiatives. Further, Deacon *et al*. (2005) highlight that one of the gaps we have in understanding the barriers to care in southern Africa is that of knowledge regarding health care worker attitudes and behaviour towards PLHIV. Holzemer and Uys (2004) corroborate the need to better understand the phenomenon of health care worker stigma as it has a significant negative impact on the quality of life of PLHIV as well as health care workers themselves. Herek *et al*. (cited in Deacon *et al*., 2005), in a workshop report, proposed a research agenda aimed at informing initiatives against HIV and AIDS-related stigma. One of the areas of focus for these initiatives were the perpetrators of HIV and AIDS-related stigma and the social psychological processes which influence this group. Emphasis is thus placed on personal contact as one of the social psychological processes which influence stigma. Hamra *et al*. (2006) add that HIV and AIDS-related stigma is related to minimal exposure to PLHIV and caution that the dimensionality of exposure, i.e. the continuum of intimacy regarding exposure to PLHIV, has not been sufficiently investigated on a global level. In light of the above, the current study aims to contribute to filling the gap relating to manifestations of HIV and AIDS-related stigma in South Africa, gaining an understanding of health care worker attitudes, measuring the extent of HIV and AIDS-related stigma held by this group, as well as focusing on personal contact and exposure, as an approach to mitigate HIV and AIDS-related stigma.

1.4. SIGNIFICANCE OF THE STUDY

Given the extent of South Africa’s HIV and AIDS epidemic and the significant impact of stigma on prevention, treatment and care efforts, it is hoped that this study will contribute to the body of knowledge pertaining to HIV and AIDS-related stigma. In relation to the stated aims of the study, it is hoped that contact with PLHIV might further form an integral component in stigma reduction efforts. Furthermore, by exploring whether community or family *exposure* to PLHIV has any impact on stigma, it is hoped that a further component of intervention might be brought to light or elaborated on. It is also envisaged that this study will contribute to illuminating the levels of HIV and AIDS-related stigma in the health care setting and amongst various health professions thereby informing the target of stigma reduction and mitigation efforts. Finally, it is anticipated that further areas of research will be brought to light.

1.5. AIMS OF THE STUDY

The research aims are to examine the relationship between types of *exposure* to PLHIV and HIV and AIDS-related stigma amongst health care workers based at health facilities in the Cape Town metropole. Specifically, it is to assess whether varied forms or degrees of *exposure* beyond face-to-face encounters, may be connected to varied levels of HIV and AIDS-related stigma amongst this population. The formulated hypotheses will be detailed later in chapter three. The following aims were specified:

1. To explore the levels of HIV and AIDS-related stigma amongst health care workers in Mitchells Plain and Guguletu
2. To explore the forms of *exposure* to PLHIV amongst health care workers in Mitchells Plain and Guguletu
3. To describe the relationship between forms of *exposure* to PLHIV, overall *exposure* to PLHIV and HIV and AIDS-related stigma amongst health care workers in Mitchells Plain and Guguletu

1.6. OVERVIEW OF THE THESIS

Chapter 1 includes an introduction to the study, the main research project, the rationale for the study, the aims of the study and an overview of the thesis. Chapter 2 focuses on the current and seminal literature regarding stigma, HIV and AIDS stigma, stigma mitigation and HIV and AIDS stigma in the health care context. The chapter also reviews the Contact Theory as the theoretical framework on which the study is based. Chapter 3 goes on to describe the research design, sampling, measurement instrument, procedures, data analysis and ethical considerations. The results that emerged from the study are then detailed in Chapter 4. Chapter 5 includes a discussion of the results, limitations to consider when interpreting the results and advances recommendations stemming from the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter some of the most recent and seminal literature regarding stigma and HIV and AIDS-related stigma are discussed. Particular attention will be paid to the process of disease stigma as well as the causes, types, effects and measurement of stigma. Thereafter, focus is shifted to the health care context in which HIV and AIDS-related stigma is to be found, with reference to both international and national studies. Finally, Allport's Contact Hypothesis and revisions thereof are examined and data provided on research studies dealing with this topic.

2.2 STIGMA

The definitions of stigma are found in two polarised camps, namely, one which views stigma as rooted in traits of dysfunctional and ignorant individuals, and the other which views it as a form of social control (Deacon *et al*., 2005). Goffman's (1963) seminal work on stigma, which falls into the former category views stigma in individual psychological terms and defines it as "an attribute that is deeply discrediting" (p. 13). Goffman (1963) defined three types of stigma, namely, 'abominations of the body' such as physical deformity, 'blemishes of individual character' which are inferred from known records of socially deviant behaviour and 'tribal stigma of race, nation and religion'. An individual is said to possess undesired difference and to be not quite human (Goffman, 1963). On this basis, discrimination is exercised and the individual's life chances and opportunities significantly reduced (Goffman, 1963). Goffman (1963) also asserts that ideological explanations are constructed to account for the stigma-possessed individual's inferiority and dangerousness. The stigmatised individual may incorporate standards from broader society which sensitise him or her to the failings he or she is said to possess (Goffman, 1963). This inevitably causes the individual to agree, if only briefly, that he indeed “falls short of what he ought to be” (Goffman, 1963, p.18). Shame then becomes a central possibility (Goffman, 1963). The internalisation of these societally held standards may drive what is termed internal stigma. The concept of internal stigma will be discussed in depth later in this chapter. Goffman (1963) also acknowledged that animosities towards stigmatised individuals are sometimes rationalised on the basis of other differences such as social class. This notion parallels with the definitions of stigma which view it as perpetuating preexisting inequalities.

Parker and Aggleton (2003) present one such alternative conceptual framework for understanding stigma. Parker and Aggleton (2003) assert that stigma and the related concept of discrimination should be conceptualised as a social process. From this perspective, stigma is a social and cultural phenomenon linked to actions of entire groups of people not merely a consequence of individual behaviour (Aggleton, 2000). Stigma is understood in relation to power and domination and specifically serves to produce and reproduce social inequality (Parker & Aggleton, 2003). Relatedly, Scambler and Paoli (2008) assert that stigma is socially constructed and the resultant cultural proscriptions and prescriptions that stigma results in, follows the core social structures in society. Stigma can thus be seen as an agent of social control where its function is to reinforce existing social inequalities of class, race, gender and sexuality (Parker & Aggleton, 2003).

An alternative definition of stigma which also focuses on the function it serves, is that of Joffe (1999). Joffe (1999) views stigma as an emotional response in which individuals, through the processes of splitting and projection, distance themselves from danger by projecting risk and blame onto other groups using existing social representations. Splitting, in Kleinian terms, is a primitive defensive response to anxiety in which the individual separates good and bad parts of an object (Gomez, 1997). Projection, i.e. attributing one's own dynamics to that of the other, then allows for the stigmatising individual to project their disallowed parts onto the stigmatised other (Deacon *et al*., 2005). Individuals are thereby able to achieve a false impression of control and protection by attributing risk-enhancing behaviour to others and blaming these groups for being at risk (Deacon *et al*., 2005). This pattern attributing blame to the other, found in discourse about disease, was termed by Joffe (1999) as the 'not me others are to blame' pattern. Deacon *et al*. (2005) also notes that Joffe's definition draws on the notion of stigma as a social process which relies on existing social representations to fuel stigmatising beliefs. There are however arguments which caution against viewing stigma in terms of its function alone.

Deacon *et al*. (2005) advocate caution against the tendency towards functionalism and individualism. Functionalism exclusively frames the definition of stigma by its effects and function, whilst individualism places undue emphasis on the role of the individual. Deacon *et al*. (2005) further emphasise that it is important to understand stigma as a social process but equally important to separate the notion of discrimination from prevailing definitions thereof. The authors explain the importance of this conceptual distinction in that stigma does not necessarily lead to discrimination, and all discrimination cannot be attributed to stigma. Stigma, as it relates to disease, will be explored in the following section.

2.3 DISEASE STIGMA AND HIV AND AIDS-RELATED STIGMA

2.3.1 The process of disease stigma

Stigma has historically been associated with various diseases and varies according to time and place (Keusch, Wilentz & Kleinman, 2006). HIV is one such medical condition which has been highly stigmatised. According to Deacon *et al*. (2005), stigma exacerbates pandemics by seriously affecting incidence, experience and management of such medical conditions. Mbonu, van den Borne and De Vries (2009) further contend that stigma increases HIV infection rates. This is of serious concern considering that the HIV epidemic has resulted in 33.4 million people living with HIV worldwide, 5.7 million of which are from South Africa (UNAIDS, 2009). Furthermore, South Africa has an overall HIV prevalence of approximately 10.6% with the total number of new infections for 2009 being approximately 413,000 (Statistics South Africa, 2009). How then is disease stigma defined?

Deacon *et al*.'s (2005, p. 19, 23) definition of disease stigma takes into account the limitations of traditional definitions by defining it as "negative social baggage associated with a disease" and as a "social process by which people use shared social representations to distance themselves and their in-group from the risk of contracting a disease". Specifically, the formulation of the ideology of health-related stigmatisation is conceptualised as a social process in which, 1) illness is constructed as preventable, 2) immoral behaviours are identified as causing the disease, 3) these behaviours are associated with other groups as carriers of the disease, 4) individuals are blamed for contracting the disease and 5) discrimination is justified and directed against these individuals (Deacon *et al*., 2005)

An alternative view is that of Katz (1981) who describes the process of stigmatisation in which the stigmatiser assigns an inferior status to and discriminates against individuals deemed to possess deviant traits. Three theoretical views of this process have been advanced. The first view, the 'attribute-as-sufficient-cause' model asserts that particular negative traits or qualities possess the power to discredit the entire moral being of the possessor in the eyes of another (Katz, 1981). The trait is merged with the possessor thereby rendering the attribute and person one and the same. The second view, the 'scapegoat' model, states that a defect may be ascribed to a group as an expression arising from other causes such as pre-existing hostility. Here the defect serves to justify the negative attitude (Katz, 1981). The denigration or disparagement of those, for whose suffering the stigmatiser feels responsible for, serves to reduce the individual's moral discomfort. This is accomplished by reducing the value of the victim (Katz, 1981). The final view, the 'labeling' perspective holds that both deviation from social norms and societal choice to regard individuals as deviant, are necessary for the stigmatisation process. The labeling of qualities as deviant depends on contextual variables such as the power or resources of the individual, the social distance between the labeler and labelee, tolerance levels in the community and the visibility of deviant traits (Katz, 1981). Katz (1981) however states that attitudes and behaviour towards stigmatised individuals are not always negative. The author notes that at the root of feelings of sympathy, is the social norm that those physically or otherwise disabled, should be treated with respect. This 'sympathy arousal' finds its expression in both private and public helping agencies (Katz, 1981).

Katz (1981) explicates Goffman's factors which determine the individual's awareness of a particular stigma in various interaction situations, which in turn determines the extent to which an individual will be treated as deviant. These factors centre on ‘evidentness’ of a stimulus and not solely on visual perceptibility. They include whether the stigma is known about either through previous knowledge or derived from gossip, whether the stigma obstructs the flow of interaction and the perceived focus of the stigma. The latter refers to the stigmatising individual’s perception of the area of life activity for which the attribute disqualifies the possessor (Katz, 1981). In the case of HIV and AIDS-related stigma the area of life activity may be sexuality.

Katz (1981) asserts that most stigmas contain an element of threat to those individuals exposed to it. The kind and severity of threat varies and rests upon whether the stigma poses a challenge to societal assumptions and order. Alternatively, interactions with sick individuals may arouse apprehensiveness in healthy individuals by challenging the assumption of safety and invulnerability to misfortune (Katz, 1981). Katz (1981) states that conditions deemed permanent and severe or mysterious and uncontrollable pose a greater threat. Whilst various aspects of HIV such as transmission, is medically well-understood and controllable, the elusiveness of a vaccine may, for example, contribute to perceptions of the disease’s mysteriousness. The incurable and permanent nature of the diagnosis may also serve to contribute to perceptions of a high degree of threat. These factors bring about varying levels of fear and hostility on the part of the stigmatiser (Katz, 1981).

Stigmas differ in the extent to which the individual is deemed to be responsible for his or her deviance (Katz, 1981). The author asserts that characterological stigmas which entail the violation of moral standards tend to be viewed as more voluntary than that of bodily or tribal stigma. This in turn may render the bearer of such stigma more responsible for his or her condition. Herek (2002), for example, points out that HIV and AIDS is stigmatised due to the belief that HIV-positive individuals engage in voluntary, avoidable and socially disapproved behaviours. Negative attitudes around the transmission of HIV and AIDS may also, for example, be tied to the belief that individuals choose to engage in socially defined deviant practices which puts them at risk. The notion of blame is thus important to examine in relation to HIV and AIDS-related stigma.

Katz (1981) notes that whether or not the stigmatised individual is blamed for possessing a deviant trait will determine the way in which he or she is treated. The distinction is often made between those deemed ‘innocent victims’ and those deemed responsible for their infection (Keusch *et al*., 2006; Siyam’kela, 2003; Skinner & Mfecane, 2004). The continuum of blame is exemplified in the hierarchy of HIV and AIDS-related stigma where gay and bisexual men are more stigmatised than heterosexual women; those who contract HIV through sex with multiple partners or needle sharing bear the most hostility and those who are infected through contaminated blood are the least stigmatised (Herek, 2002). This is in contradiction to the view of Keusch *et al*. (2006) however, who state that the distinction between blame or no blame, leaves little difference in how individuals are eventually treated.

Deacon *et al*. (2005) state that disease stigma results when a disease acquires social meaning within a specific political and historical context. It is imbued with meaning and significance by the ways it influences the lives of individuals, from the reactions it evokes and from the manner in which it gives expression to cultural and political values (Deacon *et al*., 2005). Various factors therefore combine to influence how and how much a disease is stigmatised (Deacon *et al*., 2005). Epilepsy is, for example, a well understood and accepted neurological condition in many societies, however in others such as China and Netherlands, is deemed a contagion or sign of being cursed or possessed (Keusch *et al*., 2006). These beliefs lead families to isolate their epileptic members thereby precluding them from treatment (Keusch *et al*., 2006). Similarly, stigma relating to HIV and AIDS occurs for a number of reasons, is dependent on context and creates barriers to testing, prevention and treatment efforts. According to Keusch *et al*. (2006), AIDS was initially stigmatised as a ‘gay disease’ and later associated with drug use and prostitution. Although the particular negative attributes ascribed to a disease varies across cultures there is a consistent implication of moral wrongdoing with respect to disease stigma (Keusch *et al*., 2006). For example, HIV and AIDS which is perceived as incurable and severe, is associated with behaviours which transgress social norms especially those related to sexual activity (Siyam’kela, 2003). Additionally, it is associated with previously stigmatised behaviours such as homosexuality and intravenous drug use (Law *et al*., 2007). This creates the notion that those who are infected deserve to be through their choice to engage in such behaviour. Consequently HIV and AIDS is construed as punishment for engagement in these so-called deviant behaviours (Siyam’kela, 2003).

Parker and Aggleton (2003) point out that although the complexity and diversity of stigma in the context of HIV and AIDS and cultural diversity is a major limiting factor in understanding the phenomenon, it may also be useful to rethink the frameworks traditionally used to understand stigma. For example, Goffman’s classical work on stigma has unintentionally resulted in the view of stigma as a static attitude rather than that of an ever changing social process (Parker & Aggleton, 2003). Subsequent social-cognitive approaches, which examine the ways in which individuals construct and incorporate categories into stereotypical beliefs, have also fallen short by way of vague and variable definitions of stigma (Parker & Aggleton, 2003). Further problems relating to the definition of stigma include a strong individualistic focus, emphasis on stereotyping rather than conditions which produce experiences of exclusion and the perception of stigma as something *in* the individual rather than attached *to* the individual (Parker & Aggleton, 2003). Much research into HIV and AIDS-related stigma has tended to reproduce and extend the abovementioned conceptual tendencies. HIV and AIDS-related stigma is also often understood in emotional terms and believed to be expressed in stigmatising attitudes. These have in turn been the focus of much research work seeking to assess levels of stigma in varying population groups (Parker & Aggleton, 2003).

2.3.2 The causes of HIV and AIDS-related stigma

There is a relationship between HIV and AIDS-related stigma and other forms of prejudice in so far as different negative associations with race and sexuality, for example, are also used to stigmatise individuals (Deacon *et al*., 2005). This is echoed by Skinner and Mfecane (2004) who list factors such as race, gender, sexual orientation, profession and geography as those which are used to stigmatise already stigmatised groups.

Rankin *et al*. (2005) discuss the relation of stigma to the HIV epidemic, society, gender and human rights within the African context. Firstly, the authors assert that stigma is both the cause and effect of secrecy and denial which fuel HIV transmission. It does so by inhibiting individuals from HIV testing or condom use by HIV discordant couples. It may further compel HIV positive mothers to expose their infants to infection through breastfeeding as a result of suspicion which may be aroused by alternative feeding methods. Secondly, the relation of stigma to society is to be found in the societal structures which pit members against each other such as prejudice and the reinforcement and perpetuation of hierarchical patterns of privilege. Thirdly, traditional assumptions and patriarchal attitudes which predominate in sub-Saharan Africa predispose women to HIV infection through the imbalance of power. The latter robs women of opportunities to negotiate safe sex practices and exposes them to violence, abuse and exploitation in both sexual and economic terms. Finally, stigma is to be found in societies where social injustice, social oppression and disregard for human rights are evident (Rankin *et al*., 2005).

Rankin *et al*. (2005) also explain how punishment theories embodied by some religions presume that illness is brought upon the person by deity or ancestor in retribution for a transgression of religious norms. This is echoed by Skinner and Mfecane (2004) who note that intentional or inadvertent judgments against PLHIV by religious groups may contribute to stigma and discrimination. These theories empower communities to isolate the ill individual thereby protecting themselves from contamination and association with sinfulness (Rankin *et al*., 2005). It also, according to Skinner and Mfecane (2004) allows the ‘othering’ of and blame attributed to those deemed guilty of ‘sinful’ transgressions.

Discourse also conveys and reflects stigmatising attitudes (Rankin *et al*., 2005). Rankin *et al*. (2005) provide examples of this in which infected individuals are referred to as ‘walking corpses’ or ‘she is an HIV’. The latter exemplifies the fusion of the individual with the illness such as that proposed in the ‘attribute as sufficient cause’ model proposed by Katz (1981). Rankin *et al*. (2005) also illustrate the link between gender, discourse and stigma by the example of how sexually transmitted diseases in Malawi are referred to as ‘women’s disease’.

2.3.3 Types of HIV and AIDS-related stigma

Two types of stigma have been identified. Internal or felt stigma is characterised by the shame felt by PLHIV as well as the fear of anticipated negative reactions from others (Foreman *et al*., 2003; Siyam'kela, 2003). External or enacted stigma on the other hand, is characterised by actual experiences of discrimination such as blame, exclusion and prejudice (Siyam'kela, 2003). This is in line with Deacon *et al*.'s (2005) assertion that the construct of stigma should not be seen to equate discrimination but rather that it encompass a broader range of actions and reactions. For example, failing to take into account the strength with which an internalised view of culpability, rather than discrimination from others, prevents a HIV-positive individual from accessing services means that a comprehensive understanding of stigma cannot be gained. Foreman *et al*. (2003) issue caution in the use of the confusing term 'enacted stigma' which seems a mere synonym for the term discrimination. They suggest the use of the term 'experienced' stigma instead, to denote experiences of stigma from the perspective of the PLHIV. For the purpose of this study however, emphasis was placed on external stigma as it is stigma resulting from others, specifically health care workers, towards PLHIV, that is of interest.

2.3.4 The effects of HIV and AIDS-related stigma

The effects of internal and external stigma are varied. The former may, for example, prevent disclosure and denial whereas the latter may serve to reinforce the fear felt by PLHIV. The far reaching effect of both types of stigma is that prevention and treatment efforts are thwarted. Stigma has, for example, been identified as a key obstacle to disclosure by PLHIV, willingness to access voluntary counseling and testing (VCT) and healthcare services and has been identified as a significant cause of treatment non-adherence (Deacon *et al*., 2005). This in turn has far-reaching effects on treatment programmes. Simbayi *et al*. (2007), for example, conducted a study with HIV-positive men and women in Cape Town to establish the prevalence of discrimination experiences and internalised stigma. This was deemed important as HIV and AIDS-related stigma interferes with prevention efforts by way of the anticipatory fear of other's reactions. The survey found that 40% of the respondents had experienced discrimination directly linked to their HIV-positive status. This included, for example, losing employment or being treated differently by friends and family after being tested. The experience of discrimination was attributed as the reason the majority of the sample had not disclosed their status. One in three participants experienced internalised stigma as manifest by feelings of dirtiness, shame and guilt related to their HIV-positive status. The results also suggested that internalised stigma has a role to play in symptoms of depression as well as the psychological distress reported among PLHIV in South Africa (Simbayi *et al*., 2007). Another study by Kalichman and Simbayi (2003), in an attempt to understand the low rates of testing by South Africans despite awareness of VCT, examined the relation between HIV testing history, attitudes towards testing and HIV and AIDS-related stigma. They found that amongst the 501 participants residing in black townships in Cape Town, those who had not been tested or who did not know their results despite being tested, held significantly greater negative testing attitudes. In comparison to those who had tested, those who were not, exhibited significantly higher levels of HIV and AIDS-related stigma as manifest by attributions of shame, guilt and social disapproval of PLHIV. The authors conclude that stigma is an important factor in resistance to VCT. The effects of HIV and AIDS-related stigma however extends beyond just the individual with HIV or AIDS.

The effects of HIV-related stigma also directly impacts individuals, families, communities and societies. This may take on the form of loss of support, isolation from others and ostracisation of families by association with an ill family member (Rankin *et al*., 2005). On a societal level, stigma weakens public support for social programs which aim to help PLHIV (Kalichman *et al*., 2005). Keusch *et al*. (2006) note that HIV stigmatised individuals may already bear the brunt of other types of stigma and this results in a combination of societal rejection and discrimination. The authors highlight that beyond disease stigma individuals are continually faced with denial of status and opportunities on the basis of race, ethnic origin, socioeconomic status, age, physical appearance, sex and sexual orientation, occupation and religion.

2.3.5 Measuring HIV and AIDS-related stigma

In order to address the issue of HIV and AIDS-related stigma as well as measure the impact of intervention efforts across a wide range of contexts, it is important to define the manifestations thereof. According to Deacon *et al*. (2005), surveys have been utilised on the international front, in research on HIV and AIDS-related stigma to catalog and measure stigmatising attitudes. In a database compiled by the authors and containing over 3000 entries of recent work on stigma and disease, there were a considerable number of papers using survey and attitudinal measures to study HIV and AIDS-related stigma. Further, Nyblade *et al*. (2003) used a survey method to establish a baseline understanding of knowledge, attitudes and behaviours related to HIV, stigma and PLHIV amongst PLHIV living in urban and rural Ethiopia. Letamo (2003) also utilised a survey to investigate the prevalence of discriminatory attitudes towards PLHIV amongst the general population in Botswana. The study utilised the survey data to examine the social, economic and demographic factors associated with negative attitudes towards PLHIV (Letamo, 2003). On the national front, survey methods have also been employed to investigate HIV and AIDS stigmatising attitudes amongst varied populations including health care workers. Fransman *et al*. (2000), for example, used a descriptive survey to establish the attitudes of medical staff to caring for peadiatric HIV-infected patients in Cape Town. Additionally, Reis *et al*. (2005) conducted a cross-sectional survey in a large sample of Nigerian health care professionals in order to measure discrimination against PLHIV.

Studies such as that of Nyblade and MacQuarrie (2006), Siyam'kela (2003), Kalichman *et al*. (2005) and Uys *et al*. (2009) have sought to address the need for a set of indicators of HIV and AIDS-related stigma. Numerous measures have also been developed to measure HIV and AIDS-related stigma (Uys *et al*., 2009).

The Siyam'kela Project (2003) specifically set out to develop well-researched indicators of HIV and AIDS-related stigma and discrimination. By way of consultative meetings, focus groups, in-depth interviews and input from HIV and AIDS experts, a number of indicators of HIV and AIDS- related stigma categorised by theme, were advanced (Siyam'kela, 2003). These indicators fell into two broader categories, i.e. internal and external stigma (Siyam'kela, 2003). The seven themes of external stigma included avoidance, rejection, moral judgment, stigma by association, unwillingness to invest in PLHIV, discrimination and abuse. Five themes relating to internal stigma included self-exclusion from services and opportunities, perception of self, social withdrawal, overcompensation and fear of disclosure. The present study has external stigma as its focus and it is thus important to examine the comprising themes.

Avoidance may arise from fear of contagion or the perception of PLHIV as morally deficient (Siyam'kela, 2003). Moral judgment involves attributing blame and allows distancing and othering, which further justifies acts of discrimination (Siyam'kela, 2003). Moral judgment may be measured by the number of people who use the concept of blame to inform their response to PLHIV or present HIV and AIDS in terms of moral judgment (Siyam'kela, 2003). Unwillingness to invest in PLHIV arises from the commonly held perception that investing in PLHIV is a waste of resources and time. This is based on the assumption that PLHIV are not productive and are terminally ill (Siyam'kela, 2003). In addition, discrimination results from the perception that providing services to PLHIV is a waste of limited resources due to the misperception of HIV as a fatal rather than chronic disease (Siyam'kela, 2003). This may, according to Siyam'kela (2003), be measured by the number of people who would deny services to PLHIV. Further studies have also attempted to quantitatively measure HIV and AIDS-related stigma.

Nyblade and MacQuarrie's (2006) report advances suggestions for quantitatively measuring HIV and AIDS-related stigma based on research conducted in a Tanzanian study as well as questions derived in other reviewed studies attempting to measure stigma. The report advances four key domains into which HIV and AIDS-related stigma indicators are organised namely, fear of casual transmission and refusal of contact with PLHIV, values (shame, blame and judgment), enacted stigma (discrimination) and disclosure.

Nyblade and MacQuarrie (2006) recommend data collection questions such as requesting the respondent to indicate fear of transmission in response to a question about caring for a person with HIV or AIDS. The question provides an indication of those providers who fear providing medical care for patients with HIV and AIDS. In addition, probing the level of agreement with a statement such as ‘I am comfortable providing health services to clients who are HIV-positive’ provides an indication of providers who are uncomfortable working with or treating PLHIV. The abovementioned questions provide information on the fear of casual transmission and refusal of contact with PLHIV domains described by Nyblade and MacQuarrie (2006). The authors note that these have been the principal domains of stigma which surveys measure. Methodological issues inherent in typical questions probing this domain involve the hypothetical nature of the questions, socially desirable response sets, ambiguity and the inability to capture the underlying cause of the resulting behaviour (Nyblade & MacQuarrie, 2006).

Nyblade and MacQuarrie (2006) define the third domain of stigma and discrimination as that of moral- or value-driven stigma based on assumptions about modes of contraction of HIV and resultant stigmatising attitudes. Shame, blame and judgment are three key dimensions to measure in this domain (Nyblade & MacQuarrie, 2006). By indicating the level of agreement with statements such as ‘People with HIV should be ashamed of themselves’, respondents provide a measure of judgment (Nyblade & MacQuarrie, 2006). Questions forming part of the reviewed studies and measuring this domain are however few (Nyblade & MacQuarrie, 2006). The indicators advanced by Nyblade and MacQuarrie (2006) were found to perform satisfactorily on tests of reliability and validity. As with the previous set of questions, these may be subject to socially acceptable answers and result in underreporting of value-driven stigma (Nyblade & MacQuarrie, 2006).

In terms of the enacted stigma domain, various questions can be posed to survey respondents. For example, the question ‘In the past 12 months have you observed a health care provider gossiping about a clients HIV status?', provides an indication of providers who personally know patients who had their sero-status disclosed without consent because they were known or suspected of having HIV and AIDS (Nyblade & MacQuarrie, 2006). Social desirability is again at play with regard to questions probing acts of stigmatisation by respondents (Nyblade & MacQuarrie, 2006). These challenges have been addressed in Nyblade and MacQuarrie (2006) by probing personally observed enacted stigma. The Tanzanian study performed reliability tests on a range of items used to measure enacted stigma and found them to perform well and show good variability in responses (Nyblade & MacQuarrie, 2006). The need for reliable scales to measure HIV and AIDS-related stigma has also been attended to elsewhere.

A study by Kalichman *et al*. (2005) attempted to address the absence of reliable and valid multi-item AIDS stigma scales in Africa by developing a nine-item AIDS-Related Stigma Scale. The scale included measures of stigma beliefs including repulsion, avoidance and persecution and was derived from stigmatisation theory (Kalichman *et al*., 2005). The instrument, developed by research conducted in five South African communities, was found to be internally consistent and reliability was also established for three languages. A further study sought to develop and validate an instrument measuring HIV and AIDS-related stigma with a specific focus on nurses. Uys *et al*. (2009) utilised a mixed method approach with a sample of nurses from Lesotho, Malawi, South Africa, Swaziland and Tanzania. A 19-item instrument, the HIV/AIDS Stigma Instrument – Nurse (HASI-N), which comprises two factors, i.e. Nurses Stigmatising Patients and Nurses Being Stigmatised, was developed over a three year period. The HASI-N was found to be highly reliable (Cronbach's Alpha = 0.90) and valid. Uys *et al*. (2009) assert that the

HASI-N is the first inductively derived instrument measuring HIV and AIDS-related stigma amongst nurses.

Uys *et al*. (2009) notes the prioritisation of the need to develop culturally appropriate measures of stigma related to health and illness. This partly informed the rationale for the larger study in which this research is located. Using the PEN-3 model, as articulated by Airhihenbuwa (2007), a questionnaire was developed to measure HIV and AIDS-related stigma. This model provides the means to examine health beliefs, decisions and behaviour whilst taking in account culture and the need to empower communities. The planning, implementation and evaluation of interventions can thereby be culturally informed and appropriate (Airhihenbuwa, 2007).

2.4 HIV AND AIDS-RELATED STIGMA IN THE HEALTH CARE CONTEXT

Health care workers have a great influence on the welfare on PLHIV (Foreman *et al*., 2003). Their influence stems in part from the fact that they both define health and illness and have the power to deny or grant treatment (Foreman *et al*., 2003). They also have an essential role to play in the HIV epidemic because they have the multiple functions of providing information, encouraging testing and treatment and supporting treatment adherence and compliance (Poindexter, 2007). Feelings of stigmatisation, social rejection and discrimination resulting from health professionals have frequently been described by PLHIV (Foreman *et al*., 2003). Surveys generally show that 10% to 20% of health care workers hold negative attitudes towards PLHIV (Foreman *et al*., 2003). In addition, Herek and Capitanio (1997) cite a number of studies in which PLHIV have been negatively evaluated by health care workers. What processes are at play in the development of both positive and negative attitudes amongst health care workers to PLHIV?

Goffman (1963) describes two sets of individuals from whom the stigmatised individual may expect support, i.e. those who share his stigma and the 'wise'. The latter refers to those who do not possess the stigma but whose special situation has made them aware of and sensitive to the life of the stigmatised. This wiseness may stem from working in organisations which cater to the needs of the stigmatised such as that of hospitals or clinics. Naturally, this 'wiseness' may extend to health care worker in these organisations who interact frequently with PLHIV. It may also develop in individuals related to the stigmatised individual through social structure such as that of the family or friendship. This particular type of 'wiseness' is examined in the current study with a specific focus on personal relationships such as family and friends which may have a role to play in levels of HIV and AIDS-related stigma identified. Goffman (1963) also goes on to describe how this relationship may lead society to treat both individuals as one. This may account for the experiences of health care workers being stigmatised by association. Uys *et al*. (2009), for example, found a high level of stigmatisation by association of nurses, in their sample of nurses from a number of Africa countries. According to Goffman (1963), these individuals are obliged to share some of the discredit attributed to the stigmatised individual. Goffman (1963) explains that the wise individual responds in one of two ways, i.e. to embrace the stigmatised connection or to avoid and terminate it. These responses may account for the varied attitudes amongst health care workers and necessitates research within this group.

Health care workers have been the focus of research related to HIV and AIDS-related stigma. Foreman *et al*. (2003) report that health care worker's knowledge, attitudes and experiences of PLHIV in health care settings have been the predominant area of these research studies. The importance of inclusion of health care workers in research on HIV and AIDS-related stigma is highlighted by studies such as that of Uys *et al*. (2009) and Nyblade (2004). A review of the literature, conducted by Horsman and Sheeran (1995) identified a number of major themes regarding health care workers and their attitudes to PLHIV. Knowledge, training, professional roles, age, culture, gender and religion were identified as important factors at play in expressions of both negative and positive attitudes towards PLHIV (Horsman & Sheeran, 1995).

Research on HIV and AIDS-related stigma has focused on different professions within the health care setting. Nurses have been the health profession most studied, followed by doctors, laboratory technicians and dentists (Foreman *et al*., 2003; Horsman & Sheeran, 1995). Few research studies have examined the knowledge and attitudes of other professions such as that of psychologists, social workers, counselors, administrative and paramedical staff (Foreman *et al*., 2003; Horsman & Sheeran, 1995).

Studies of health care workers and HIV and AIDS-related stigma have elucidated a number of factors of common concern. Foreman *et al*. (2003), for example, report a global perspective on HIV and AIDS-related stigma in the health setting and highlight five areas in which studies have been conducted, i.e. HIV transmission and fear of contagion, vulnerable groups, personal contact, systemic failures and burnout. With regard to fear of contagion, Foreman *et al*. (2003) note that this fear can be classed into two categories namely, “unfounded fear of casual contagion” and “fear of real but low risk infection from occupational exposure” (p. 24). Fear of infection may lead to varied reactions among health care workers such as support for policies intended to protect workers from infection and restricting care to only those who ‘deserve’ treatment (Foreman *et al*., 2003). Uys *et al*. (2009) also note that negative attitudes towards HIV and PLHIV may lead to fear of contagion which in turn may result in verbal abuse and inadequate care by nurses. There is also a strong relation between lack of HIV and AIDS knowledge, specifically around HIV transmission, and fear of contagion (Foreman *et al*., 2003). In terms of personal contact, Brown, Macintyre and Trujillo (2003) note that contact has a significant role to play in health care worker attitudes to PLHIV and has and can be employed as an effective stigma reduction strategy. Foreman *et al*. (2003) state that in some instances increased contact may be related to lower levels of stigma. For example, due to the higher levels of contact between nurses and PLHIV and thus increased familiarity, nurses tend to show lower levels of stigma than physicians (Foreman *et al*., 2003). Those instances where contact has lead to increased negative attitudes are related to the development status of the country, resource constraints and staff fears of incompetence (Foreman *et al*., 2003). In addition, systemic failures may result in discrimination and include resource constraints, inadequate training and lack of protective equipment (Foreman *et al*., 2003). There have been a number of international and national studies looking at HIV and AIDS-related stigma amongst health care workers.

On the international front, studies such as that of Andrewin and Chien (2008), Bharat, Aggleton and Tyrer (2001), Mahendra *et al*. (2007) and Martin and Bedimo (2000) have directed focus on health care workers. Mahendra *et al*. (2007) report on research conducted in New Delhi, India which sought to establish stigma-related baseline findings to evaluate the impact of stigma-reduction interventions in three hospitals. Amongst the data collection methods utilised, 884 hospital workers were surveyed using an index to measure stigma and informed by in-depth interviews. The index, which predominantly measured attitudes towards PLHIV, was found to be sufficiently reliable. The findings indicated that higher scores on the stigma index were associated with incorrect knowledge about HIV transmission and discriminatory practices

(Mahendra *et al*., 2007). In addition, stigma scores varied by health provider type with physicians reporting less stigmatising attitudes compared to nurses. Additionally, Andrewin and Chien (2008) conducted a study amongst 230 doctors and nurses working in public hospitals in Belize. The results suggested that stigmatisation was highest for attitudes of blame or judgment and that disclosure of patient's status to colleagues was the most frequent act of discrimination. The results also indicated variation in expression of stigma according to profession. For example, nurses were more likely to give patients differential treatment based on the patient's serostatus whereas doctors were more likely to engage in nonconsensual HIV testing. Female and religious health care workers were also more stigmatising than their male and nonreligious counterparts (Andrewin & Chien, 2008). Formal HIV and AIDS training was also significantly associated with less stigmatisation. Poindexter's (2007) qualitative study of heath care provider's HIV-related attitudes and experiences in Guyana, brought to light issues around the tendency to blame PLHIV for contracting HIV, ostracisation of PLHIV, silence and fear of disclosure, lack of information which results in fear of PLHIV, violations of confidentiality and refusal to treat PLHIV. Martin and Bedimo's (2000) study however found contradictory evidence to the studies above. The results of their study, which sought to quantify attitudes, beliefs and practices of nurse practitioners, certified nurse midwives and physician assistants towards PLHIV, suggested relatively low avoidance levels and willingness to care for HIV-infected patients. These findings are in contrast to the literature which indicates that a significant percentage of nursing staff express intentions to avoid caring for PLHIV or believe they should have the right to refuse providing care (Martin & Bedimo, 2000).

A number of African studies have been conducted with health care workers. These have found both supporting and refuting evidence regarding stigma within the health care worker population. Reis *et al*. (2005), for example, carried out a cross sectional survey in four Nigerian states amongst 1,021 health care professionals including physicians, nurses and midwives. Nine percent of the sample indicated refusal to care for an HIV and AIDS patient. Further, 91% supported the idea that staff should be informed when a patient is HIV-positive so as to protect themselves. Twenty percent attributed moral judgment to PLHIV and believed they deserved the disease. Of the sample, 12% and 8% believed that treatment of HIV opportunistic infections and treating PLHIV, respectively, was a waste of resources. The study also found that those who deemed their facility to inconsistently practice universal precautionary measures, were more likely to support restrictive policies towards PLHIV. Training in HIV, AIDS and ethics was also found to be correlated to negative attitudes. There was however no relation between negative attitudes across the various health professions. The authors concluded that a significant proportion of health care professionals exhibit discriminatory behaviour and attitudes toward PLHIV with inadequate education and lack of protective materials being the main contributory factors. Studies in South Africa also provide insight into HIV and AIDS-related stigma amongst health care workers.

Wichman's (2006) qualitative study found that PLHIV experienced stigma in their communities, families and the health care system, although in the latter it was less. In fact, participants did not experience the health care setting as stigmatising. This is contrary to a study conducted by Fransman *et al*. (2000) focusing on doctor's attitudes to caring for HIV-infected children and the potential impact of this on management practices. The Cape Town study found that half the doctors believed they had inadequate clinical skills to deal with HIV patients, availability of resources was cited as a reason to carefully consider the provision of intensive care and antiretroviral therapy to HIV infected children, a vast majority of the sample felt they should have the right to refuse treatment and most were concerned about needlestick injuries and infection. Some of the respondents expressed the sentiment that resources were ‘wasted’ on children who were inevitably going to succumb to their illness. Thus the major concern amongst the respondents was lack of management protocols and policy guidelines, resource constraints, risk of infection and perceived fatality of the disease. Training also played a role due to the relatively new status of the epidemic at the time the study was conducted. A further study by Delobelle *et al*. (2009) probed knowledge, attitudes, practices and perceptions amongst 140 rural nurses in Limpopo, SA. The results indicated a high level of empathic attitudes towards PLHIV and low levels of attitudes of blame. Just over half of the respondents indicated that fear of contagion was an important issue of concern. Nursing attitudes were not associated with age or gender but had an association with factors such as professional rank, educational qualification and previous training. How then, can HIV and AIDS-related stigma be addressed and reduced?

2.5 HIV AND AIDS-RELATED STIGMA REDUCTION AND MITIGATION

Intervention efforts have traditionally and primarily focused on education to remedy incorrect beliefs and increase tolerance towards PLHIV (Deacon *et al*., 2005). However, evaluations of a few anti-stigma interventions have suggested that the most common interventions, including mass media education campaigns, in isolation are not particularly effective (Deacon *et al*., 2005). In light of the ineffectiveness of a single-focus approach, Siyamkela (2003) highlight the importance of utilising multiple interventions in combination. This is echoed by Deacon *et al*.

(2005) who highlight the importance of integrated and holistic approaches to stigma reduction in which educational programmes, counseling, coping skills acquisition and contact with PLHIV are combined and community involvement, education, awareness and empowerment are actively encouraged. Bos, Schaalma and Mbwambo (2004) add that interventions combining skills building and information are more effective than those using information alone. Furthermore, programmes which combine personal contact with information are deemed one of the most promising approaches (Bos *et al*., 2004). Siyam'kela (2003) highlights contact with PLHIV, founded on the Contact Hypothesis, as an important component of any intervention in that it provides a mechanism with which to demystify threat. The contact itself is said to provide stereotype inconsistent information regarding PLHIV (Bos *et al*., 2004). Contact will be further discussed in the proceeding section.

2.6 THEORETICAL FRAMEWORK

2.6.1 CONTACT THEORY

Allport (1958) in his exposition on prejudice, proposed that contact between groups had the potential to lessen negative stereotypes and attitudes. Of importance was the nature of such contacts. He described 1) casual contact as increasing prejudice, 2) acquaintances together with knowledge as having the power to reduce prejudice, 3) residential contact as increasing tension if zonal or removing barriers to effective communication if integrated, 4) occupational contacts as lessening prejudice if the participants held equal status, and 5) goodwill contacts as an important first step when members of the community rallied to address the issue of prejudice. Allport (1958, p. 267) asserted that “prejudice (unless deeply rooted in the character structure of the individual) may be reduced by equal status contact between majority and minority groups in the pursuit of common goals.” He proposed that the effect of such contact “is greatly enhanced if this contact is sanctioned by institutional supports (i.e., by law, custom or local atmosphere), and if it is of a sort that leads to the perception of common interests and common humanity between members of two groups” (Allport, 1958, p. 267).

The Contact Hypothesis has been researched across a range of groups, situations and societies and has, in addition, been studied utilising a variety of research methods and procedures (Pettigrew & Tropp, 2006). Pettigrew and Tropp (2006) conducted a meta-analytic study of the Contact Hypothesis in which they utilised 713 independent samples from 515 studies. Their results indicated the following: intergroup contact generally serves to reduce prejudice, contact effects typically generalise to the entire out-group and arise across a range of contact settings and target groups, the Contact Hypothesis may be applicable to encounters beyond that of race and ethnicity and that under key conditions contact leads to greater reduction in prejudice. The conditions are however, not necessary for this reduction (Pettigrew & Tropp, 2006).

Tredoux and Finchilescu (2007) indicate that there have been a limited number of tests of the Contact Hypothesis conducted in South Africa. These few have served to provide supporting evidence for the hypothesis (Tredoux & Finchilescu, 2007). As mentioned above, numerous research studies indicate that increased intergroup contact under both specified conditions and in the absence of these conditions, generally results in less prejudice (Pettigrew & Tropp, 2006; Tredoux & Finchilescu, 2007). However studies have also shown that the Contact Hypothesis lacks generalisability especially when the proposed utopian conditions are not controlled (Tredoux & Finchilescu, 2007). Also, encounter between groups does not necessarily imply contact and may also result in segregation and avoidance (Tredoux & Finchilescu, 2007).

Tredoux and Finchilescu (2007) conclude that intergroup contact may need to be understood in terms of particularities, i.e. specific contact populations. Thus both supporting and refuting evidence have been found for the Contact Hypothesis.

A number of studies support the Contact Hypothesis amongst diverse groups (Lee *et al*., 2004; Werth & Lord, 1992). More specifically, in relation to PLHIV, Werth and Lord (1992) demonstrated that pleasant contact with these individuals resulted in amelioration of negative attitudes amongst students in their study. In their study, pleasant contact constituted interaction with a PLHIV during the course of classroom activities. Whilst their study was not intended to provide support for the Contact Hypothesis per se it did provide evidence consistent with previous studies such as that of Desforges *et al*. (1991). Both these studies found that contact served to shift the students from perceiving a typical PLHIV as an abstraction to that of a specific person. This linked to the finding that those students who conceived of a typical PLHIVs as a specific person tended to have less general negative attitudes towards PLHIV than those who had an abstraction of a typical PLHIV.

Depending on the degree of contact, health professionals in this study are presumed to conceive of specific persons as typical PLHIV and thus assumed to have less general negative attitudes. The former assumption rests upon the high prevalence of HIV and AIDS which creates the likelihood that health care workers will have met at least one PLHIV not only in the course of their duties but in their personal lives as well. With regards to the assumption regarding less general negative attitudes, a number of studies provide evidence for the relationship between contact and exhibited levels of negative attitudes.

Kalichman *et al*. (2005), for example, concluded that in addition to AIDS knowledge, social and psychological factors such as personal experience with PLHIV may account for HIV and AIDS-related stigma. Similarly, Shisana and Simbayi (2002) found that knowing someone with HIV and AIDS was associated with more positive attitudes to PLHIV in general. Herek and Capitanio (1997) also found that public attitudes were positively related to direct contact with PLHIV. Specifically, respondents who had personally known or knew of someone with HIV reported less blame, avoidance and support for coercive policies. Hamra *et al*. (2006) also found in their study of expressed HIV and AIDS-related stigma and behaviour in families of HIV-positive children, that personal acquaintance with a PLHIV was associated with less expressed stigma. The authors assert that their findings verify other studies which indicate that knowing a PLHIV leads to a decrease in stigmatising attitudes (Hamra *et al*., 2006). Furthermore, Mbonu *et al.* (2009) highlighted a study which found that respondents who knew someone infected with HIV reported less stereotypical and discriminatory attitudes, fewer feelings of discomfort and less intolerant attitudes. So too, did Letamo (2003) find that more tolerant attitudes prevailed amongst the majority of their respondents when a PLHIV was a family member. This is echoed by Mbonu *et al*. (2009) who state that stigma is reduced especially when it involves a close relative.

Goffman (1963) provides an explanation of the difference between impersonal contacts between strangers and more personal contacts. Stereotypical responses are, in his view, to be expected during impersonal contacts. Personal contact however, in which individuals come to be on closer terms with each other, may result in “sympathy, understanding and realistic assessment of personal qualities” (Goffman, 1963, p. 68).

There have however been studies which find no support for the Contact Hypothesis. Maughan-Brown (2006), for example, evaluated the relationship between HIV-related stigma and increased personal contact with PLHIV in a sample of 1074 young adults in Cape Town. Importantly, this study considered stigma as a dimensional concept comprised of symbolic, instrumental and negative behavioural intentions towards PLHIV. Not only did the results indicate no significant relationship between increased personal contact and changes in stigma, it also indicated a significant increase in instrumental and symbolic stigma. Maughan-Brown (2006) attempted to explain this by proposing that the form of the interaction was unknown and may have had an influence on his finding. He further advanced that a potential reason for the increased stigma may have been that contact was with PLHIV who were in the last stages of their illness and may have reinforced the association of HIV and AIDS with death and illness. More specifically, what does the literature note about health care worker contact with PLHIV and HIV and AIDS-related stigma?

In relation to health care workers specifically, Knussen and Niven (1999) sought to establish the relationship between contact and negative attitudes towards HIV infected patients. The study was motivated by contradictory findings in the literature on the nature of this relationship (Knussen & Niven, 1999). The authors carried out a quantitative survey amongst 174 health care workers in a Scottish health authority and measured contact, attitudes, aspects of occupation and a number of other measures. Contact as measured by the AIDS-contact scale was not found to be in significant relationship to negative attitudes, as measured by the AIDS-Phobia Scale. The overall measure of contact was further differentiated into social and physical contact. Social contact which constituted social contact, talking about physical and emotional problems and talking with friends and family, was found to be negatively related to attitudes. This indicated that contacts which were predominantly social in nature were related to more positive attitudes. The converse was found for physical contacts. The author concluded that the relationship between global contact and attitudes amongst the sample was influenced by the form of the contact (Knussen & Niven, 1999).

There is considerable evidence in support of the factors outlined by Allport as necessary to facilitate change in stereotypical attitudes (Herek & Capitanio, 1997; Werth & Lord 1992). Pettigrew (1998), however, reported that studies have shown positive contact effects despite contacts not meeting the key conditions. A number of authors have similarly challenged the notion that the key conditions are indeed required for positive attitude change (Herek & Capitanio, 1997; Liebkind *et al*., 2007; Smith 1994). Herek and Capitanio (1997) found, for example, that vicarious contact was associated with less stigmatising attitudes amongst respondents previously exhibiting high levels of HIV and AIDS-related stigma. Relating to HIV and AIDS intervention strategies, van der Meij and Heijnders (2004) state that contact within this arena refers to all interactions between the public and PLHIV and can be direct or vicarious in nature. Lee *et al*. (2004) also found that exposure to homeless people resulted in favourable changes in attitude despite less than optimal contact conditions.

Specifically, Lee *et al*. (2004) in their evaluation of the applicability of the Contact Hypothesis to group relations, which failed to meet the optimal conditions as specified in the Contact Hypothesis, suggested that the scope of the theory be widened to incorporate multiple types of exposure. The authors noted that many of the specified conditions were unsuccessfully met in reality. For example, the status of homeless and domiciled individuals is rarely equal (Lee *et al*., 2004). Batson *et al*. (1997) support the notion that initiation of the key contact conditions is often a difficult task to accomplish. Exposure was thus conceptualized by Lee *et al*. (2004) as a dimensional concept comprising of *interaction*, i.e. traditional face to face contact, *information*, *observation* and *membership*. The latter three dimensions included information from third party sources which influence perceptions of the out- groups, direct observation of the out-group during day-to-day living and actual membership to the out-group, respectively. Despite the failure to meet key conditions, the different forms of exposure were indeed found to be related to more positive attitudes towards homeless individuals (Lee *et al*., 2004).

2.7 SUMMARY AND CONCLUSION

In summary, the concept of stigma is defined in varied ways. Definitions of stigma have shifted between focusing on its function and individuals as having a major role to play. Whilst the extent differs, most definitions acknowledge the role of social processes at play in stigma. Disease stigma is specifically defined as “negative social baggage associated with disease” and serves the function of allowing individuals to disown risk by attributing blame and judgment to PLHIV by drawing upon social representations within social, historical and cultural contexts. HIV is stigmatised due to its associations with behaviours deemed immoral. HIV and AIDS-related stigma serves as a barrier to prevention and treatment efforts, thereby fuelling the South African HIV epidemic and affecting individuals, communities and societies both directly and indirectly. A typology of stigma has been advanced, i.e. internal and external stigma, which encompass the internal experiences of the stigmatised and the actions of the stigmatiser, respectively. These have in turn informed numerous studies which address the need for the measurement of the multidimensional construct of stigma. Measurement of HIV and AIDS-related stigma has had the health care context as one of its focal points due to the pivotal role health care workers have to play in supporting and treating PLHIV. Studies have identified this as a context where negative attitudes are at play and pinpointed fear of contagion, inadequate knowledge and training and resource constraints as fuelling manifestations of stigma such as refusal to care for PLHIV and attitudes of judgment and blame towards PLHIV. Personal contact has been advanced as an important stigma reduction strategy. The Contact Hypothesis, on which this intervention is founded, has been well researched and both supporting and refuting evidence found for it in its traditional and amended forms. Amendments specifically relate to the key contact conditions which are reported to be optimal but not necessary for contact to facilitate positive attitude change amongst diverse populations, including that of health care workers. The next chapter will describe the method employed in this study.

CHAPTER THREE

RESEARCH METHOD

3.1 INTRODUCTION

This chapter details the research method employed in the study, with a focus on the research aims, research design, the sample, the measuring instrument employed to obtain the data, the research procedure and the various statistical techniques applied to the data. Ethical considerations are discussed towards the end of this chapter.

3.2 RESEARCH AIMS

This study aims to explore and describe HIV and AIDS-related stigma, *exposure* and the relationship between HIV and AIDS-related stigma and *exposure.* The aims and hypotheses are as follows:

Aim 1: To explore the levels of HIV and AIDS-related stigma amongst health care workers in Mitchells Plain and Guguletu.

Hypothesis 1: There will be evidence of HIV and AIDS-related stigma in the sample, albeit in the lower ranges.

Hypothesis 2: Levels of HIV and AIDS-related stigma will differ significantly according to sex, age, education and religion.

Aim 2: To explore the forms of *exposure* to PLHIV amongst health care workers in Mitchells Plain and Guguletu.

Hypothesis 3: Most health care workers will have some form of *exposure* to PLHIV both in personal and work contexts.

Hypothesis 4: Form of e*xposure, i.e. interaction* and *information,* and overall *exposure* to PLHIV will differ significantly according to demographic factors such as age, area and household situation.

Aim 3: To describe the relationship between forms of *exposure* to PLHIV, overall *exposure* to PLHIV and HIV and AIDS-related stigma amongst health care workers in Mitchells Plain and Guguletu.

Hypothesis 5: The different forms of *exposure,* i.e. *information*, *interaction* and *number of HIV disclosures* will be negatively related to HIV and AIDS-related stigma.

Hypothesis 6: Those respondents with *exposure*, in the form of *membership*, will have significantly lower levels of HIV and AIDS-related stigma than those without.

Hypothesis 7: Overall e*xposure* will be negatively related to HIV and AIDS-related stigma.

3.3 RESEARCH DESIGN

Cresswell (2003) asserts that quantitative research concerns itself with the testing of theories, which ultimately leads to revision of that theory as a result of supporting or refuting evidence gained through such research. The choice of approach for this study was thus informed by the research aim which sought to test Allport's Contact Hypothesis, as well as extensions thereof, in the form of exposure. Consequently, a quantitative approach was deemed the most appropriate design for this study. Furthermore, quantitative research emphasises the quantification of constructs and the central role of variables in describing and analysing human behaviour (Babbie & Mouton, 2001). In order to study the extent of HIV and AIDS-related stigma it was necessary to quantify the construct by measuring individual attitudes and beliefs deemed manifestations thereof.

The purpose of the research was descriptive in nature in that it sought to describe the forms of exposure to PLHIV amongst health care workers, placed emphasis on the frequency of HIV and AIDS-related stigma in the sample, and sought to describe the relationship between exposure and HIV and AIDS-related stigma. This parallels with Babbie and Mouton's (2001) definition of descriptive research which places emphasis on the description and frequency of constructs which occur a particular sample. A survey design was thus deemed the most appropriate choice to meet the descriptive aims of the research.

According the Babbie and Mouton (2001), survey designs are well suited to the purpose of the study of opinions and attitudes in large groups of individuals, as well as for studies which are descriptive in nature. Furthermore, a survey design provides a quantitative or numeric description of attitudes or opinions and according to Babbie (1990) seeks to infer the generalisability of the results of the sample to the defined population. This design was therefore employed to obtain a description of attitudes and opinions related to PLHIV amongst the given population. Also, the study utilised a survey design as it provided an efficient means to obtain and analyse the vast amount of information regarding HIV and AIDS-related stigma and exposure to PLHIV, amongst health care workers. Furthermore, survey methods have been well utilised in the study of HIV and AIDS-related stigma, both on an international and national level and amongst health care workers (see Deacon *et al.*, 2005; Fransman *et al.*, 2000; Letamo, 2003;

Nyblade, 2004; Reis *et al*., 2005). Surveys have also been an important component in answering research questions related to contact. They have formed the means by which baseline and follow up attitudes have been measured in studies conducted by, for example, Desforges *et al*. (1991), Etter (2007), Herek and Capitanio (1997), Lee *et al*. (2004), Liebkind *et al*. (2000) and Pettigrew (2007).

3.4 SAMPLING

3.4.1 Sample Characteristics

The sample consisted of 202 health care workers employed or volunteering at public and private health facilities in Guguletu and Mitchells Plain. Of the 207 questionnaires completed, five of these were excluded from the analysis because they did not meet inclusion criteria. For the purpose of this research, health care workers included professional and non-professional health care workers who, by nature of their duties, had regular contact with patients. No further criteria such as, type of employment, registration with a relevant authority or completion of training was specified. The characteristics of the final sample are indicated in Tables 3.1, 3.2 and 3.3 below.

Table 3.1. Demographic information for the overall sample

Variable	***N***	**Response**	***n***	**%**
Sex	200	Male	22	11.0
		Female	178	89.0
Area	202	Mitchells Plain	127	62.9
		Guguletu	75	37.1
Facility Type	202	Private	17	8.4
		Public	185	91.6
Race	200	African	114	57.0
		White	1	0.5
		Coloured	84	42.0
		Indian	1	0.6

Variable	***N***	**Response**	***n***	**%**
Language	201	Afrikaans	34	16.9
		English	48	23.9
		Isixhosa	104	51.7
		Isizulu	2	1.0
		Sesotho sa borwa	2	1.0
		Other African	2	1.0
		Other European	1	0.5
		Multiple languages	8	4.0
Education	202	Up to Std 1	1	0.5
		Std 6 to Std 7	13	6.4
		Std 8	13	6.4
		Std 9	24	11.9
		Std 10	64	31.7
		Diploma	54	26.7
		First Degree	26	12.9
		Honours/Masters	7	3.5
Household Situation	200	Not enough for basics	27	13.5
		Only food and clothes	64	32.0
		Basics and few luxuries	63	31.5
		Basics and luxuries	38	19.0
		No response	8	4.0
Profession	199	Doctor	3	1.5
		Nurse	107	53.8
		Clerk	25	12.6
		Psychologist/therapist	4	2.0
		Dentist	3	1.5
		Other	22	11.1
		Dental Assistant	7	3.5
		TB Related	5	2.5
		HIV Specific	20	10.1
		Unknown	3	1.5

The majority of the sample consisted of women (*n* = 178). In terms of the percentage of respondents per area, 37.1% were from Guguletu and 62.9% from Mitchells Plain. The vast majority of respondents, i.e. 91.6% were located in public health facilities whilst only 8.4% were from private health facilities. According to the categories utilised in South Africa's previous political dispensation[2], the majority of the sample consisted of "African" (57.0%) and "Coloured" (42.0%) respondents. This parallels with the demographics of the selected geographical areas of Mitchells Plain and Guguletu which are predominantly inhabited by "African" and "Coloured" individuals, respectively (CityHealth, 2010a; CityHealth, 2010b). A majority of the respondents had Xhosa as their home language, followed by English and Afrikaans. Despite the availability of a Xhosa version of the questionnaire, most Xhosa-speaking respondents chose to complete the English version. It is thus important to bear in mind that language may have had an influence on the results. Slightly over one quarter of the sample had completed Std 9 or less (25.2%). In addition, 31.7% and 26.7% of the sample had completed matric or attained a diploma level education, respectively. To measure household income of respondents, the questionnaire probed the adequacy of household income to cover basics and luxury items. Of the sample, 31.0% indicated that they had sufficient means for basics such as food and clothing and only a few luxury items. The mean age of the sample was 41.20 (*M* = 41.20; *SD* = 10.304) with ages ranging from 18 to 65 years. In terms of profession, nurses, clerks, other and HIV-specific professions made up the majority of the sample with the percentage split being 53.8%, 12.6%, 11.1% and 10.1%, respectively (see Table 3.1 above). HIV-specific professions included those with a focus on care, support and treatment of PLHIV such as home-based carers. The sample was therefore predominantly black, female, Xhosa-speaking nurses employed or volunteering at public health facilities whose highest level of education was a diploma and who possessed sufficient financial means for basic living.

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[2] These categories, although associated with the historical apartheid classification system, are utilised in that they continue to be used for the purposes of social redress and equitable distribution of resources.

Table 3.2. Age for the overall sample

Variable	***N***	***M***	***SD***	**Min**	**Max**
Age	191	41.20	10.304	18	65

Most (98.5%) of the respondents in the sample indicated that they belonged to a religious grouping. Christianity was the predominant religious group (*n* = 171). According to Maughan-Brown (2006), affiliation to a religious grouping is not a sensitive indicator of religiosity as responses to this type of question do not take account of the varying levels of religious practice. It is therefore important to consider that 95.5% of respondents indicated that religion was of importance to them (see Table 3.3 below). This provides a more valid measure of the strength with which religious values are held and practiced. This in turn may impact on levels of stigma which is informed by moral judgments espoused by some religions (Maughan-Brown, 2006).

Table 3.3. Religious affiliation and importance for the overall sample

Variable	***N***	**Response**	***n***	**%**
Member of a religious group	202	Yes	199	98.5
		No	3	1.5
Religion	197	Christian	171	86.8
		Islam	15	7.6
		African traditional	6	3.0
		Other	5	2.5
Importance of religion	202	Not important at all	2	1.0
		Slightly important	3	1.5
		Somewhat important	2	1.0
		Important	37	18.3
		Very Important	156	77.2
		Not applicable	2	1.0

3.4.2 Sampling Procedure

The study population, from which the sample of 202 was drawn, comprised professional and non-professional health care workers employed or volunteering at both public and private health care facilities in the Cape Town metropole. The health care facilities were located in Mitchells Plain and Guguletu and comprised primary health care clinics, obstetric units and health care training facilities. The choice of these geographical sites was specified by the larger study in that they had been identified as areas representative of historically disadvantaged communities in South Africa. Census 2001 figures indicate that Mitchells Plain is a predominantly “Coloured” Afrikaans-speaking township with a population of approximately 283,196 (CityHealth, 2010a). Guguletu on the other hand, is a predominantly “African” Xhosa-speaking township with an estimated population of 80,277 (CityHealth, 2010b).

The broadly-defined selection criteria related to the requirement of the larger study which dictated that convenience sampling be utilised to recruit participants for the study. Health care settings and participants were thus approached and recruited on the basis of availability, convenience and accessibility. According to Bryman and Cramer (1994), convenience sampling is a non-probability sampling method by which the researcher chooses the sample or respondents volunteer themselves. The utilisation of probability sampling would, however have ensured that inferences about the study population could be accurately made from the sample (Babbie & Mouton, 2001). Given the constraints imposed by the main study, probability methods could not be employed in the sampling process. It is thus likely that non-probability sampling methods did not produce a sample optimally representative of the population. Bryman and Cramer (1994) however, note that the requirement for random sampling is often not fulfilled due to time, resource and contextual restraints. The latter is particularly relevant to this study.

Important to note is that the sample may be representative of health care workers in South Africa in a few aspects. A survey conducted by Shisana *et al*. (2003) had a nationally representative sample of professional and non-professional health care workers from public and private health facilities in South Africa. The majority of their respondents were black, African and employed as nurses (Shisana *et al*., 2003). Also, non-professional health workers constituted the next highest occupational category, the average age of the sample was 41 years and most nurses in their sample had obtained a diploma-level education (Shisana *et al*., 2003). In addition, most clinics and community health centres in South Africa are staffed by nurses and supported by clerical and general health workers (Lehmann, 2008). In terms of age distribution, Lehmann (2008) also notes that more than one third of the entire nursing population of South Africa is within five to ten years of retirement age. Considering these factors, this study's sample may, with caution, be viewed as partially representative of health care workers in the Cape Town metropole. The uncertainty resulting from the use of non-probability sampling methods may thus be minimised by considering the similarities between the current sample and those of the abovementioned studies.

3.5 MEASURING INSTRUMENT

Data was collected using the 'Capacity Building for HIV/AIDS stigma research in South Africa' questionnaire (see Appendix 1) which is an HSRC, PSU, UWC and UL developed HIV and AIDS-related stigma questionnaire. The questionnaire broadly covers beliefs, attitudes and behaviours seen as manifestations of HIV and AIDS-related stigma. The questionnaire is comprised of the following major content sections: biographical data; knowledge of HIV and AIDS; government support; health institution support and use of services, family support; general questions; HIV mode of transmission; community, culture and faith; individual support for Persons Living with HIV and AIDS (PLWHA) and health care workers experiences of working with PLWHA. The types of scales utilised are continuous and categorical with the majority of the items being Likert-type items. The questionnaire was developed using the PEN-3 model as a guiding framework. This model, as briefly discussed in chapter two, is utilised in the planning and evaluation of culturally appropriate health interventions (Airhihenbuwa, 2007).

Candidate questionnaire items were generated by way of a multi-phase process specifically utilising focus groups and semi-structured interviews with health care workers from 2003 to 2006. Field testing of the questionnaire was conducted in 2007. Items were subsequently refined for improved understanding and readability (Belue *et al*., 2010). For the purpose of this study, only a few of the sections of the questionnaire were employed, i.e. biographical data, HIV and AIDS and relationships and health care workers experiences of working with PLWHA. The decision to use these sections was based on their utilisation in a similar study. Belue *et al*. (2010) utilised the same sections of the original questionnaire, i.e. health care workers experiences of working with PLWHA, to extract the Nurses Experience with Stigma Scale (NEHS-S). The Tucker and Lewis reliability coefficient indicated good reliability, i.e. 0.87. In addition, one factor was found to account for 95.2% of the variance. Internal consistency reliability with the seven comprising items of the NEHS-S was found to be 0.70 and thus adequate. Limitations regarding the use of the questionnaire will be discussed further in chapter five.

3.5.1 Internal consistency of the measuring instrument

Internal consistency reliability was employed to establish the consistency of scales used in this study. Cronbach's alpha, which was utilised in this study, provides a statistical measure of intercorrelation between items (Pretorius, 2007). Cronbach's alpha for the various scales are indicated in Table 3.4 below. In general, a reliability co-efficient of 0.70 or higher is considered to be very reliable (Pretorius, 2007). Foxcroft and Roodt (2005) however, cite a range of reliability coefficients ranging from 0.65 to 0.90 and state that the required magnitude of the coefficient is dependent on what the measure is used for. The *information*, *interaction* and *exposure* scales have reliability co-efficients well within required limits, i.e. 0.88, 0.87 and 0.91, respectively. The *stigma* scale, with a Cronbach's alpha of 0.64, however falls just short of the requirement. De Coster (2005) notes that low reliability coefficients do not question the results of scale measurements rather that they diminish the possibility of finding significant results. In fact, finding significant results with a measure of low reliability serves to indicate an especially strong effect (De Coster, 2005). This caveat should be borne in mind when considering the results of the data analyses.

Table 3.4. Internal consistency of the measurement scales

Scale	**Number of items**	**Cronbach's alpha**	***N***
Stigma	7	0.64	185
Information	9	0.88	179
Interaction	4	0.87	195
Exposure	12	0.91	176

3.5.2 HIV and AIDS-related stigma

The *stigma* variable was used to measure HIV and AIDS-related stigma. It consisted of seven items which were of Likert-type with responses ranging from “Strongly Agree” to “Strongly Disagree”. The items probed fear of contagion, the need for training, views around choice to care for PLHIV, judgments about PLHIV and time and resources used in treating PLHIV. Responses to a number of items were reverse coded as they were negatively worded. In addition, the “Don’t Know” response category was collapsed into the “Neutral” response category. This was deemed necessary because retaining these as discrete categories would distort stigma levels and not allow for an accurate determination thereof. This methodological issue concerning the questionnaire is discussed in detail in chapter five. The scores for all items were averaged to create a mean *stigma* score for each respondent. This method took account of missing values. Scores ranged from one (No stigma) to five (Very high) with higher scores for *stigma* indicating higher levels of stigmatising beliefs and attitudes. Scores of two, three and four were described as Low, Moderate and High, respectively. The *stigma* means for the sample were also normally distributed (see Figure 3.1 below). The Cronbach’s alpha for *stigma* was 0.64 and as indicated above, fell slightly below optimal levels. Data analyses for *stigma* included one-way Analysis of Variance (ANOVA) and correlational analyses.

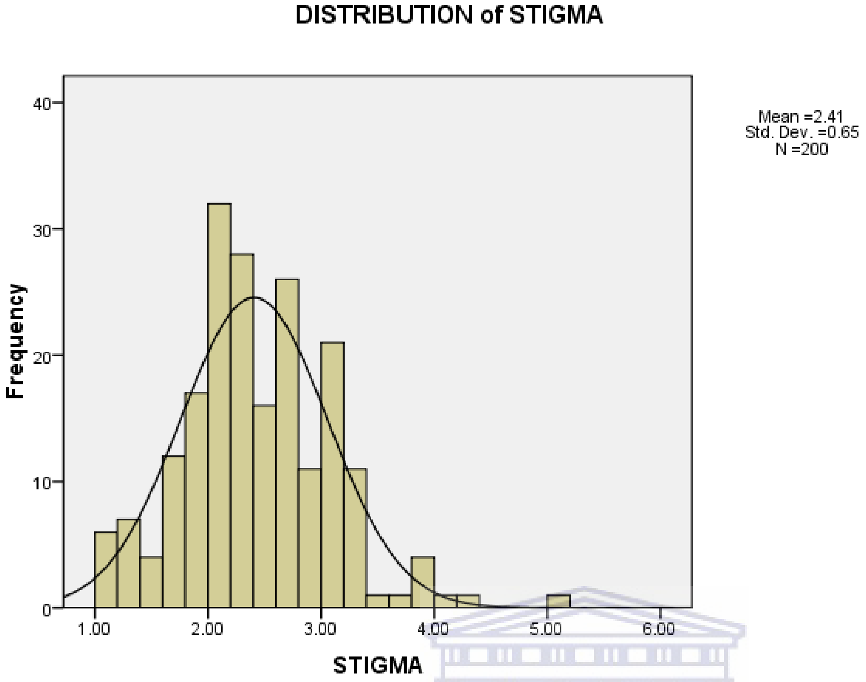

Figure 3.1. Distribution of the *stigma* variable

3.5.3 Exposure

For the purposes of this study, contact was comprised of both direct and indirect exposure to PLHIV. In their study, Lee *et al*. (2004) coined the term *exposure* in that it encompassed both face-to-face contact and a number of vicarious possibilities. Using Lee *et al*.'s (2004) study as a basis, *exposure* was differentiated into various forms or dimensions, i.e. *information*, *interaction* and *membership*. *Information* included situations in which information about PLHIV from individuals who were not part of that group may have change impressions about PLHIV. *Interaction* was more or less equated with traditional contact. It also included vicarious contact which is defined as contact by association, i.e. knowing someone who knows someone who is HIV-positive (Eller *et al*., 2007). Important to remember, that even for *interaction*, key contact conditions could not be ensured nor were they evaluated. *Membership* included having family or friends who were PLHIV.

Table 3.5 below presents the items utilised to make up the dimensions of *exposure*. The majority of these were Likert items with responses ranging from “Never”, “Only once”, “Sometimes (2-4 times)”, “Many times (5-7 times)” to “Always (8 or more times)”. Mean scores for these items ranged from one to five with one indicating no experience in a particular dimension and five indicating regular experience in the dimension. The remaining items were nominal and scale measures and were therefore analysed separately. An overall *exposure* variable was then calculated. The analysis also entailed determining whether variables such as area, sex, age, race, education, religion, household situation and profession were related to *exposure* and its different forms.

Table 3.5. Items comprising *exposure* dimensions and overall *exposure*

Dimension	Item	Type
Information		
	Attended community meetings on AIDS	Ordinal
	Joined an AIDS organisation as a member	Ordinal
	Volunteered for AIDS activities	Ordinal
	Attended a local AIDS rally, march or event	Ordinal
	Attended HIV/AIDS meetings in the workplace	Ordinal
	Attended AIDS play or educational event	Ordinal
	Given advice to others about HIV/AIDS	Ordinal
	I talk to people about HIV/AIDS	Ordinal
Interaction		
	Cared for a person who is sick with AIDS	Ordinal
	Visited someone living with HIV/AIDS	Ordinal
	Helped a family who as someone who is sick or has died of AIDS	Ordinal
	Have attended a funeral of a person who is said to have died of an AIDS related illness	Ordinal
Number of HIV Disclosures	Number of people who have disclosed status	Scale
Membership	Member of family is PLWHA (Husband, Wife, Brother, Sister, Partner, Parent, Relative, Child)	Nominal
Membership	Friend is PLWHA (Friend)	Nominal

3.5.3.1 Information

The *information* dimension included eight items probing respondents experiences in which information from individuals who are not necessarily PLHIV, may have impacted on their beliefs and attitude towards PLHIV. The items comprising this dimension showed good internal consistency, i.e. Cronbach’s alpha = 0.88. The value distribution for *information*, as indicated in figure 3.2 below, indicates reasonable normality. ANOVA and correlational analysis were used to compare the mean values for *information* for the demographic variables and *stigma*, respectively.

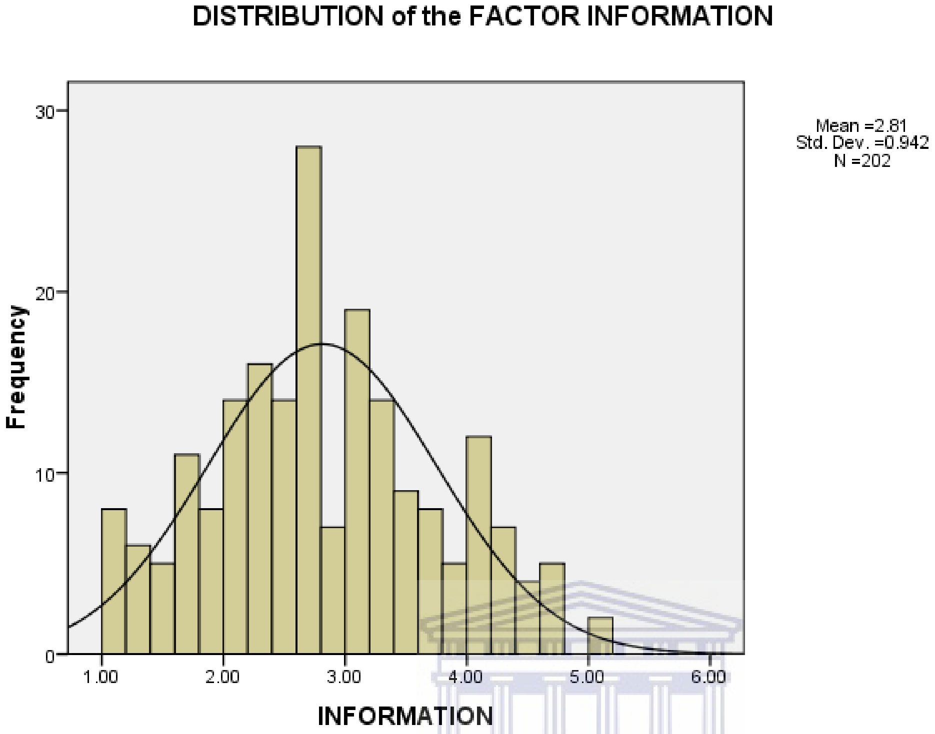

Figure 3.2. Distribution of the *information* variable

3.5.3.2 Interaction

The *interaction* dimension included both face-to-face contacts and ones which where vicarious in nature. These four items were combined as there were insufficient items to produce individual factors for direct and vicarious contact. The items showed good internal consistency as indicated by a Cronbach's alpha of 0.87. The distribution of the mean values however showed considerable lack of normality (see Figure 3.3 below). One way ANOVA and non-parametric tests were utilised to examine the mean differences between groups for i*nteraction*.

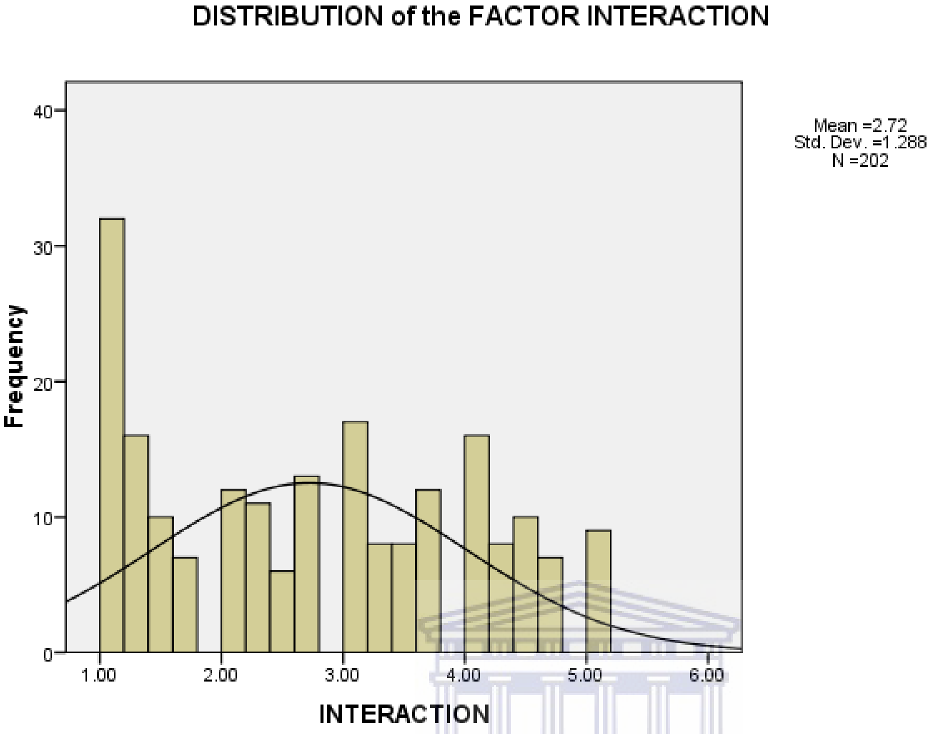

Figure 3.3. Distribution of the *interaction* variable

3.5.3.3 Number of HIV Disclosures

This variable, *number of HIV disclosures,* contained information on the number of personal disclosures made to respondents. Personal disclosures entailed those made by family, friends or acquaintances. These disclosures did not include that of patients in the work setting. This measure ideally contributes to the dimension *interaction* in that direct contact is a requirement for this to happen. However, due to the type of measure, i.e. scale, it was analysed separately and was not combined into the overall *exposure* variable. Correlational analysis was utilised to determine the relationship between the *number of HIV disclosures* and s*tigma*.

3.5.3.4 Membership

The dimension, *membership,* probed whether respondents had family members or friends who were PLHIV. As with Lee *et al*.'s (2004) study, on the continuum of *exposure*, *membership* represented the highest form thereof. The items constituting this dimension probed whether respondents had family members and/or friends who were PLHIV. This was a nominal measure which required yes or no answers. As with number of disclosures, these measures were also analysed separately from the overall *exposure* variable. One-way ANOVA was utilised to examine the mean *stigma* difference between those who had friends and/or family who were HIV positive and those who did not.

3.5.3.5 Overall Exposure

Twelve of the 15 items were combined into an overall *exposure* variable. Reliability analysis of these items indicated very good internal consistency, i.e. Cronbach's alpha = 0.91. The overall e*xposure* variable is the mean of the items constituting *information* and *interaction* mentioned above. The distribution of mean *exposure* values in the sample indicated reasonable normality and is depicted in Figure 3.4 below. One-way ANOVA was performed for the demographic information and e*xposure,* whilst correlational analysis was performed for e*xposure* and s*tigma*.

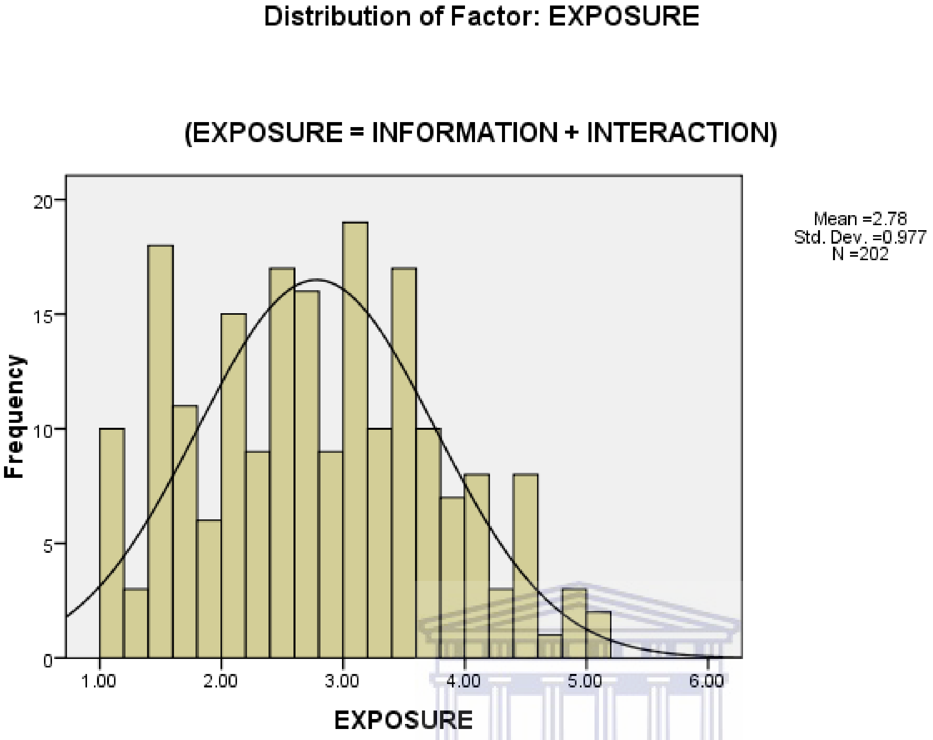

Figure 3.4. Distribution of the e*xposure* variable

3.6 PROCEDURE

In order to obtain permission to access health facilities, contact was made with the relevant authorities, including the executive director of City Health and the research committee responsible for provincial government maternity hospitals. This was done telephonically and by email communication. Permission was requested to obtain access to a number of clinics in the identified research sites. A letter compiled by the HSRC (see Appendix 2) was provided for this purpose. Copies of the questionnaire, ethics approval and consent form were also provided upon request (see Appendix 1, 3 and 4). Once formal permission was obtained from the governing authorities, contact was made with the sub-district managers to obtain logistical information regarding access to the various clinics falling under the City Health authority. Access to the maternity hospitals was also granted and the clinic facility managers approached directly. A list of facility managers for City Health clinics was then obtained and contact made with each to establish appropriate dates and times to recruit participants. Site visits and telephonic contact with facility managers were made with each clinic to establish appropriate ways to request participation and to check the venue in which the survey was to be administered. Administration of the survey was, for the most part, conducted in groups. Group sizes ranged from five to 20 individuals at a time. Where this was not possible, accommodations were made to administer the survey on an individual basis. This was deemed important due to the sensitive nature of the topic as well as the requirement to be of least disruption to staff abilities to perform their work duties. Participants received a reimbursement of R50 for transport and other related costs.

The questionnaire took approximately 30 minutes to complete. Although English questionnaires were provided to respondents, accommodations were made when Xhosa ones were required. Administration took place in venues specified by the clinics. All efforts were made to ensure that the venues were appropriate. However, given infrastructure constraints, this was not always possible. Provisions were also made to have assistants, well-versed in group questionnaire administration, available when the size of the group exceeded reasonable limits.

3.7 DATA ANALYSIS

Collected data was entered and edited in Microsoft Office Excel 2007. Records were assigned numeric identifiers for reference purposes in addition to the record number assigned to the physical questionnaires. Quality checks were then conducted to ensure that raw data had been correctly entered. A sample of 30 questionnaires was randomly selected for this purpose. This represented 15% of the data set in which no mistakes were located. Data cleaning occurred in a number of stages.

Firstly, four records were excluded from the data set of 207 due to the professions not meeting inclusion criteria. One more record was discarded due to an inordinate number of missing fields. Next, each variable was checked for values falling outside of the given range. This was accomplished using Microsoft Excel's data filter function. Thirdly, entries with multiple selections were checked. A number of these were imported into SPSS as missing data, specifically those which provided contradictory responses to a particular item. Others were accommodated for by adding new categories to the selection list. For example, for those records where multiple professions were chosen and an exact determination could not be made, the category of "Unknown" was created and utilised.

A number of new variables were created in Excel. Specifically, a variable containing profession details was created to accommodate for new categories of profession. This was necessitated after an examination of the data indicated that the "Other" category made up 18.4% of the profession variable. This category was reduced by making regularly occurring professions in the "Other" category, discrete categories. This reduced the "Other" category to 11.1% of professions.

The *exposure* items were also individually evaluated and interpreted by the researcher. Firstly, those measures with multiple selections in time period fields were manually evaluated and a determination was made as to whether the selection was ambiguous or not. For those items with ambiguous responses, the data was deemed missing and imported into SPSS as such. For those with multiple selections which did not create ambiguity, i.e. selection of multiple time periods which still provided data on disclosures, the most recent time period was selected. Changes were also made to those records where the respondent had erroneously selected "Other" rather than specifying the relevant category in the selection list. A calculation to determine the number of people who had disclosed to participants was then created in Excel. The variable representing the number of disclosures comprised the sum of individual disclosures made to respondents. Caution should be noted that respondents may have selected a particular relationship which represented more than one person in reality. For example, they may have selected "friend" to represent more than one friend who had disclosed. Therefore, the number of disclosures may be less than those in reality. The data was then imported and analysed in Statistical Package for Social Science (SPSS) version 17.

Descriptive statistical measures such as means, standard deviations and frequencies were applied to the demographic data to explore their distribution within the sample. Means and standard deviations for each of the independent and dependent variables were calculated. A scale analysis using Cronbach's alpha was conducted to determine the internal consistency of the factors. Analyses were also conducted to determine the impact of demographic data on the dependent and independent variables. ANOVA was employed to compare means for s*tigma, interaction*, *information, membership* and e*xposure* with respect to demographic variables. The utilisation of certain statistical techniques is based on certain assumptions of the data, e.g. ANOVA requires scale data that are independent, normally distributed and have equal variances. Levine's test of homogeneity was used to determine homogeneity of variance. Post hoc analyses were performed to determine which means differed. The Bonferroni method was used as this method for post hoc evaluation is less rigid than Tukey HSD, for example, which demands that groups sizes be equal.

Bivariate analyses, specifically Pearson’s correlation, were then conducted to determine the relationship between *stigma* and *exposure*.

3.8 ETHICAL CONSIDERATIONS

Ethical approval to conduct the larger study was obtained from the institutional review boards of PSU and HSRC (IRB #26998). Further ethical approval for this study was obtained from UWC’s Senate Higher Degrees Committee. Using the approved consent form (see Appendix 4) as a starting point, matters pertaining to voluntary participation, avoidance of harm to the participant, the right to withdraw, nature of the questionnaire, benefits of the study, confidentiality and purpose of the research were discussed with participants. Confidentiality was ensured through various measures such as keeping the signed consent forms separate from completed questionnaires. In addition, the sensitive nature of the topic of HIV and AIDS and the potential of the questions to elicit painful emotions in participants, necessitated the need to offer counselling and information resources when required during the data collection phase.

3.9 CONCLUSION

The method utilised in this study was described in the current chapter. Specific attention was paid to the research design, sample characteristics, sampling procedure, measuring instrument, procedure and data analyses. The proceeding chapter highlights the results of the study.

CHAPTER FOUR

RESULTS

4.1 INTRODUCTION

This chapter documents the results of the study. Particular attention will be paid to the individual analyses used to meet the research aims detailed in chapter one. This chapter begins with a description of the levels of HIV and AIDS-related stigma in the sample, moves on to forms of *exposure* and then the relationship between *stigma* and *exposure*. One-way ANOVA and post hoc analyses were used to detect significant mean differences between groups. Pearson correlation was utilised to determine the relationship between *stigma* and *exposure.* For the purposes of this study, a statistical significance level of $p < 0.05$ was used, except in the case of the correlational analysis between *stigma* and *exposure* where $p < 0.01$ was utilised.

4.2 HIV AND AIDS–RELATED STIGMA VARIABLES

The first research aim concerned the levels of HIV and AIDS-related stigma amongst health care workers in the sample. On the whole, the respondents displayed fairly positive attitudes towards PLHIV. The mean for s*tigma* was 2.41 with a standard deviation of 0.65 ($N = 200$). *Stigma* scores ranged from one to five with higher scores indicating higher levels of stigmatising beliefs and attitudes. As can be seen from the mean s*tigma* score, most respondents scored between the 'low' to 'moderate' ranges. Thus, as hypothesised, HIV and AIDS-related stigma was evident in the sample with scores generally falling in the lower ranges. These *stigma* scores indicate that while levels are generally low, the respondents do however demonstrate some indications of HIV and AIDS-related stigma towards PLHIV. In addition, 4.5% of the sample fell into the 'high' to 'very high' range. This group therefore demonstrated elevated levels of HIV and AIDS-related stigma. They are of important consideration given their potential negative impact on PLHIV. As depicted in Table 4.1 below, the item probing fear of contagion had the highest mean value (*M* = 3.26, *SD* = 1.389). As the literature in chapter two suggests, fear of contagion is a widespread issue for health care workers in contact with PLHIV. The two items probing attitudes towards time and medical resource use for PLHIV, had the lowest means, i.e. 1.69 and 1.66. This suggests that most of the respondents were in disagreement that the utilisation of resources on PLHIV could be more usefully spent on other kinds of patients. Means for the other items used to measure *stigma* are presented in Table 4.1 below.

Table 4.1. Mean Values for Items Comprising *stigma*.

Item	***N***	**Missing**	***M***	***SD***
I am afraid of being infected by my patients.	198	4	3.26	1.39
I feel uncomfortable taking care of PLWHA.	197	5	2.10	1.11
I do not think I have enough training in caring for HIV and AIDS patient.	198	4	2.86	1.27
I should be given a choice not to treat patients with AIDS.	198	4	2.21	1.09
I believe we waste too much time treating AIDS patients	199	3	1.69	.87
I believe that AIDS patients are rude.	196	6	2.03	.93
AIDS patients are a waste of medical resources.	199	3	1.66	.84

Examination of the frequency distributions for the items comprising *stigma*, indicated that 47.5% of the respondents agreed that they feared being infected by their patients whilst 37.6% did not agree with the statement. The majority (79.7%) of the sample felt comfortable taking care of PLHIV. Only 13.8% clearly indicated their discomfort with treating PLHIV. Of the sample, 38.6% believed that they did not have enough training to care for PLHIV while 48.1% believed otherwise. Literature suggests the importance of training to alleviate issues such as fear of contagion which fuel stigma. It is thus optimal to examine these two items in conjunction with each other and note the relative parallel in their frequencies. A large number of the respondents (68.8%) did not believe that they should be given a choice as to whether to treat PLHIV or not. In terms of resources, 89.6% and 90.1% disagreed with the statement that too much time was wasted on PLHIV and that PLHIV were a waste of medical resources, respectively. Only 6% and 4% of the sample clearly indicated their belief that PLHIV were a waste of time and resources, respectively. Of the sample, 73.3% disagreed that AIDS patients were rude as opposed to 5% who agreed with this statement. Of interest, is that 18.8% indicated a neutral response to this statement. This potentially indicates indecision on the part of the respondents who may indeed hold some negative judgments about the behaviour of PLHIV. Social desirability may have reduced respondent's willingness to agree with this particular statement. The same can be assumed for the statements regarding fear of infection and choice to treat where neutral responses accounted for 12.9% and 12.4% of the responses, respectively.

4.2.1 The relationship between stigma and demographic variables

As hypothesised, levels of HIV and AIDS-related stigma differed significantly according to sex, education and religion. Age, however, did not differ significantly as predicted. Significant differences were also found for other demographic variables. One-way ANOVA was used to compare the mean *stigma* values for different groups. ANOVA allows for the comparison of mean values for a continuous variable for more than two groups to determine whether the observed difference is due to chance or systematic effects (Pretorius, 2007). The groups were specifically related to age category, sex, race, language, education, religion, household situation, area and profession. Table 4.2 below presents the mean *stigma* values and standard deviations for the demographic variables. All but two comparisons met the requirement for homogeneity of variance as determined by Levene statistic. As indicated in table 4.3 below, Levene statistic for race and language was 0.25 and 0.000 ($p < 0.05$), respectively. The Kruskal-Wallis H-test was thus applied to race and language. No significant mean differences were found for age categories, being a member of a religion, type of religion, household situation or profession. There was a statistically significant difference for sex ($F_{(1,196)} = 7.456$, $p < 0.05$), education ($F_{(7,194)} = 2.172$, $p < 0.05$) and importance of religion ($F_{(5,194)} = 3.260$, $p < 0.05$). The strength of the relationship between these variables and *stigma* is indicated by ω^2. Omega square indicated that sex, education and importance of religion accounted for 3%, 4% and 5% of the percentage variance in *stigma*, respectively. The effect of these individual variables on *stigma* was thus small.

Post hoc analyses for sex, education and importance of religion were not conducted as the requirements were not met. Post hoc analysis requires three or more groups per variable with each containing at least two observations (see Table 4.2 below). However, given that sex contains only two groups, the ANOVA results were used to demonstrate that male respondents ($M = 2.77$, $SD = 0.71$) showed significantly higher levels of *stigma* compared to female respondents ($M = 2.36$, $SD = 0.62$).

The Wilcoxon/Kruskal-Wallis H-test was used to compare mean *stigma* values for race and language. This non-parametric test which is the analogue to ANOVA, is utilised in instances where the requirements for homogeneity of variance and normal distribution are not met

(Pretorius, 2007). The results, presented in table 4.4 below, indicated no statistically significant differences between the various race (*ChiSq* = 0.08, $p < 0.05$) and language groups (*ChiSq* = 0.43, $p < 0.05$).

Table 4.2. Mean *stigma* scores and standard deviations for demographic variables

Variable	Response	*n*	*M*	*SD*
Sex	Male	20	2.77	0.71
	Female	178	2.36	0.62
Area	Mitchells Plain	127	2.45	0.63
	Guguletu	73	2.33	0.68
Age category	Less than 26 years	13	2.35	0.62
	26-30	18	2.17	0.61
	31-40	63	2.38	0.64
	41-50	65	2.44	0.64
	More than 51 years	31	2.45	0.71
Race	African	113	2.19	0.71
	White	1	…	…
	Coloured	83	2.51	0.54
	Indian	1	…	…
Language	Afrikaans	33	2.44	0.53
	English	48	2.56	0.55
	Isixhosa	103	2.33	0.68
	Isizulu	2	2.17	0.94
	Sesotho sa borwa	2	…	…
	Other African	2	3.33	2.36
	Other European	1	…	…
	Multiple languages	8	2.31	0.61
Education	Up to Std 1	1	…	…
	Std 6 to Std 7	13	2.70	0.43
	Std 8	13	2.58	0.48
	Std 9	23	2.31	0.64
	Std 10	63	2.51	0.70
	Diploma	54	2.29	0.60
	First Degree	26	2.21	0.73
	Honours/Masters	7	2.38	0.34

Variable	**Response**	***n***	***M***	***SD***
Member of a religious group	Yes	197	2.41	0.65
	No	3	2.28	0.63
Religion	Christian	170	2.38	0.67
	Islam	15	2.62	0.45
	African traditional	5	2.85	0.70
	Other	5	2.47	0.43
Importance of religion	Not important at all	2	3.17	0.24
	Slightly important	3	3.67	0.29
	Somewhat important	2	2.08	0.35
	Important	37	2.44	0.65
	Very Important	155	2.37	0.63
	Not applicable	1	···	···
Household Situation	Not enough for basics	26	2.60	0.84
	Only food and clothes	63	2.50	0.65
	Basics and few luxuries	63	2.29	0.57
	Basics and luxuries	38	2.34	0.57
	No response	8	2.48	0.82
Profession	Doctor	3	3.50	0.29
	Nurse	107	2.32	0.60
	Clerk	25	2.53	0.49
	Psychologist/therapist	4	2.25	0.29
	Dentist	3	2.06	0.35
	Other	22	2.54	0.57
	Dental Assistant	7	2.54	0.88
	TB Related	5	2.53	0.59
	HIV Specific	20	2.48	1.00
	Unknown	3	2.06	0.63

Notes: ··· *Stigma* is constant. It has been omitted.

Table 4.3. One way ANOVA results for *stigma*

	Levene Statistic	ANOVA			
	Sig.	***df***	***F***	**Sig.**	ω^2
Age Category	.966		.820	.514	⋯
Between groups		4			
Within groups		185			
Sex	.956		7.456	$.007^{*}$	0.03 (3%)
Between groups		1			
Within groups		196			
Education	.235		2.172	0.038^{*}	0.04 (4%)
Between groups		7			
Within groups		192			
Member of religion	.917		.121	.729	⋯
Between groups		1			
Within groups		198			
Type of Religion	.207		1.401	.244	⋯
Between groups		3			
Within groups		191			
Importance of religion	.430		3.260	$.008^{*}$	0.05 (5%)
Between groups		5			
Within groups		194			
Household situation	.291		1.584	.180	⋯
Between groups		4			
Within groups		193			
Area	.232		1.514	.220	⋯
Between groups		1			
Within groups		198			
Profession	.056		1.718	.087	⋯
Between groups		9			
Within groups		189			

Notes: * p < 0.05, ⋯ Not applicable

Table 4.4. Wilcoxon/Kruskal-Wallis results for *stigma*

	Levene Statistic	**Wilcoxon/ Kruskal-Wallis**		
	Sig.	***ChiSq***	***Df***	**Prob >** ***ChiSq***
Race	.025[*]	6.673	3	0.08
Language	.000[*]	6.974	7	0.43

Notes: [*] $p < 0.05$

4.3 EXPOSURE VARIABLES

The second research aim concerned the forms of *exposure* to PLHIV amongst health care workers in the sample. Analyses results will be discussed in sections 4.3.1, 4.3.2, 4.3.3, 4.3.4 and 4.3.5 below, pertaining to the specific dimensions of *exposure.*

4.3.1 Information

The mean *information* for the sample was 2.81 with a standard deviation of 0.94 (N = 202). Thus most of the respondents had *information exposure* between one and four times. Only 3% of the sample obtained a mean *information* score of one indicating that they had never been exposed to information about HIV, AIDS or PLHIV, in both their work and personal contexts. The results indicate that most of the sample had *information* exposure of some sort either through the course of their duties or in their personal lives.

Most, i.e. 62.3% of the respondents had attended a community meeting on AIDS however, 18.3% of those had only done so once. Of the sample, 36.6% had never attended a community meeting on AIDS. Just over half (53.4%) had volunteered for AIDS activities whilst 42.6% had never done so. Of those who had volunteered, only 8.9% did so eight or more times. In contrast, a majority (63.9%) of the sample had never joined an AIDS organisation as a member. More than half of the sample, i.e. 57.4% had attended a local AIDS rally, march or event with only

14.8% having done so more than five times. A large proportion of the sample (72.9%) had attended an AIDS play or educational event. Of those, 46.1% had done so fewer than five times.

A vast majority, i.e. 81.2% had attended HIV and AIDS meetings in the workplace with only 16.3% never having done so. The majority of respondents (89%) had given advice to others about HIV and AIDS and a further 91% indicated that they had spoken to others about HIV and AIDS. For both these items the majority, i.e. 49.5% and 57.9% indicated that they did so eight times or more. Thus these respondents regularly engaged in conversation or advice giving regarding HIV and AIDS. Of the sample, only 8.4% indicated that they had never spoken to others about HIV and AIDS.

4.3.1.1 The relationship between information and demographic variables

As hypothesised, *information* differed significantly according to demographic factors such as area and income level. Age, however, did not differ significantly as predicted. In addition, other demographic variables were found to differ significantly in terms of *information* mean values. One-way ANOVA was used to compare the mean *information* values for different groups. The groups were specifically related to age category, sex, race, language, education, religion, household situation, site and profession. Table 4.5 below presents the mean *information* scores and standard deviations for the demographic variables. All comparisons met the requirement for homogeneity of variance as determined by Levene statistic and as indicated in table 4.6 below. No significant differences were found between age categories, sex, being a member of a religion and importance of religion. There was a statistically significant difference for race ($F_{(3,196)}$ = 10.645, $p < 0.05$), language ($F_{(7,193)}$ = 5.314, $p < 0.05$), education ($F_{(7,194)}$ = 3.308, $p < 0.05$), type of religion ($F_{(3,193)}$ = 4.899, $p < 0.05$), household situation ($F_{(4,195)}$ = 2.856, $p < 0.05$), area

($F_{(1,200)} = 36.339$, $p < 0.05$) and profession ($F_{(9, 189)} = 3.450$, $p < 0.05$). The strength of the relationship between these demographic variables and *information* is indicated by ω^2 in table 4.6 below. This provides an indication of the percentage variance in *information* accounted for by these demographic variables. As can be seen, area, race and language accounted for the highest variance in *information,* i.e. 13%, 13% and 15%, respectively. This demonstrates that area, race and language have a noteworthy effect on *information* scores. The results also indicate that education, type of religion, household situation and profession have relatively small effects on *information* scores.

Post hoc analysis, using Bonferroni's method, indicated a significant difference in mean *information* between individuals who identify themselves as Christian ($M = 2.90$, $SD = 0.92$) and those who identify themselves as Muslim ($M = 1.95$, $SD = 0.87$). The mean difference for these groups was 0.94 ($p < 0.05$). In addition, a significant difference (*Mean Difference* = 0.71, $p < 0.05$) was found in terms of mean *information* scores between those who only have enough means for basics ($M = 3.26$, $SD = 1.08$) versus those who have enough for basics and luxuries ($M = 2.55$, $SD = 0.66$). In terms of profession, dental assistants ($M = 1.68$, $SD = 0.64$) showed a significant difference in mean *information* scores compared to nurses ($M = 2.48$, $SD = 0.86$, *Mean Difference* = 1.17, $p < 0.05$), HIV-specific professionals ($M = 3.28$, $SD = 0.97$, *Mean Difference* = 1.60, $p < 0.05$) and the category, 'Unknown' ($M = 3.96$, $SD = 0.44$, *Mean Difference* = 2.28, $p < 0.05$). Thus dental assistants had significantly lower mean *information* scores than nurses, HIV-specific professionals and those in the 'Unknown' category.

Post hoc analyses for race, language, education and area were not performed as the requirements were not met, i.e. three or more groups with each containing at least two observations. Given that area only consisted of two groups, the ANOVA results were used to demonstrate that Guguletu (*M* = 3.30, *SD* = 0.80) had significantly higher mean *information* scores compared to Mitchells Plain (*M* = 2.53, *SD* = 0.90).

Table 4.5. Mean *information* scores and standard deviations for demographic variables

Variable	**Response**	***n***	***M***	***SD***
Sex	Male	22	2.69	1.05
	Female	178	2.82	0.93
Area	Mitchells Plain	127	2.53	0.90
	Guguletu	75	3.29	0.80
Age category	Less than 26 years	13	2.72	0.81
	26-30	18	2.88	1.11
	31-40	63	2.63	0.83
	41-50	66	2.76	0.97
	More than 51 years	31	3.22	1.03
Race	African	114	3.10	0.90
	White	1	···	···
	Coloured	84	2.43	0.86
	Indian	1	···	···
Language	Afrikaans	34	2.57	0.93
	English	48	2.33	0.79
	Isixhosa	104	3.11	0.87
	Isizulu	2	3.69	0.09
	Sesotho sa borwa	2	3.00	0.53
	Other African	2	1.88	1.24
	Other European	1	···	···
	Multiple languages	8	2.63	1.27
Education	Up to Std 1	1	···	···
	Std 6 to Std 7	13	2.11	1.01
	Std 8	13	2.60	1.16
	Std 9	24	3.42	0.89
	Std 10	64	2.80	0.99
	Diploma	54	2.73	0.82
	First Degree	26	3.02	0.69
	Honours/Masters	7	2.34	0.72

Variable	**Response**	***n***	***M***	***SD***
Member of a religious group	Yes	199	2.81	0.95
	No	3	2.54	0.51
Religion	Christian	171	2.90	0.92
	Islam	15	1.95	0.87
	African traditional	6	2.77	1.07
	Other	5	2.61	0.88
Importance of religion	Not important at all	2	1.81	0.62
	Slightly important	3	3.19	0.73
	Somewhat important	2	2.38	0.18
	Important	37	2.77	0.84
	Very Important	156	2.83	0.98
	Not applicable	2	2.63	0.88
Household Situation	Not enough for basics	27	3.26	1.08
	Only food and clothes	64	2.83	0.95
	Basics and few luxuries	63	2.78	0.95
	Basics and luxuries	38	2.55	0.69
	No response	8	2.35	0.86
Profession	Doctor	3	3.17	0.73
	Nurse	107	2.84	0.86
	Clerk	25	2.54	1.03
	Psychologist/therapist	4	2.34	0.65
	Dentist	3	1.71	0.59
	Other	22	2.71	0.98
	Dental Assistant	7	1.68	0.64
	TB Related	5	3.09	0.70
	HIV Specific	20	3.28	0.97
	Unknown	3	3.96	0.44

Notes: ···*Information* is constant. It has been omitted.

Table 4.6. One way ANOVA results for *information*

	Levene Statistic	**ANOVA**			
	Sig.	***df***	***F***	**Sig.**	ω^2
Age Category	.172		2.134	.078	···
Between groups		4			
Within groups		186			
Sex	.481		.343	.559	···
Between groups		1			
Within groups		198			
Race	.546		10.465	.000*	0.13 (13%)
Between groups		3			
Within groups		196			
Language	.180		5.314	.000*	0.13 (13%)
Between groups		7			
Within groups		193			
Education	.214		3.308	0.02*	0.07 (7%)
Between groups		7			
Within groups		194			
Member of religion	.207		.247	.620	···
Between groups		1			
Within groups		200			
Type of Religion	.858		4.899	.003*	0.06 (6%)
Between groups		3			
Within groups		193			
Importance of religion	.438		.671	.646	···
Between groups		5			
Within groups		196			
Household situation	.089		2.856	.025*	0.04 (4%)
Between groups		4			
Within groups		195			
Area	.452		36.339	.000*	0.15 (15%)
Between groups		1			
Within groups		200			
Profession	.752		3.450	.001*	0.10 (10%)
Between groups		9			
Within groups		189			

Notes: * $p < 0.05$. ··· Not applicable

4.3.2 Interaction

The mean *interaction* score for the sample was 2.72 with a standard deviation of 1.29 ($N = 202$). Thus, for the most part, respondents had interacted with PLHIV during the course of their work duties and/or personal lives. Of the sample, 15.8% had a mean *interaction* score of one, indicating that they had not engaged in any interactions with PLHIV as measured by the *interaction* items.

Over half (62.9%) of the respondents had cared for a person with AIDS while 34.7% said they had never done so. Of those who had, only 28.2% indicated that they regularly cared for PLHIV. Of the sample, 71.3% had visited someone living with HIV. Of those who visited someone with HIV or AIDS, 24.3% indicated that they did so on a regular basis. Furthermore, 60.4% indicated that they had helped a family who had someone who was sick with or died of AIDS. Of those who had helped a family of a PLHIV or someone deceased due to AIDS, 21.8% said they had done so regularly. In addition, 66.3% of the sample had attended a funeral of a person who was said to have died of AIDS related illness. A high percentage, i.e. 22.7% had done so more than five times with 6.9% indicating that they did so more than seven times.

4.3.2.1 The relationship between interaction and demographic variables

As hypothesised, *interaction* differed significantly according to age, household situation and area. There were however, other demographic variables that also differed significantly and which were not predicted. Table 4.7 below presents the mean scores and standard deviations for *interaction* for the demographic variables. One-way ANOVA was used to compare the mean *interaction* scores for different groups as indicated in table 4.8 below. All comparisons except that of language (*Levene Statistic* = 0.020, $p < 0.05$), education (*Levene Statistic* = 0.017, $p <$

0.05), member of religion (*Levene Statistic* = 0.007, $p < 0.05$), type of religion (*Levene Statistic* = 0.16, $p < 0.05$) and profession (*Levene Statistic* = 0.000, $p < 0.05$), met the requirement for homogeneity of variance. A Kruskal-Wallis H-test was used for those variables which did not meet the requirement for homogeneity of variance. No significant differences were found in the mean *interaction* scores for sex and importance of religion. There was however a statistically significant difference for age category ($F_{(4,186)} = 5.670$, $p < 0.05$), race ($F_{(3,193)} = 36.470$, $p < 0.05$), household situation ($F_{(4,195)} = 10.102$, $p < 0.05$) and area ($F_{(1,200)} = 84.371$, $p < 0.05$). The strength of the relationship between these variables and *interaction* is indicated by ω^2 in table 4.8 below. As depicted in the table, race accounted for the highest variance in *interaction*, i.e. 35%. Thus race had a large effect on the *interaction* score. Although less than race, area also had a large effect (29%) on mean *interaction* scores. Age and household situation accounted for 9% and 11% of the variance in *interaction*, respectively.

Post hoc analyses, using Bonferroni's method, indicated significant differences in mean *interaction* between individuals older than 51 years ($M = 3.38$, $SD = 1.28$) compared to those younger than 26 years ($M = 1.77$, $SD = 0.87$, *Mean Difference* = 1.61, $p < 0.05$), between 26 and 30 years ($M = 2.29$, $SD = 1.21$, *Mean Difference* = 1.09) and 31 to 40 years ($M = 2.47$, $SD = 1.18$, *Mean Difference* = 0.91 $p < 0.05$). There was also a significant difference in mean *interaction* scores between individuals younger than 26 years and those between 41 and 50 years ($M = 2.89$, $SD = 1.32$, *Mean Difference* = 1.12, $p < 0.05$). Thus, those respondents older than 50 years showed significantly higher mean *interaction* scores than those in the three youngest age categories. Furthermore, those in the second oldest age category also showed significantly higher levels of *interaction* than their youngest counterparts. In terms of household situation, those in the sample who had income enough for basics and luxuries ($M = 1.91$, $SD = 1.15$) showed significantly lower mean *interaction* scores compared to those who did not have enough for basics ($M = 3.41$, $SD = 1.36$, *Mean Difference = 1.49*, $p < 0.05$), those who only had enough for food and clothes ($M = 2.86$, $SD = 1.16$, *Mean Difference* = 0.95, $p < 0.05$) and those who had enough for basics and a few luxuries ($M = 2.77$, $SD = 1.20$, *Mean Difference* = 0.86, $p < 0.05$). From these results, those with sufficient income for basics and luxuries show significantly less *interaction* than those with less income available to them.

Post hoc analyses for race and area were not performed as the requirements were not met, i.e. three or more groups with each containing at least two observations. From the ANOVA analysis however, Guguletu ($M = 3.63$, $SD = 0.99$) showed a significant difference in mean *interaction* compared to Mitchells Plain ($M = 2.19$, $SD = 1.13$). Thus respondents working and/or living in Guguletu had significantly more *interaction* with PLHIV.

A Kruskal-Wallis H-test was utilised to compare the mean *interaction* scores for the various groups for language, education, profession and member and type of religion. The results were found to be statistically significant for all these demographic variables. Thus, there were mean differences for some of the groups for language ($ChiSq = 0.0001$, $p < 0.05$), education ($ChiSq = 0.0001$, $p < 0.05$), profession ($ChiSq = 0.0001$, $p < 0.05$), religious affiliation ($ChiSq = 0.0211$, $p < 0.05$) and religion type ($ChiSq = 0.0003$, $p < 0.05$). The mean *interaction* scores for those affiliated to a religion ($M = 2.75$, $SD = 1.28$) was significantly higher than those who were not ($M = 1.08$, $SD = 0.14$). The results of these analyses are presented in table 4.9 below. The far right column of the table indicates the magnitude of the differences between the groups as indexed by ε^2. Language accounted for the most variance in mean *interaction* scores, i.e. 36%, followed by education and profession which were 13% each. These variables can thus be described as having a considerable effect on mean *interaction.* Post hoc analyses, to determine which groups within variables differed significantly in terms of mean *interaction*, were not performed for language, education, type of religion and profession as they did not meet analyses requirements.

Table 4.7. Mean *interaction* scores and standard deviations for demographic variables

Variable	**Response**	***n***	***M***	***SD***
Sex	Male	22	2.35	1.19
	Female	178	2.75	1.29
Area	Mitchells Plain	127	2.19	1.13
	Guguletu	75	3.63	0.99
Age category	Less than 26 years	13	1.77	0.87
	26-30	18	2.29	1.21
	31-40	63	2.47	1.18
	41-50	66	2.89	1.32
	More than 51 years	31	3.38	1.28
Race	African	114	3.38	1.07
	White	1	⋯	⋯
	Coloured	84	1.86	0.98
	Indian	1	⋯	⋯
Language	Afrikaans	34	2.03	0.99
	English	48	1.68	0.91
	Isixhosa	104	3.36	1.06
	Isizulu	2	4.00	0.00
	Sesotho sa borwa	2	4.63	0.18
	Other African	2	2.25	1.77
	Other European	1	⋯	⋯
	Multiple languages	8	3.03	1.49

Variable	Response	*n*	*M*	*SD*
Education	Up to Std 1	1	···	···
	Std 6 to Std 7	13	1.88	0.83
	Std 8	13	2.83	1.65
	Std 9	24	3.76	1.0
	Std 10	64	2.48	1.25
	Diploma	54	2.71	1.18
	First Degree	26	3.06	1.20
	Honours/Masters	7	1.50	1.12
Member of a religious group	Yes	199	2.75	1.28
	No	3	1.08	0.14
Religion	Christian	171	2.85	1.27
	Islam	15	1.45	0.93
	African traditional	6	2.46	1.20
	Other	5	3.10	0.84
Importance of religion	Not important at all	2	1.50	0.35
	Slightly important	3	3.50	1.15
	Somewhat important	2	2.00	1.41
	Important	37	2.86	1.16
	Very Important	156	2.71	1.32
	Not applicable	2	2.38	1.59
Household Situation	Not enough for basics	27	3.41	1.36
	Only food and clothes	64	2.86	1.16
	Basics and few luxuries	63	2.77	1.20
	Basics and luxuries	38	1.91	1.15
	No response	8	2.28	1.42
Profession	Doctor	3	3.33	1.23
	Nurse	107	2.96	1.27
	Clerk	25	2.34	1.31
	Psychologist/therapist	4	1.00	0.00
	Dentist	3	1.25	0.25
	Other	22	2.54	1.21
	Dental Assistant	7	1.36	0.57
	TB Related	5	3.25	0.47
	HIV Specific	20	2.67	1.23
	Unknown	3	4.50	0.50

Notes: ···*Interaction* is constant. It has been omitted.

Table 4.8. One way ANOVA results for *interaction*

	Levene Statistic		**ANOVA**		
	Sig.	***df***	***F***	**Sig.**	**ω^2**
Age Category	.215		5.670	.000*	0.09 (9%)
Between groups		4			
Within groups		186			
Sex	.339		1.890	.171	⋯
Between groups		1			
Within groups		198			
Race	.191		36.470	.000*	0.35 (35%)
Between groups		3			
Within groups		196			
Importance of religion	.213		.818	.538	⋯
Between groups		5			
Within groups		196			
Household situation	.778		10.102	.000*	0.11 (11%)
Between groups		4			
Within groups		195			
Area	.069		84.371	0.000*	0.29 (29%)
Between groups		1			
Within groups		200			

Notes: * $p < 0.05$. ⋯ Not applicable

Table 4.9. Wilcoxon/Kruskal-Wallis results for *interaction*

	Levene Statistic	**Wilcoxon/ Kruskal-Wallis**			
	Sig.	***ChiSq***	***Df***	**Prob > *ChiSq***	**ε^2**
Language	.020*	75.664	7	.0001**	0.36 (36%)
Education	.017*	32.495	7	.0001**	0.13 (13%)
Member of religion	.007*	5.321	1	.0211**	0.02 (2%)
Type of religion	.016*	19.105	3	.0003**	0.08 (8%)
Profession	.000*	33.849	9	.0001**	0.13 (13%)

Notes: * $p < 0.05$

4.3.3 Number of HIV disclosures

Most of the sample had had someone disclose their HIV status to them. Table 4.10 presents the frequencies of the number of personal HIV disclosures made to respondents. Specifically, 78.3% of the sample indicated that at least one person had disclosed their status to them. Of the sample, 21.8% had not had a family member, friend or acquaintance disclose their HIV status. Furthermore, 13% of the sample had six or more personal HIV disclosures made to them.

Table 4.10. Frequency of Number of HIV Disclosures (*N* = 202)

Variable	**Response**	***n***	**%**
Number of HIV disclosures	0	44	21.8
	1-2	82	40.6
	3-5	50	24.7
	6-10	19	9.5
	11+	7	3.5

4.3.4 Membership

The sample was comparatively split in terms of *membership*. Specifically, just under half (48.5%) reported having a family member or members who were HIV positive. Furthermore, 42% of the sample indicated that they had a friend or friends who were HIV positive. Table 4.11 depicts the frequencies for items comprising *membership*.

Table 4.11. Frequencies for items comprising *membership* (*N* = 202)

Variable	**Response**	***n***	**%**
Is a family member a PLHIV?	Yes	98	48.5
	No	104	51.5
Is a friend a PLHIV?	Yes	74	42.0
	No	102	58.0

4.3.5 Overall exposure

The overall *exposure* score is the mean for the combined *information* and *interaction* items. The mean overall *exposure* score for the sample (N = 202) was 2.78 (SD = 0.98, *range* = 1-5). Higher *exposure* scores indicated greater exposure to PLHIV. Thus most of the sample had *exposure* to PLHIV. Therefore, as hypothesised, most of the sample had *exposure* in some form, to PLHIV. Of the sample, only 10% gained a score of one on the overall *exposure* scale which indicated that they had had no contact with PLHIV in any of its forms. Table 4.12 presents the lowest and highest frequencies for the *exposure* items. As can be seen, the item probing whether respondents had joined an HIV and AIDS organisation as a member, exhibited the highest percentage of 'Never' responses (63.9%). Thus, of the items probing exposure, joining an HIV and AIDS organisation was the *exposure* experience least often engaged by respondents. Conversely, the highest percentage of respondents indicated that the regularly spoke to people about HIV and AIDS (57.9%). Thus, of the items probing *exposure*, talking to others about HIV and AIDS was the *exposure* experience most regularly engaged in. As highlighted in chapter three, the *number of HIV disclosures* and *membership* were not incorporated into the overall *exposure* score. Results for these measures are detailed in section 4.3.3 and 4.3.4 above.

Table 4.12. Highest and lowest Frequencies for the *exposure* measures (N = 202)

Dimension	**Item**	**% in Lowest category**	**% in Highest category**
Information			
	Attended community meetings on AIDS	36.6 (Never)	5.9 (Always)
	Joined an AIDS organisation as a member	63.9 (Never)	10.4 (Always)
	Volunteered for AIDS activities	42.6 (Never)	8.9 (Always)
	Attended a local AIDS rally, march or event	40.1 (Never)	6.4 (Always)
	Attended HIV/AIDS meetings in the workplace	16.3 (Never)	20.3 (Always)
	Attended AIDS play or educational event	24.8 (Never)	13.4 (Always)
	Given advice to others about HIV/AIDS	9.4 (Never)	49.5 (Always)
	I talk to people about HIV/AIDS	8.4 (Never)	57.9 (Always)
Interaction			
	Cared for a person who is sick with AIDS	34.7 (Never)	28.2 (Always)
	Visited someone living with HIV/AIDS	27.7 (Never)	24.3 (Always)
	Helped a family who as someone who is sick or has died of AIDS	38.1 (Never)	21.8 (Always)
	Have attended a funeral of a person who is said to have died of an AIDS related illness	33.7 (Never)	6.9 (Always)

As with *information* and *interaction*, overall *exposure*, was correctly hypothesised to differ according to age, household situation and area. There were however, other demographic factors which had significant mean *exposure* differences. Table 4.13 presents the mean scores and standard deviations for *exposure* for the demographic variables. One-way ANOVA was used to compare the mean *exposure* for different groups as indicated in Table 4.14 below. According to Levene Statistic and detailed in table 4.16 below, all comparisons met the requirement for homogeneity of variance. No significant differences were found between the mean *exposure* scores for sex, member of religion and importance of religion. There was a statistically significant difference for age category ($F_{(4,186)} = 5.670$, $p < 0.05$), race ($F_{(3,196)} = 36.470$, $p <$

0.05), language ($F_{(7,193)} = 36.470$, $p < 0.05$), education ($F_{(7, 194)} = 36.470$, $p < 0.05$), type or religion ($F_{(3,193)} = 36.470$, $p < 0.05$), household situation ($F_{(4,195)} = 10.102$, $p < 0.05$), area ($F_{(1,200)} = 84.371$, $p < 0.05$) and profession ($F_{(9, 189)} = 3.958$, $p < 0.05$). The strength of the relationship between these demographic variables and *exposure* is indicated by ω^2 (see table 4.14). As depicted in table 4.16, race, language and area accounted for a total of 71% of the variance in *exposure*, with each contributing 24% to this variance. Thus race, language and area can be said to have a considerable effect on *exposure.* Conversely, age category (5%), type of religion (7%) and household situation (7%) had the least effect on mean *exposure* scores.

Post hoc evaluation, using Bonferroni's method, indicated a significant difference in mean *exposure* (*Mean Difference* = 0.69, $p < 0.05$) between individuals aged 31 to 40 years ($M = 2.58$, $SD = 0.86$) and those older than 50 years ($M = 3.27$, $SD = 1.02$). Thus, respondents aged 31 to 41 years had significantly less *exposure* than those older than 50 years. Christians ($M = 2.88$, $SD = 0.96$) also showed a significant difference (*Mean Difference* = 1.10, $p < 0.05$) in mean scores compared to Muslim respondents in the sample ($M = 1.79$, $SD = 0.82$). Therefore, Christians had significantly more *exposure* than their Muslim counterparts. For household situation, those who did not have enough for basics ($M = 3.31$, $SD = 1.13$) exhibited significantly different mean *exposure* scores (*Mean Difference* = 0.53, $p < 0.05$) than those who had enough for basics and luxuries ($M = 2.34$, $SD = 0.72$). Hence, individuals with the least financial means had significantly more *exposure* to PLHIV than those with the most financial means. When comparing the mean *exposure* scores for profession, dental assistants ($M = 1.57$, $SD = 0.41$) showed significant difference compared to HIV-specific professionals ($M=3.07$, $SD=0.94$, *Mean Difference*=1.50 $p<0.05$) and the 'Unknown' category of professionals ($M = 4.14$, $SD = 0.39$, *Mean Difference* = 2.57, $p < 0.05$). Dentists ($M = 1.56$, $SD = 0.47$, *Mean Difference* = 2.58, $p < 0.05$) also showed significant mean *exposure* difference to the 'Unknown' category. Thus, dental assistants had significantly less *exposure* than HIV-specific professionals. Also, both dental assistants and dentists had significantly less *exposure* than those health care workers in the 'Unknown' category.

Post hoc evaluation for race, language, education and area were not conducted as the stipulated requirements were not met. The ANOVA results do, however, show that respondents from Guguletu ($M = 3.41$, $SD = 0.78$) had significantly higher *exposure* than those in Mitchells Plain ($M = 2.41$, $SD = 0.89$).

Table 4.13. Mean *exposure* scores and standard deviations for demographic variables

Variable	**Response**	***n***	***M***	***SD***
Sex	Male	22	2.58	1.05
	Female	178	2.80	0.97
Area	Mitchells Plain	127	2.41	0.89
	Guguletu	75	3.41	0.78
Age category	Less than 26 years	13	2.40	0.75
	26-30	18	2.68	1.07
	31-40	63	2.58	0.86
	41-50	66	2.81	1.04
	More than 51 years	31	3.27	1.03
Race	African	114	3.19	0.89
	White	1	...	...
	Coloured	84	2.24	0.80
	Indian	1	...	...

Variable	**Response**	***n***	***M***	***SD***
Language	Afrikaans	34	2.39	0.84
	English	48	2.11	0.74
	Isixhosa	104	3.19	0.86
	Isizulu	2	3.79	0.06
	Sesotho sa borwa	2	3.54	0.41
	Other African	2	2.00	1.41
	Other European	1	···	···
	Multiple languages	8	2.77	1.32
Education	Up to Std 1	1	···	···
	Std 6 to Std 7	13	2.03	0.92
	Std 8	13	2.68	1.24
	Std 9	24	3.53	0.89
	Std 10	64	2.69	1.00
	Diploma	54	2.73	0.82
	First Degree	26	3.03	0.80
	Honours/Masters	7	2.06	0.76
Member of a religious group	Yes	199	2.79	0.98
	No	3	2.06	0.29
Religion	Christian	171	2.88	0.96
	Islam	15	1.79	0.82
	African traditional	6	2.66	1.05
	Other	5	2.78	0.83
Importance of religion	Not important at all	2	1.71	0.29
	Slightly important	3	3.30	0.82
	Somewhat important	2	2.25	0.59
	Important	37	2.80	0.87
	Very Important	156	2.79	1.01
	Not applicable	2	2.54	1.12
Household Situation	Not enough for basics	27	3.31	1.13
	Only food and clothes	64	2.84	0.96
	Basics and few luxuries	63	2.78	0.93
	Basics and luxuries	38	2.34	0.73
	No response	8	2.33	0.90

Variable	Response	*n*	*M*	*SD*
Profession	Doctor	3	3.22	0.90
	Nurse	107	2.88	0.92
	Clerk	25	2.47	1.07
	Psychologist/therapist	4	1.90	0.43
	Dentist	3	1.56	0.47
	Other	22	2.66	0.99
	Dental Assistant	7	1.57	0.41
	TB Related	5	3.13	0.56
	HIV Specific	20	3.07	0.94
	Unknown	3	4.14	0.39

Notes: $^{\cdots}$*Exposure* is constant. It has been omitted.

Table 4.14. One way ANOVA results for overall *exposure*

	Levene Statistic		ANOVA		
	Sig.	***df***	***F***	**Sig.**	**ω^2**
Age Category	.341		3.265	.013*	0.05 (5%)
Between groups		4			
Within groups		186			
Sex	.675		.959	.329	⋯
Between groups		1			
Within groups		198			
Race	.413		21.721	.000*	0.24 (24%)
Between groups		3			
Within groups		196			
Language	.061		9.993	.000*	0.24 (24%)
Between groups		7			
Within groups		193			
Education	.165		4.557	0.00*	0.11 (11%)
Between groups		7			
Within groups		194			
Member of religion	.055		1.685	.196	⋯
Between groups		1			
Within groups		200			
Type of Religion	.487		6.212	.000*	0.07 (7%)
Between groups		3			
Within groups		193			
Importance of religion	.400		.795	.554	⋯
Between groups		5			
Within groups		196			
Household situation	.131		4.762	.001*	0.07 (7%)
Between groups		4			
Within groups		195			
Area	.100		63.968	.000*	0.24 (24%)
Between groups		1			
Within groups		200			
Profession	.183		3.958	0.00*	0.12 (12%)
Between groups		9			
Within groups		189			

Notes: * $p < 0.05$. ⋯ Not Applicable

4.4 THE RELATIONSHIP BETWEEN STIGMA AND EXPOSURE

The final research aim sought to establish whether *exposure* to PLHIV was associated with levels of HIV and AIDS-related stigma amongst health care workers in the sample. Two further hypotheses were formulated, i.e. that form of *exposure* and overall *exposure* would be negatively related to *stigma.* Bivariate correlations were performed to investigate these hypotheses. Two tailed significance levels were utilised in the correlational analyses. Table 4.15 below provides data on the correlation coefficients.

As hypothesised, both forms of *exposure* and overall *exposure* were negatively related to *stigma.* The results of the bivariate analyses indicate a negative correlation between *information* and *stigma* and *interaction* and *stigma*. *Information* had a higher correlation (r = -0.23, $p < 0.01$) to *stigma* than *interaction* (r = -0.19, $p < 0.01$) to *stigma*. Therefore, as levels of *information* increase, so *stigma* levels decrease. The same applies for *interaction*, i.e. greater *interaction* is related to lower *stigma* levels. These correlations of *information* and *interaction* to *stigma* can be described as indicative of definite but small relationships (Pretorius, 2007). The relationship between s*tigma* and *exposure* scores was also negative (r = -0.23, $p < 0.01$), indicating that the higher the levels of *exposure*, the lower the levels of *stigma*. As with *interaction*, *information* and *stigma*, the magnitude of this relationship was very small.

Table 4.15. Correlation results for s*tigma*, forms of *exposure* and overall *exposure* (N = 200)

	Stigma	
Variable	**Pearson's *r***	***p***
Information	$-.227^{**}$	.001
Interaction	$-.188^{**}$	.008
Exposure	$-.228^{**}$	.001

Notes: ** p < 0.01 (2-tailed).

4.4.1 The relationship between stigma and number of HIV disclosures

As hypothesised, *number of HIV disclosures*, as a form of *exposure*, and *stigma* were negatively related. Although only at the 5% significance level, the result of the bivariate analysis indicated a negative correlation between *stigma* and n*umber of HIV disclosures* (r = -0.15, $p < 0.05$). Thus, as the number of HIV disclosures made to respondents increase, so *stigma* levels decrease. The magnitude of the relationship can however only be described as slight as the correlation coefficient was low.

4.4.2 The relationship between stigma and membership

One way ANOVA was performed to determine whether there were significant differences in the mean *stigma* for the forms of *membership*. The results indicated homogeneity of variance for the different groups, i.e. family member is a PLHIV (*Levene Statistic* = 0.160, $p < 0.05$) and friend is a PLHIV (*Levene Statistic* = 0.060, $p < 0.05$). Significant differences in mean *stigma* scores were found for those who had a family member ($F_{(1,198)} = 5.458$, $p < 0.05$) or friend ($F_{(1,172)} = 9.565$, $p < 0.05$) who was HIV positive versus those who did not. The strength of the relationship, indicated in table 4.16 below, is shown as the percentage of variance. As per ω^2, family or friend *membership* accounted for 2% and 5% of the *stigma* variance, respectively. Thus, family and friend *membership* can be said to have a relatively small effect on *stigma*. The results further indicate that those who have a family member (M = 2.30, SD = 0.70) or friend (M = 2.50, SD = 0.58) who is HIV positive demonstrate significantly lower levels of *stigma* than those who do not have family (M = 2.51, SD = 0.59) or friends (M = 2.21, SD = 0.65) who are HIV positive. Therefore, as hypothesised, those with *membership*, as a form of *exposure*, showed significantly lower levels of HIV and AIDS-related stigma than those without.

Table 4.16. One way ANOVA results for *stigma* and *membership*

	Levene Statistic	**ANOVA**			
	Sig.	***df***	***F***	**Sig.**	**ω^2**
Family PLHIV	.160		5.458	$.020^*$	0.02 (2%)
Between groups		1			
Within groups		198			
Friend PLHIV	.060		9.565	$.002^*$	0.05 (5%)
Between groups		1			
Within groups		172			

Notes: * $p < 0.05$

4.5 CONCLUSION

This chapter detailed the results of statistical analyses used to meet the research aims and test the hypotheses posed in chapter three. It specifically detailed the results pertaining to the levels of *stigma*, forms of *exposure* and overall *exposure* in the sample. The relation of demographic variables to *stigma* and *exposure* were also highlighted. It further presented results on the relationship between forms of *exposure*, overall *exposure* and *stigma*. The next chapter will focus on these findings in relation to the reviewed literature.

CHAPTER FIVE

DISCUSSION

5.1 INTRODUCTION

In this chapter, the results of the study will be discussed in the context of reviewed literature. Attention is focused on the research aims and formulated hypotheses which were confirmed through statistical analyses. Thereafter, the limitations inherent in this study are addressed and followed by recommendations for future research.

5.2 HIV AND AIDS-RELATED STIGMA

The first research aim sought to explore the levels of HIV and AIDS-related stigma in the sample. As hypothesised, the results indicated that on average, respondents exhibited low to moderate levels of stigma. This finding parallels with that of Foreman *et al*. (2003) who found that health workers consistently report low levels of discriminatory attitudes. Foreman *et al*. (2003), specifically note that surveys of this population generally indicate that about 10% to 20% hold negative attitudes towards PLHIV. Important to consider is that health care workers themselves generally report neutral or positive attitudes as opposed to the widespread discrimination reported by PLHIV in the health care context (Foreman *et al*., 2003). This may be due to issues of social desirability, which are discussed further in the limitations section 5.5. The findings are however in contradiction to those of Bharat *et al*.'s (2001) study which indicated widespread discrimination, stigmatisation and denial throughout the health sector. Despite the bleak picture painted by Bharat *et al*.'s study, they found a substantial amount of health care professionals who were committed to providing good-quality care to patients in their settings. The same may account for the lower levels of HIV and AIDS stigma found in this study.

Although exhibited levels of stigma were in the low to moderate range, it is important to take into account that stigma was indeed evident. Furthermore, in some cases HIV and AIDS-related stigma was in the extremes. This finding is important in that evidence of stigma suggests the need to target stigma reduction initiatives in the health care setting. The predominant focus should necessarily be those who display the most negative attitudes and behaviours towards PLHIV. In addition, efforts should not overlook the lower level manifestations of HIV and AIDS-related stigma amongst health care workers which although to a lesser degree, still have a negative effect on PLHIV. As elaborated on in chapter two, HIV and AIDS-related stigma undermines testing, prevention and treatment efforts and affects both PLHIV and health care workers. In particular, PLHIV are precluded from and may actively avoid important activities which may improve their quality of life due to anticipated and experienced stigma from health care workers. Health care workers are themselves stigmatised or required to carry the burden of care for those health care workers who refuse to treat PLHIV. Those who display very low levels of stigma are also of importance in that they provide positive role modelling to those who stigmatise. While the reason for their exhibited positive attitudes may be varied, in-depth exploration of these provides opportunities to identify alternative channels to reduce stigma amongst their colleagues. *Exposure* as one of these reasons will be elaborated on in section 5.4.

5.2.1 Factors associated with HIV and AIDS-related stigma

Horsman and Sheeran (1995) indicate that several factors, such as education, demographic, social and cultural factors, have been associated with attitudes and beliefs about HIV and AIDS. The hypotheses based on these and related findings, were confirmed for some of the abovementioned demographic factors.

As hypothesised, there were sex differences in the mean *stigma* displayed. The study results indicate that male health care workers exhibit significantly higher levels of HIV and AIDS-related stigma than their female counterparts. This finding is supported by that of Maughan-Brown's (2006) study in which males had significantly higher levels of stigma. The latter study was however not conducted amongst health care workers. There are however, contradictory findings such as that of Andrewin and Chien (2008), in which the converse applies. Yet another study by Delobelle *et al*. (2009), found no association between sex and stigmatising attitudes. Andrewin and Chien (2008) and Horsman and Sheeran (1995) highlight the inconsistent findings on the relationship between sex and stigma to be found in the literature. Horsman and Sheeran (1995) explain that the reason for this may be due to the difficulty in separating sex from occupational and educational differences because the majority of nurses tend to be women and more doctors tend to be men.

The findings of the study suggest that health care workers in Mitchells Plain exhibit higher levels of HIV and AIDS-related stigma than those in Guguletu. While this difference is not significant, it could be explained by higher prevalence rates in the latter area. Guguletu's HIV prevalence of 28.1%, is currently one of the highest in the province (CSA, 2004). Resultant increased opportunities for contact and normalisation of HIV and AIDS may result in those working and living in the area holding less stigmatising beliefs. It may also add weight to the relationship between HIV and AIDS-related stigma and *exposure* as investigated in the present study.

Contrary to the literature, which shows an association with age and HIV and AIDS-related stigma, the findings of this study indicated no significant difference between the various age categories. Thus, the hypothesis that age differences would be found in mean *stigma* values was rejected. Studies have often found a negative association between age and HIV and AIDS-related stigma, with younger health care workers discriminating less than their older counterparts (Andrewin & Chien, 2008). Horsman and Sheeran (1995) also report that more positive attitudes towards AIDS are frequently found to be related to younger age among health care workers. The current study found that those aged between 26 and 30 years had the lowest mean *stigma* while those older than 50 had the highest. Reasons advanced for this relationship are failure of older health care workers to attend continuing education and less experience with HIV patients given the recent emergence of the HIV epidemic in the past few decades (Andrewin & Chien, 2008). Furthermore, Bharat *et al*. (2001) found that younger doctors' exposure to HIV cases was said to result in less prejudiced approaches to HIV positive patients. Bharat *et al*. (2001) also suggest that orientation to the epidemic in newer training programmes serves to lessen fears around HIV and AIDS. Further studies have, however, found contradictory evidence or no relationship between age and HIV and AIDS-related stigma (Delobelle *et al*., 2009; Horsman & Sheeran, 1995). For example, Andrewin and Chien's (2008) study established that older subjects showed less stigmatising attitudes than younger subjects. In this instance, the reason advanced was related to maturity and greater work experience (Andrewin & Chien, 2008).

As hypothesised, the findings of this study indicate a significant difference in stigma in terms of education. Specifically, those with the lowest levels of education had the highest level of HIV and AIDS-related stigma, while those who had a degree level education exhibited the lowest levels of stigma. A number of studies have established a link between education and stigma (Delobelle *et al*., 2009; Maughan-Brown, 2006). The current study's findings correspond to that of Delobelle *et al*.'s (2009) in which education was found to be significantly related to nursing attitudes. The literature suggests that the mechanism by which education has its influence on stigma is that of increased knowledge about HIV and AIDS which in turn has been linked to lower levels of HIV and AIDS-related stigma. Delobelle *et al*. (2009) equate increased levels of knowledge with more years of education. The link between knowledge and stigma has been found in a number of studies, such as that Horsman and Sheeran (1995) and Mahendra *et al*. (2007). Horsman and Sheeran (1995) advise that although there is an association between health care workers level of education and knowledge of HIV and AIDS, education does not appear to have a strong effect on HIV-relevant attitudes. This may be reflected in the current study in which education accounted for only 4% of the variance in *stigma*.

While some studies have found a significant difference between those who are affiliated with a religion and those who are not, this study failed to do so. It was hypothesised that religion would have a significant effect on *stigma.* The results are in contradiction with the literature on this topic. Andrewin and Chien's (2008) findings that those who affiliated themselves with a particular religion, were more stigmatising, confirms general literature. In addition, Horsman and Sheeran's (1995) review of health care workers and attitudes towards HIV and AIDS, indicated that having no religious affiliation was associated with more positive attitudes. Religion is said to play a role in HIV and AIDS stigmatisation by way of the perceived transgressions of morally sanctioned behaviour in transmission and contraction of the disease. A review of HIV and AIDS-related stigma by Mbonu *et al*. (2009) pinpoints religion as one of the factors which mediate stigma by way of linking sexual transgressions and immorality, thereby challenging religious values. Maughan-Brown (2006) cautions that religious affiliation is not a sensitive indicator of religiosity and that analysis should test for the importance of affiliations not merely the existence thereof. The findings of this study indicate a significant difference in terms of importance of religion with those who placed importance on religion exhibiting lower levels of HIV and AIDS stigma than those who place no importance on religion. Thus, the hypothesis stated above cannot be completely rejected and depends on what aspect of religion is referred to, i.e. affiliation or importance of affiliation. The finding of this study contradicts that of Andrewin and Chien's (2008) study in which being non-religious was associated with lower levels of stigmatising attitudes. In addition, it conflicts with general literature which suggests that those who are more religious hold more stigmatising attitudes towards PLHIV (Andrewin & Chien, 2008). These contradictory findings may be explained by the fact that religious institutions and values also possess the power to be supportive of PLHIV. The attitudes exhibited by the sample may be manifestations of what Mbonu *et al*. (2009) call, an increase in support and care obtained by PLHIV from religious institutions, values, beliefs and fellow members.

In terms of profession and HIV and AIDS stigma, the results of this study both contradict and support that of findings of other related studies. Specifically, this study found no significant difference in HIV and AIDS-related stigma between the various health profession groups. This supports the results of other studies such as that of Reis *et al*. (2005), who did not find a consistent pattern of difference in negative attitudes and practices across different health profession groups. Studies that have however found a difference are that of Bishop, Oh and Swee (2000) who found significant differences between Singaporean dentists, doctors and nurses for stigmatising attitudes in relation to HIV and AIDS. Andrewin and Chien (2008) also found that doctors and nurses stigmatised patients in different ways and explained that this was a function of the varied roles and responsibilities held by these professions. Foreman *et al*. (2003) and

Knussen and Niven (1999) assert that profession is an important factor in measuring stigma and negative attitudes as it influences the kinds of relationships developed with PLHIV. Relationships may vary from once-off, sporadic, impersonal contacts to more frequent, daily contact in which more substantial relationships develop.

Interesting to note, is that in this study doctors exhibited the highest levels of stigma, while dentists exhibited the least. This reflects Bharat *et al*.'s (2001) qualitative study in India which aimed to examine the forms, determinants and outcomes of HIV and AIDS-related discrimination, stigmatisation and denial. Their study found that among all health care professionals in the sample, doctors and senior doctors were believed to discriminate the most against HIV positive patients. Fear, as a result of minimal experience with PLHIV, was deemed the reason for this (Bharat *et al*., 2001). Foreman *et al*. (2003), however, cite studies in which discriminatory practices amongst doctors are rare. Horsman and Sheeran's (1995) review also indicates that dental students have been found to be more reluctant to care for PLHIV than doctors despite both engaging in medically invasive procedures. In this regard, Prieto Belisario (cited in Foreman *et al*., 2003) found higher consistent negative attitudes among dentists and nurses versus doctors and students. The reasons advanced for this finding were perceived higher risk of infection as part of clinical duties of nurses and dentists. Horsman and Sheeran (1995) caution that the different roles of different health professions necessitate different knowledge bases and renders direct comparisons between them questionable.

5.2.2 Individual measures of HIV and AIDS-related stigma

More respondents than not, agreed that they feared being infected by their patients. This finding reflects the widely held fear of contagion amongst health care workers and oft discussed in literature regarding stigma (Bharat *et al*., 2001; Delobelle *et al*., 2009; Horsman & Sheeran, 1995; Mahendra *et al*., 2007; Reis *et al*., 2005). This indicator is important in that research demonstrates that fear of casual contact and contagion contributes to stigma directed at HIV and AIDS patients (Nyblade *et al*., 2009). Knussen and Niven (1999), for example, found that those health care workers perceiving a greater risk of contagion held more negative attitudes towards HIV and AIDS patients. The current study's findings appear lower than that of other studies. For example, Foreman *et al*. (2003) cite studies in which more than 50% of health care workers expressed anxiety in taking care of HIV patients. Horsman and Sheeran (1995) explain that fear of contagion, a major concern for health care workers, while possibly resulting from legitimate concerns, may also stem from displaced less, acceptable fears. Furthermore, fear of contagion may also result from the appraisal of high risk due to mortality and morbidity rates associated with HIV and AIDS (Foreman *et al*., 2003).

Most of the sample felt comfortable taking care of HIV and AIDS patients. This is corroborated by the 85% of health care workers who indicated that they were comfortable dealing with PLHIV in Andrewin and Chien's (2008) study. Other studies have, however found high levels of discomfort amongst health care workers. For example, Foreman *et al*. (2003) cite a study conducted amongst nurses in Jamaica in which they showed high discomfort with working with HIV and AIDS patients. Despite the fact that the percentage of respondents who felt strong discomfort in taking care of PLHIV (13.8%) was lower than those who did not, it is still important to consider this group. Respondents who feel such strong discomfort have the potential to affect both patients and their colleagues in a negative way and are therefore a significant group when considering stigma reduction initiatives. Levels of discomfort may be related to varied factors such as patients presenting in the terminal stages of illness and fears held by health care workers of becoming stigmatised as result of caring for HIV patients (Horsman & Sheeran, 1995). The stigmatisation of health care workers themselves due to their contact with HIV patients has been documented in a number of studies (e.g. Delobelle *et al*., 2009; Shisana *et al*., 2003; Smit, 2005). Measures to allay such fears and anxieties are thus pivotal to reduce the number of health care workers who feel strong discomfort with HIV-positive patients or patients with AIDS.

Slightly under half (48.1%) of the sample felt they had sufficient training to deal with HIV and AIDS patients. Bharat *et al*. (2001) pinpoints low levels of HIV and AIDS knowledge, acquired through education and training, as a determinant of HIV and AIDS discrimination, stigmatisation and denial. Foreman *et al*. (2003) also assert that health care workers indicate that systemic failures such as lack of adequate training may lead to discrimination. This could serve to explain the exhibited levels of HIV and AIDS-related stigma in the sample. As indicated in section 5.2 above, the finding that HIV and AIDS stigma exists among the sample cannot be discounted merely because most respondents fell into the 'low' to 'moderate' ranges. Thus, the very presence of stigma in this sample requires that cognisance be taken of factors that might be at play in the phenomenon, i.e. factors such as the need for training. That a larger percentage of the sample felt they had adequate training, may be interpreted to mean that the need to hold discriminatory or stigmatising beliefs as a means of protection was less than would be if a larger percentage had indicated that they required more training. Nonetheless, the percentage of respondents who stated the need for further training (38.6%) and which may include those who gave "neutral" responses (11.4%), calls for further examination and strategies to address this need. This is corroborated by a large survey study of health care workers in South Africa conducted by Shisana *et al*. (2003), in which a gap in training related to aspects of HIV and AIDS was identified.

Close to 70% of the sample disagreed that they should have the choice to treat HIV and AIDS patients. This finding corroborates studies, such as that of Knussen and Niven (1999) in which only 4% of their sample believed they should not be required to work with HIV and AIDS patients. These findings, however, oppose other studies which have found that the majority of surveyed health care workers believe they should have the right to choose whether they assist HIV and AIDS patients or not (Foreman *et al*., 2003; Horsman & Sheeran, 1995). The need for choice may be rooted in the health care workers fear of contagion. Bharat *et al*. (2001), for example, assert that refusal to care is often justified on the basis of reducing risk of infection. It may lead to acts of discrimination (Andrewin & Chien, 2008) and also impacts on those health workers who do not want to refuse treatment, by placing the burden of care upon them (Horsman & Sheeran, 1995). Whilst the results indicate that a larger percentage of the sample did not require the right to choose to treat HIV and AIDS patients, it is important to bear in mind that many expressed a fear of being infected. In light of this, it is conceivable that some of these responses may have been subject to social desirability and that the extent of this issue may have been underestimated.

A majority of the sample disagreed that PLHIV were a waste of time and resources. For those who agreed with these statements, Foreman *et al*. (2003) explains that these beliefs may be rooted in the assumption that death is inevitable and that time spent on AIDS patients is time wasted. The view that resources are wasted is similarly explained by the perception of the incurability of AIDS. Shisana *et al*. (2003) further highlight that patients often present to clinics and hospitals in the late stages of the illness and when little can be done for them. While this leaves health care workers feeling despondent (Shisana *et al*., 2003), it may also leave them believing that limited resources could be better utilised on patients with a more positive prognosis. Shisana *et al*. (2003) highlight lack of resources as a major challenge for health care workers in South Africa. In this regard, Maughan-Brown (2006) measures and discusses "resource stigma" which allows those who stigmatise to make sense of their poor situations by blaming PLHIV. Resource stigma may be provoked by the perceived inordinate amount of financial and human resources channeled into addressing the HIV and AIDS epidemic.

Finally, the majority of the sample did not judge PLHIV to be rude. Whilst this statement did not directly tap respondents' attributions of blame and moral judgment, it probed negative attributions of PLHIV. Blame and moral judgment may underlie statements such as these. As with resources above, it is important to note the small percentage of respondents who agreed with this statement. This is important because judgment allows for the distancing and othering which further justifies acts of discrimination (Siyam'kela, 2003). Nyblade *et al*. (2009) add that moral judgments are based on the assumption of improper conduct on the part of the PLHIV which in turn contributes to negative attitudes towards PLHIV and influences patient-provider interactions. Once more, while the sample reflects infrequent judgmental attitudes, it seems crucial to focus on those who do hold these attitudes and who may continue to stigmatise PLHIV.

5.3 EXPOSURE

5.3.1 Information

The findings regarding the *information* dimension of exposure indicate that the average respondent in the sample had either, through the course of their work duties or personal lives, been exposed to experiences which would allow for the acquisition of information about HIV and PLHIV. For most of the items it was however difficult to draw a clear distinction as to what context the *information* exposure had occurred in.

The results also indicate comparable difference in mean *information* for some of the race, language, education, type of religion, household situation, area and profession groups. While it was hypothesised that age, area and household situation would have a significant effect on *information*, the results for the other demographic variables were not predicted. The race group “African” had the highest level of *information* exposure. This possibly corresponds with the higher levels for African languages. In addition, Guguletu had higher levels of *information* exposure compared to Mitchells Plain. The large effect of these three factors, i.e. race, language and area in terms of *information* could be explained by the HIV prevalence of Guguletu. According to CSA (2004), the HIV prevalence in Guguletu is 28.1% and this area is considered to have one of the highest in the province. This in turn may structure more opportunities for *information* exposure by way of focused HIV initiatives both in the community and work contexts. In terms of education, those with a standard eight education exhibited the highest levels of *information* exposure. This could be a reflection of the fact that that education levels in Guguletu are predominantly grade eight to 10 (CityHealth, 2010b).

The religious grouping, Islam, exhibited the lowest level of *information* exposure. A qualitative study by Abrahams (2006) found that Muslims tended to avoid discussion of HIV and AIDS and sex out of fear of encouraging ‘sin’. By implication this may result in less willingness on this group’s part to engage in activities in the work and community context where taboo and unacceptable issues may be raised and openly discussed.

Interestingly, there was a comparable difference between *information* exposure for those with the lowest and highest levels of income. This was roughly measured by way of household situation which sought to ascertain the financial means available for living. Those in the lowest income group exhibited the highest level of *information* exposure. According to Census 2001 data, the majority of economically active residents in Guguletu (51.22%) are unemployed (Cape Gateway, 2010). This may in turn create opportunities to be involved in community events or volunteer activities which focus on HIV and AIDS, thereby increasing *information* exposure levels. The converse of this argument could account for the reason those with the highest levels of income display the lowest *information* exposure levels.

Profession also had a role to play in *information* exposure. The ‘Unknown’ category had the highest level of *information* exposure followed by HIV-specific health care workers, doctors and TB-related health care workers. The level of *information* exposure for HIV-specific health care workers is to be expected given the focus on HIV and AIDS related matters as part of their day-to-day duties. The ‘Unknown’ category contained data for those respondents who had selected two profession categories which were not mutually exclusive yet a definitive categorisation could not be made. These respondents however had all indicated that they were involved in VCT counselling which may account for their level of *information* exposure.

5.3.2 Interaction

As with *information*, most of the sample had experiences of *interaction* with PLHIV in either direct or vicarious forms. These experiences could have occurred in both the work and personal contexts.

As hypothesised, age, household situation and area had significant effects on *interaction.* In addition, race also accounted for a large variance in the displayed levels of *interaction* exposure. The results indicated that *interaction* exposure increased with age. This may in turn be related to years of experience in the work context. More work experience by implication means more opportunities for contact with HIV positive patients. As with *information* exposure, the "African" race group exhibited the highest level of *interaction*. According to Maughan-Brown (2006), the "African" population has the highest HIV prevalence, i.e. 12%. This may in turn increase opportunities for interaction both in the work and personal context of respondents.

Household situation also had a significant role to play in *interaction* exposure, with those in the lowest income category exhibiting the highest *interaction* exposure levels. It can be speculated that those with lower incomes have higher HIV prevalence which in turn facilitates contact experiences. Maughan-Brown (2006), for example, quotes figures showing that population groups with lower average per capita monthly income, have higher HIV prevalence rates. In the same manner, the high HIV prevalence exhibited in Guguletu may also account for higher *interaction* exposure compared to that of Mitchells Plain.

5.3.3 Number of HIV disclosures and membership

The majority of the sample had had personal HIV disclosures made to them. Whilst the intention was not to measure disclosures per se, this provided a measure of direct, face-to-face contact. *Membership* also allowed for the measurement of a higher degree of exposure. Thus, the results suggest that just under half of the sample had exposure to PLHIV in its highest form. As with all the other contact measures in this study, key conditions for contact were not examined. The number of HIV disclosures made to respondents and the percentage who had *membership* exposure, also provides a telling indication of the extent to which the sample were personally affected by HIV and AIDS. In South Africa where HIV and AIDS prevalence is 16.8% for adults older than 25 years (Noble, 2009), this is to be expected.

5.3.4 Overall Exposure

Most respondent in the sample had overall *exposure* to PLHIV as measured by the combination of the *information* and *interaction* dimensions of *exposure*. In addition, most had had at least one personal HIV disclosure and by implication, direct contact with a PLHIV. Furthermore, just under half had friends or family who were HIV positive.

The groupings for age category, race, language, education, type of religion, household situation, area and profession were found to have comparable means for overall *exposure*. As expected, based on the findings above for *information* and *interaction*, the high variance (62%) in overall *exposure* accounted for by race, language and area could be explained as a function of higher HIV prevalence in Guguletu. Maughan-Brown (2006) postulates that higher prevalence rates, continued population segregation and other socioeconomic factors combine to result in issues of HIV and AIDS having greater salience for the “African” population. It is postulated that a higher prevalence is associated with increased prominence of issues related to HIV and AIDS. This may be related to increased tolerance and greater understanding amongst populations most exposed to PLHIV. The arguments advanced in section 5.3.1 and 5.3.2, for *interaction* and *information* exposure are also applicable to overall *exposure*.

In terms of the differences in mean *exposure* values exhibited for profession, Knussen and Niven (1999) note that the nature and form of contact is likely to vary across different occupations. Foreman *et al*. (2003), for example, indicate that nurses spend more contact time with their patients than any other profession. In this sample, dental professions had significantly less *exposure* than those with HIV-specific professions. This supports findings of Niven and Knussen (1998) who established that those in allied professions obtained higher social contact scores. The current study's findings, however, oppose that of Foreman *et al*.'s (2003) in that the *exposure* mean for nurses did not differ significantly from other professions, nor did they receive the highest score. The mean difference for dentists and HIV-specific professions may be explained by the discrepant roles of these professions and the varied the nature of their clinical duties. Important to consider, is the means by which *exposure* was measured in this study. Aspects of both personal and work exposure were incorporated and this may have confounded the relationship between *exposure* and occupational characteristics. Comparisons with other studies of contact are therefore less than optimal. The matter will be further discussed in the study limitations section.

5.4 THE RELATIONSHIP BETWEEN EXPOSURE AND STIGMA

The final research aim sought to establish whether form of *exposure* and overall *exposure* were related to levels of HIV and AIDS-related stigma amongst health care workers in the study sample. As hypothesised, correlational analyses found that *information, interaction* and *exposure* were negatively related to *stigma*. The magnitude of the relationships were slight to small, i.e. *information* (r = -0.227), *interaction* (r = -0.188) and *exposure* (r = -0.228). Therefore, while the results suggest that as levels of exposure to PLHIV increases, HIV and AIDS-related stigma decreases, they also show that the change is only by a small margin.

These results are in concurrence with studies which show a relationship between contact and stigmatising attitudes and beliefs about HIV and AIDS amongst health care workers. Pleck *et al*. (as cited in Knussen & Niven, 1999), established that negative attitudes towards PLHIV were independently and negatively related to contact with patients with AIDS.

Horsman and Sheeran (1995) mention studies which show an association between experience with PLHIV and knowledge, more positive attitudes towards PLHIV, willingness to care for PLHIV and comfort and confidence in treating PLHIV. The authors caution that causality in this relationship is difficult to establish because individuals may have more experience exactly because they are willing to treat PLHIV.

Horsman and Sheeran (1995) reviewed studies which demonstrated that decreased fear was associated with contact with PLHIV. Research also suggests that experience with PLHIV may be related to more positive attitudes (Horsman & Sheeran, 1995). Reviewed studies indicate that anxiety and fear do not, however, seem to be consistently reduced by experience and instead seem to depend on the physical nature of the care provided. This is echoed by Knussen and Niven (1999) whose study found that predominantly physical contact was associated with increased negative attitudes towards HIV and AIDS.

In parallel with Lee *et al*.'s (2004) study, the results of this study indicate positive attitudes are related to all forms *exposure*. What the results appear to demonstrate, is support for what Lee e*t al*. (2004) call the 'simple version' of the contact hypothesis. Despite the fact that some encounters, both in the work and personal contexts, may be less than optimal in terms of Allport's specified key contact conditions, exposure still relates significantly to HIV and AIDS-related stigma levels. For example, contact with patients may be deemed less than optimal due to the differential power inherent in the patient-provider relationship. This violates the key requirement that parties in contact be of equal standing. Nonetheless, contact or *exposure* was related significantly to levels of stigma.

Other studies have found no relationship between contact and negative attitudes to HIV and AIDS (Horsman & Sheeran, 1995). Knussen and Niven (1999), for example, found no significant relationship between overall contact and attitudes. They however found that those with predominantly social contact, i.e. social contact, talking about physical and emotional problems and talking with friends and family, had more positive attitudes towards PLHIV. The items utilised in this study examined contact in both the personal and work contexts. Therefore, the results may parallel with those advanced by Knussen and Niven (1999).

The reasons advanced for the relationship between exposure and HIV and AIDS-related stigma are numerous. Nyblade *et al*. (2009) explains that by giving HIV and AIDS a 'human face', health care workers are assisted to understand the negative impact of stigma on the lives of PLHIV. This may reflect Goffman's (1963) assertion that the 'wise' are more able to understand the stigmatised individual. Awareness of and sensitivity to PLHIV thus results from being associated by way of occupation or social structure to PLHIV. Alternatively, Knussen and Niven (1999) indicate that the development of personal relationships which are characterised by care and familiarity, may account for more positive attitudes. Jewkes (2006) provides an alternative explanation for lower levels of stigmatising attitudes in general. The author states that illness and death are becoming part of everyday life for South Africans. Normalisation is occurring by way of high HIV prevalence, incidence and mortality rates in South Africa and the contact this facilitates between those who have HIV and those who do not.

5.4.1 The relationship between stigma, number of HIV disclosures and membership

A significant but small negative correlation (r = -0.149) was also found between *stigma* and *number of HIV disclosures*. The latter provides an indication of direct contact with PLHIV. The findings also indicate a significant difference in *stigma* between those who have family members or friends who are HIV positive and those who do not. Thus those who have had direct face-to-face contact with PLHIV or know a PLHIV on a personal or intimate basis, exhibited lower levels of HIV and AIDS-related stigma. From the results, most of the respondents can be assumed to be personally involved with a PLHIV. In light of the established relationships above, this personal involvement with PLHIV may partly be reflected in the degree of exhibited HIV and AIDS-related stigma. Specifically, the finding that HIV and AIDS-related stigma levels mostly fell into the low to moderate ranges rather than the higher ones, may partly be attributed to most of the respondents having personal contact with PLHIV. This corroborates findings of, for example, Gerbert, Sumser and Maguire (1991), Herek and Capitanio (1997), Lee *et al*. (2004) and Shisana and Simbayi (2002).

In terms of *membership*, the findings of the study reflect the results of that of Gerbert *et al*. (1991). Specifically, Gerbert *et al*.'s (1991) study found that those individuals who knew a PLHIV were less likely to engage in avoidance behaviour of these individuals, reported greater tolerance levels for PLHIV in the work environment and had a lower perception of risk of transmission in the health care contexts. The findings generally indicated that personal contact was related to more positive attitudes (Gerbert *et al*., 1991). Even though Gerbert *et al*.'s study was conducted with the public rather than health care workers, it seems relevant to draw upon these results given that *membership* in this study was measured in the personal rather than work context.

In this regard, Shisana and Simbayi (2002) established that more personal involvement with HIV and AIDS resulted in increased acceptance of PLHIV. Maughan-Brown (2006) cautions that merely knowing someone who is HIV-positive is not a sensitive indicator of involvement. Rather, involvement which is intimate and close in nature is required to facilitate a change in HIV and AIDS-related stigma.

The reasons advanced for the relationship between exposure and HIV and AIDS-related stigma are varied. However, in all instances, contact theory can be usefully applied to understand the relationship. Lee *et al*.'s (2004) study was far more rigorous than the current in disentangling other factors from contact which may influence attitudes. They nonetheless found that exposure by its very nature, positively influenced attitudes towards homeless people. Thus, the results of the current study can cautiously be interpreted to provide support for all forms of investigated exposure as a mechanism of contact. The results further provide support for the less restrictive version of the contact hypothesis.

5.5 LIMITATIONS

Horsman and Sheeran (1995) critique a number of studies relating to health care workers and HIV and AIDS attitudes. They remark that many fall short in that they are atheoretical, use author designed measurement instruments which prevent direct comparison between studies, have variable quality of instruments, rarely use validated scales and utilise too few statements to measure complex constructs. A few of these general criticisms are applicable to this study and necessitate a measure of caution when interpreting the results.

General limitations include the use of a cross sectional design. According to Deacon *et al*. (2005), this renders the results a mere snapshot of otherwise complex human social behaviour. Longitudinal designs, on the other hand, allow for changes in stigma to be tracked and may be more fruitfully applied to studies of this nature.

A further issue with utilising surveys to explore attitudes, is that questions only tap what the respondents' say they believe or ways they might act. Thus, surveys do not allow for a comprehensive measurement of respondent's actual behaviour. Deacon *et al*. (2005) advances the recommendation that quantitative and qualitative methods be combined to address this difficulty. The main study, in which the questionnaire items were informed by qualitative methods, renders the questionnaire the product of a comprehensive examination of HIV and AIDS-related stigma amongst health care workers. The items utilised may therefore provide as accurate a picture of HIV and AIDS-related stigma amongst health care workers as the scope of this study allows.

The issue of social desirability is also noteworthy. Horsman and Sheeran (1995) indicate that self report measures are prone to social desirability. In the context of measurement of attitudes amongst health care workers, this challenge has been highlighted by Foreman *et al*. (2003) and Nyblade and MacQuarrie (2006). Social desirability has in numerous studies, including the present, not been controlled for or investigated. The implication of this is that the extent of stigma may be underestimated.

A number of studies also cite the challenge in measuring contact, especially when it involves personal relationships between health care worker and patient, for example, Foreman *et al*., (2003) and Knussen and Niven (1999). In addition, the use of simple or global measures of contact may hide personal variation in interaction between patient and health care worker (Knussen & Niven, 1999). The measures utilised in this study can be described as simple measures of contact. Although gleaned from the larger questionnaire of the main study, some of the contact measures utilised can be seen to simulate those used in studies such as that of Niven and Knussen (1998). A further challenge with interpreting *exposure* and contact in this study is the difficulty in separating out the effects of work contact versus personal contact as this distinction was not clearly made in the questionnaire items. It is important to note the implications of measurement compromises made when measuring a complex construct such as that of contact (Niven & Knussen, 1998).

A similar issue exists for the measurement of stigma. Studies of this phenomenon have used varied measures which makes interstudy comparisons problematic (Andrewin & Chien, 2008; Horsman & Sheeran, 1995; Nyblade & MacQuarrie, 2006). The challenge in measuring stigma in a uniform way is compounded by different country, cultural and social contexts (Deacon *et al*., 2005). The multidimensional nature of the concept of stigma also makes measurement a complex endeavour. Cognisance of these factors in interpretation is thus prudent. As with contact, the items used to measure stigma in this study, correspond with items used in other studies. They are also informed by a comprehensive broader research process. This may serve to allay some of the above concerns.

5.5.1 Measuring instrument

An evaluation of the questionnaire highlighted some technical design issues. For example, it is required that response categories to closed ended questions be mutually exhaustive (Babbie, 1990). For items forming part of this study's stigma scale, the response category included the traditional Likert responses of "Strongly Agree", "Agree", "Disagree" and "Strongly Disagree" in addition to "Neutral" and "Don't Know". The latter two response categories created uncertainty in that respondents could reasonably select both thereby violating the rule of mutually exclusivity. For example, respondents who selected "Don't Know" to the item "I believe AIDS patients are rude" could reasonably be assumed to be neutral in their evaluation of this statement even if they selected a "Don't know" response. On the other hand, this could not be assumed with certainty. This made "Don't know" responses ambiguous. Collapsing these two responses was thus deemed the most appropriate action for this study.

As reported in chapter three, the reliability for *stigma*, fell just under the required range. This means that stigma may have been tapping a different construct. The varied ways in which stigma is both defined and measured may account for the lower than optimal Cronbach's alpha obtained for *stigma*. Furthermore, validity was not sufficiently tested in that the instrument was still in the stages of being psychometrically validated by the main project. Validity is defined by

Babbie (1990, p. 133) as “the extent to which an empirical measure adequately reflects the *real meaning* of the concept under consideration”. For a multidimensional construct such as disease stigma the task of validating an instrument is particularly challenging. Deacon *et al*. (2005), for example, note the wide variation in the definitions of disease stigma which makes the task of measuring stigma in a standardised manner that more difficult. Face validity, however, which refers to the extent to which items appear relevant to the concept under measurement, may have been attained. Although the scope of this study did not include psychometric validation of the measure, due regard is noted for this effect on interpretation of the results.

5.5.2 Sampling and data analysis

Mouton (2005) notes that biased samples result from heterogeneous populations, the utilisation of non-probability sampling methods and sample sizes which are too small. Furthermore, convenience sampling, according to Horsman and Sheeran (1995), limits the generalisability of the results. Thus, whilst the results of this study may reflect the HIV and AIDS-related stigma levels of health care workers in general, some measure of caution is required. Probability sampling would have strengthened the generalisations to be made from the results. Data analysis was also affected in that discrepant group sizes made certain comparisons inapplicable. This in turn meant that analyses of important variables mentioned in the literature could not be conducted. Multiple regression analysis, for example, could have been fruitfully employed to ascertain the combined effect of exposure and demographic variables on HIV and AIDS stigma. Again, probability sampling would have created opportunity to apply further statistical analyses in service of the research aims. Notwithstanding the abovementioned limitations, the results of the study provide important insights into HIV and AIDS-related stigma amongst health care workers as well as the opportunity to address this phenomenon through *exposure* to PLHIV.

5.6 RECOMMENDATIONS

In light of the important and potential positive impact of exposure on levels of HIV and AIDS stigma and the existence of a relationship between the two in this study, it is recommended that more rigorous research be done in this regard. Studies which account for and address the limitations in this study and others reviewed in the past may unearth strong evidence for exposure as a means to address stigma. Specifically, a validated instrument such as the HASI-N, described in chapter two, would be appropriate for this as would probability sampling to ensure better generalisability of the results.

Given the difference in exposure displayed by various professions and the impact this may have on expressions of stigma, it also recommended that qualitative studies be used to focus on specific professions. This would allow for in-depth exploration of the different forms of exposure and shed light on ways to enhance this so as to address stigmatising attitudes.

Finally, the results suggest the importance of directing stigma reduction initiatives at those populations with less exposure to PLHIV rather than a predominant focus on areas with high HIV and AIDS prevalence. This may provide a different avenue by which to address HIV and AIDS-related stigma in the health care context.

5.7 CONCLUSION

The study aimed to describe the forms of exposure to PLHIV, levels of HIV and AIDS-related stigma and the relationship between exposure and stigma amongst health care workers. While most of the sample displayed relatively low levels of HIV and AIDS-related stigma, there were some who fell into the extremes and are thus important to pay closer attention to. *Exposure*, in its varied and overall form, was also found to be common in the sample. Importantly, the relationship between exposure to PLHIV and HIV and AIDS-related stigma was demonstrated through statistical analyses. As indicated in the literature and suggested by the results, contact in its varied forms may provide a further avenue to address the issue of HIV and AIDS-related stigma in the health care setting. The results suggest that exposure, beyond that of traditionally-defined contact, can be used to understand why some health care workers exhibit different levels of HIV and AIDS-related stigma. Taking into account the demographic factors at play in exposure and stigma and the demonstrated relationship between stigma and exposure, particular groups can be targeted in stigma reduction initiatives.

REFERENCES

Abrahams, S. (2006). *Perceptions of HIV/AIDS-related stigma among muslims in a Cape Town community*. M.Psych. Thesis. Department of Psychology, University of the Western Cape.

Aggleton, P. (2000). *HIV and AIDS-related stigmatization, discrimination and denial: Forms, contexts and determinants: Research studies from Uganda and India.* Geneva: UNAIDS.

Airhihenbuwa, C. O. (2007). *Healing our differences: The crisis of global health and the politics of identity*, USA: Rowman & Littlefield Publishers, Inc.

Allport, G.W. (1958). *The nature of prejudice: abridged*. New York: Doubleday.

Andrewin, A. & Chien, L. (2008). Stigmatization of patients with HIV/AIDS among doctors and nurses in Belize, *AIDS Patient Care, 22*(11), 897-906.

Babbie, E.R. (1990). *Survey Research Methods*. California: Wadsworth.

Babbie, E.R. & Mouton, J. (2001). *The practice of social research.* South Africa: Oxford University Press.

Batson, C.D., Polycarpou, M.P., Harmon-Jones, E., Imhoff, H.J., Mitchener, E.C., Bednar, L.L., Klein, T.R. & Highberger, L. (1997). Empathy and attitudes: Can feeling for a member of a stigmatized group improve feelings toward the group?, *Journal of Personality and Social Psychology, 72*(1), 105-118.

BeLue, R., Airhihenbuwa C.O., Simbayi, L. & Smith, E. (2010). *Nurses experiences with HIV/AIDS in rural and urban South African provinces*. USA. (Unpublished technical paper).

Bharat, S., Aggleton, P. & Tyrer, P. (2001). *India: HIV and AIDS-related discrimination, stigmatisation and denial*. Geneva: UNAIDS.

Bishop, G.D., Oh, H.M.L. & Swee, H.Y. (2000). Attitudes and beliefs of Singapore health care professionals concerning HIV/AIDS, *Singapore Medical Journal 41*, 48-54.

Bond, V., Chase, E. & Aggleton, P. (2002). Stigma, HIV/AIDS and prevention of mother-to-child transmission in Zambia, *Evaluation and Program Planning, 25*, 347-356.

Bos, A., Schaalma, H. & Mmwambo, J. (2004). Reducing AIDS-related stigma in developing countries, *Sexual Health Exchange, 4*, 3-4.

Brown, L., Macintyre, K. & Trujillo, L. (2003). Interventions to reduce HIV/AIDS stigma: what have we learned?, *AIDS Education and Prevention, 15*(1), 49-69.

Bryman, A. & Cramer, D. (1994). *Quantitative data analysis for social scientists*. London: Routledge.

City Health (2010a). *City of Cape Town-Census 2001-Mitchells Plain*. Retrieved January 29, 2010, from http://www.capetown.gov.za/en/stats/2001census/Documents/Mitchells%20Plain.htm

City Health (2010b). *City of Cape Town-Census 2001-Guguletu*. Retrieved January 20, 2010, from http://www.capetown.gov.za/en/stats/2001census/Documents/Guguletu.htm

Cresswell, J.W. (2003). *Research design: Qualitative, quantitative and mixed methods approaches*. (2nd Ed). USA: Sage Publications.

CSA. (2004). *W.Cape plots HIV rates by district*. Retrieved January 18, 2010, from http://www.csa.za.org/article/articleview/326/1/1/

Deacon, H., Stephney, I. & Prosalendis, S. (2005). *Understanding HIV/AIDS stigma: A theoretical and methodological analysis*. Cape Town: HSRC Press.

De Coster, J. (2005). *Scale Construction Notes*. Retrieved January 21, 2010 from http://www.stat-help.com/notes.html

Delobelle, P. Rawlinson, J.L., Ntuli, S., Malatsi, I., DeCock, R. & Depoorter, A.M. (2009). HIV/AIDS knowledge, attitudes, practices and perceptions or rural nurses in South Africa, *Journal of Advanced Nursing, 65*(5), 1061-1073.

Desforges, D.M., Lord, C.G., Ramsey, S.L., Mason, J.A., Van Leeuwen, M.D., West, S.C. & Lepper, M.R. (1991). Effects of structured cooperative contact on changing negative attitudes toward stigmatized social groups, *Journal of Personality and Social Psychology, 60*(4), 531-544.

Eller, A., Abrams, D., Tendayi Viki, G. & Imara, D.A. (2007). When my friend's friend is a polics officer: Extended contact, crossed-categorisation, and public police relations of black and white people, *South African Journal of Psychology, 37*(4), 783-802.

Etter, D. (2007). *Situational conditions of attitude change within tourism settings: Understanding the mechanics of peace through tourism*. IIPT Occasional Paper No. 11 (February 2007)

Foreman, M., Lyra, P. & Breinbauer, C. (2003). *Understanding and responding to HIV/AIDS-related stigma and stigma and discrimination in the health sector*. USA: PAHO.

Foxcroft, C. & Roodt, G. (2005). *An introduction to psychological assessment in the South Africa context.* 2nd ed. Cape Town: Oxford University Press Southern.

Fransman, D., McCulloch, M., Lavies, D. & Hussey, G. (2000). Doctors attitudes to the care of children with HIV in South Africa, *AIDS Care, 12*(1), 89-86.

Gerbert, B., Sumser, J. & Maguire, B.T. (1991). The impact of who you know and where you live on opinions about AIDS and health care, *Social Science and Medicine, 32*(6), 677-681.

Goffman, E. (1963). *Stigma: notes on the management of the spoiled identity.* Middlesex: Penguin.

Gomez, L. (1997). *An introduction to object relations*. London: Free Association Books.

Groenewald, P., Bradshaw, D., Daniels, J., Matzopoulos, R. Bourne, D. Blease, D., Zinyakatira, N. & Naledi, N.T. (2008). *Cause of death and premature mortality in Cape Town, 2001-2006*. Cape Town: South African Medical Research Council.

Hamra, M., Ross, M.W., Orrs, M. & D'Agostino, A. (2006). Relationship between expressed HIV/AIDS-related stigma and HIV-beliefs/knowledge and behaviour in families of HIV infected children in Kenya, *Tropical Medicine and International Health, 11*(4), 513-527.

Herek, G.M. (2002). Thinking about AIDS and stigma: A psychologist's perspective, *Journal of Law, Medicine and Ethics, 30,* 594-607.

Herek, G.M. & Capitanio, J.P. (1997). AIDS stigma and contact with persons with AIDS: Effects of direct and vicarious contact, *Journal of Applied Social Psychology, 27*(1), 1-36.

Holzemer, W.L. & Uys, L.R. (2004). Managing AIDS stigma, *Journal of Social Aspects of HIV/AIDS,* 1(3), 165-174.

Horsman, J.M. & Sheeran, P. (1995). Health care workers and HIV/AIDS: A critical review of the literature, *Social Science and Medicine, 41*(11), 1535-1567.

Jewkes, R. (2006). Beyond stigma: social responses to HIV in South Africa, *Lancet,* 368, 430-431.

Joffe, H. (1999). *Risk and 'the other'*. Cambridge: Cambridge University Press.

Kalichman, S.C. & Simbayi, L.C. (2003). HIV testing attitudes, AIDS stigma, and voluntary HIV counselling and testing in a black township in Cape Town, South Africa, *Sexually Transmitted Infections, 79,* 442-447.

Kalichman, S.C., Simbayi, L.C., Jooste, S., Toefy, Y., Cain, D., Cherry, C. & Kagee, A. (2005). Development of a brief scale to measure AIDS-related stigma in South Africa, *AIDS and Behaviour, 9*(2), 135-143.

Katz, I. (1981). *Stigma: A social psychological analysis.* New Jersey: Lawrence Erlbaum Associates, Publishers.

Keusch, G.T., Wilentz, J. & Kleinman, A. (2006). Stigma and global health: developing a research agenda, *Lancet*, 367, 525-527.

Knussen, C. & Niven, C.A. (1999). HIV/AIDS and health care workers: contact with patients and attitudes towards them, *Psychology and health, 14*(3), 367-378.

Law, C.L., King, E., Zitek, E. & Hebl, M.R. (2007). Methods for Understanding the stigma of AIDS in the United States: A review and future directions, *Interamerican Journal of Psychology, 41*(1), 75-86.

Lee, B.A., Farrell, C.R. & Link, B.G. (2004). Revisiting the Contact Hypothesis: The case for public exposure to homelessness, *American Sociological Review, 69*(1), 40-63.

Lee, R.S., Kochman, A. & Sikkeman, K.J. (2002). Internalised stigma among people living with HIV-AIDS, *AIDS and Behaviour*, *6*(4), 309-319.

Lehmann, U. (2008). Strengthening human resources for health care. In P. Barron & J. Roma-Reardon (Eds.), *South African Health Review 2008* (pp. 163-177). Durban: Health Systems Trust.

Letamo, G. (2003). Prevalence of, and factors associated with HIV/AIDS-related stigma and discriminatory attitudes in Botswna, *Journal of Heath, Population and Nutrition, 21(*4), 347-357.

Liebkind, K., Haaramo, J. & Jasinskaja-Lahti, I. (2000). Effects of contact and personality on intergroup attitudes of different professionals, *Journal of Community & Applied Social Psychology*, *10*, 171-181.

Mahendra, V.S., Gilborn, L., Bharat, S., Mudoi, R., Gupta, I., George, B., Samson, L., Daly, C. & Pulerwitz, J. (2007). Understanding and measuring AIDS-related stigma in health care settings: A developing country perspective, *Journal of Social Aspects of HIV/AIDS*, *4*(2), 616-625.

Martin, J.E. & Bedimo, A.L. (2000). Nurse practitioner, nurse midwife and physican assistant attitudes and care practices related to persons with HIV/AIDS, *Journal of the American Academy of Nurse Practitioners*, *12*(2), 35-41.

Maughan-Brown, B. (2006). Attitudes towards people with HIV/AIDS: Stigma and it determinants amongst young adults in Cape Town, South Africa, *South African Review of Sociology, 37*(2), 165-188.

Mbonu, N.C., van den Borne, B. & De Vries, N.K. (2009). Stigma of people with HIV/AIDS in Sub-Saharan Africa: A literature review, *Journal of Tropical Medicine*, *2009, 1-14.*

Morrison, K. & Cuadra, S.M. (2004). HIV-related stigma and discrimination in Mexican health-care services, *Sexual Health Exchange*, *4*, 12-13.

Mouton, J. (2005). *How to succeed in your master's and doctoral studies: A South African guide and resource book*. Pretoria: Van Schaik Publishers.

Niang, C.I., Tapsoba, P., Weiss, E., Diagne, M., Niang, Y., Moreau, A.M., Gomis, D., Wade, Seck, K. & Castle, C. (2003). 'It's raining stones': stigma, violence and HIV vulnerability among men who have sex with men in Dakar, Senegal, *Culture, Health and Sexuality, 5*(6), 499-512.

Niven, C.A. & Knussen, C. (1998). Comparing measures of contact with clients with HIV/AIDS, *Psychology, Health and Medicine, 3*(2), 223-231.

Noble, R. (2009). *South Africa HIV & AIDS Statistics*. Retrieved January 29, 2010, from http://www.avert.org/safricastats.htm

Nyblade, L. (2004). Disentangling stigma to find entry points for intervention, *Sexual Health Exchange, 2*, 5-6.

Nyblade, L. & MacQuarrie, K. (2006). *Can we measure HIV/AIDS-related stigma and discrimination? Current knowledge about quantifying stigma in developing countries.* Washington: USAID.

Nyblade, L., Pande, R., Mathur, S., MacQuarrie, K., Kidd, R., Banteyerga, H., Kidanu, A., Kilonzo, G., Mbwambo, J. & Bond, V. (2003). *Disentangling HIV and AIDS stigma in Ethiopia, Tanzania and Zambia*. Washington: International Center for Research on Women.

Nyblade, L., Stangl, A., Weiss, E. & Ashburn, K. (2009). Combating HIV stigma in health care settings: what works?, *Journal of the International AIDS Society, 12*(15).

Parker, R. & Aggleton, P. (2003). HIV and AIDS-related stigma and discrimination: a conceptual framework and implications for action, *Social Science and Medicine, 57*, 13-24.

Pettigrew, T.F. (1998). Intergroup contact theory, *Annual Review of Psychology, 49*, 65-85.

Pettigrew, T.F. & Tropp, L.R. (2006). A meta-analytic test of the intergroup contact theory, *Journal of Personality and Social Psychology, 90*(5), 751-783.

Poindexter, C.C. (2007). Guyanese health care providers' HIV-related experiences, attitudes and readiness to provide care, *Journal of HIV/AIDS & Social Services, 6*(3), 75-96.

Pretorius, T.B. (2007). *Inferential data analysis-Hypothesis testing and decision-making*. South Africa: Reach Publishers.

Rankin, W.W., Brennan, S., Schell, E., Laviwa, J. & Rankin, S.H. (2005). The Stigma of Being HIV-Positive in Africa, *PLoS Medicine, 2*(8): e247.

Reis, C., Heisler, M., Amowitz, L.L., Moreland, R.S., Mafeni, J.O., Anyamele, C. & Lacopino, V. (2005). Discriminatory attitudes and practices by health workers toward patients with HIV/AIDS in Nigeria, *PLoS Medicine, 2*(8), 0743-0752.

Scambler, G. & Paoli, F. (2008). Health work, female sex workers and HIV/AIDS: Global and local dimensions of stigma and deviance as barriers to effective interventions, *Social Science & Medicine, 66,* 1848-1862.

Shisana, O. & Simbayi, L. (2002). *Nelson Mandela/HSRC Study of HIV/AIDS. South African National HIV Prevalence, Behavioural Risk and Mass Media Household Survey 2002*. Cape Town: South African Human Sciences Research Council.

Shisana, O., Hall, E., Maluleke, K.R., Stoker, D.J., Schwabe, C., Colvin, M., Chauveau, J., Botha, C., Gumede, T., Fomundam, H., Shaikh, N., Rehle, T., Udjo, E. & Gisselquist, D. (2003). *The impact of HIV/AIDS on the health sector: National survey of health personnel,* *ambulatory and hospitalized patients and health facilities*. Cape Town: Human Science Research Council publishers.

Simbayi, L.C., Kalichman, S., Strebel, A., Cloete, A., Henda, N. & Mqeketo, A. (2007). Internalised stigma, discrimination, and depression among men and women living with HIV/AIDS in Cape Town, South Africa, *Social Science and Medicine, 64*, 1823-1831.

Siyam'kela. (2003). *Measuring HIV/AID related stigma: Literature review*. Pretoria: Policy Project.

Skinner, D. & Mfecane, S. (2004). Stigma, discrimination and the implications for people living with HIV/AIDS in South Africa, *Journal of Social Aspects of HIV/AIDS, 1*(3), 157-164.

Smit, R. (2004). HIV/AIDS and the workplace: perceptions of nurses in a public hospital in South Africa, *Journal of Advanced Nursing, 51*(1), 22-29.

Smith, C.B. (1994). Back and to the future: The intergroup Contact Hypothesis revisited, *Sociological Inquiry, 64*(4), 438-455.

Statistics South Africa. (2009). *Mid-year population estimates*. Pretoria: Statistics South Africa.

Tredoux, C. & Finchilescu, G. (2007). The contact hypothesis and intergroup relations 50 years on: Introduction to the special issue, *South African Journal of Psychology, 37*(4), 667-678.

UNAIDS. (2007). *AIDS Epidemic Update.* Geneva: UNAIDS.

UNAIDS. (2008a). *UNAIDS' Terminology Guidelines*. Geneva: UNAIDS.

UNAIDS. (2008b). *Report on the global AIDS Epidemic.* Geneva: UNAIDS.

UNAIDS. (2009). *2009 AIDS Epidemic Update.* Geneva: UNAIDS.

Uys, L.R., Holzemer, W.L., Chirwa, M.L., Dlamini, P.S., Greeff, M., Kohi, T.W., Stewart, A.L., Mullan, J., Phetlhu, R.D., Wantland, D.J., Durrheim, K.L., Cuca, Y.P. & Naidoo, J.R. (2009). The development and validation of the HIV/AIDS Stigma Instrument – Nurse (HASI-N), *AIDS Care, 21*(2), 150-159.

Van Brakel, W.H. (2006). Measuring health-related stigma-A literature review, *Psychology, Health & Medicine*, *11*(3), 307-334.

Van der Meij, S. & Heijnders, M. (2004). *The fight against stigma: Stigma reduction strategies and interventions.* Soesterberg. (Background paper prepared for the international stigma workshop).

Werth, J.L. & Lord, C.G. (1992). Previous conceptions of the typical group member and the Contact Hypothesis, *Basic and Applied Social Psychology, 13*(3), 351-369.

Wichman, H. (2006). *Stigma within health care settings: an exploration of the experiences of people living with HIV and AIDS*. M.Psych. Thesis. Department of Psychology, University of the Western Cape.

Wright, S.C., Aron, A., McLaughlin-Volpe, T. & Ropp, S.A. (1997). The extended contact effect: Knowledge of cross-group friendships and prejudice, *Journal of Personality and Social Psychology, 73*(1), 73-90.

APPENDIX 1. Capacity Building for HIV/AIDS research in South Africa

Questionnaire

APPENDIX 2. Letter requesting permission for access to health care facilities

APPENDIX 3. Ethics approval

APPENDIX 4. Consent form

	Card No					01
Record No	H	W				

ADULT - ENGLISH HCW

QUESTIONNAIRE

CAPACITY BUILDING FOR HIV/AIDS RESEARCH in SOUTH AFRICA

IRB#: 14972

Project number	P	C	L	A	L	A
Province						

1.7 Are you a member of any faith or religious grouping

		Yes	No
a	Christian	1	0
b	Islam	1	0
c	African traditional	1	0
d	Buddhism	1	0
e	Other specify ______________________________	1	0

1.8 How important is religion to you?

a	Not important at all	1
b	Slightly important	2
c	Somewhat important	3
d	Important	4
e	Very important	5
f	Not applicable (e.g. atheist)	6

1.9 Do you currently work?

Yes	No	No response
1	2	3

1.10 Which one best describes your household situation?

a	Not enough money for basic things like food and clothes	1
b	Have money for food and clothes, but short on many other things	2
c	We have most of the important things, but few luxury goods	3
d	Some money for extra things such as going away for holidays and luxury goods	4
e	Don't know	5
f	No response	6

2 KNOWLEDGE OF HIV AND AIDS

	Yes	No
2.1 Can you recognise someone who is HIV positive?	1	2

Go to 2.3 ←

2.2 How?

.... ☐☐

	Yes	No
2.3 Can you recognise a person with AIDS?	1	2

3.3 **READ EACH STATEMENT and circle the response that fits best**

	Never	Only once	Some-times (2 – 4 times)	Many times (5 – 7 times)	Always (8 or more times)
a. Have you attended a funeral of a person who is said to have died of an AIDS related illness?	1	2	3	4	5
b. Attended community meetings on AIDS	1	2	3	4	5
c. Joined an AIDS organization as a member	1	2	3	4	5
d. Volunteered for AIDS activities	1	2	3	4	5
e. Attended a local AIDS rally, march or event	1	2	3	4	5
f. Attended HIV/AIDS meetings in the workplace	1	2	3	4	5
g. Attended an AIDS play or educational event	1	2	3	4	5
h. Given advice to others about HIV/AIDS	1	2	3	4	5
i. Cared for a person who is sick with AIDS	1	2	3	4	5
j.Helped a family who has someone who is sick or has died of AIDS	1	2	3	4	5
k. Visited someone living with HIV/AIDS	1	2	3	4	5
l. I talk to people about HIV/AIDS	1	2	3	4	5

4. GOVERNMENT SUPPORT

For people living with HIV and AIDS, government should:

4.1	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Don't know
a. Support organizations that offer assistance to PLWHA.	1	2	3	4	5	6
b. Provide food.	1	2	3	4	5	6
c. Provide housing.	1	2	3	4	5	6
d. Provide ARV treatment.	1	2	3	4	5	6

6. FAMILY SUPPORT

6.1 : **The reason people shame their family members living with HIV/AIDS is because of:**

READ EACH STATEMENT	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Don't know
a. Their cultural values.	1	2	3	4	5	6
b. Their religious/spiritual values.	1	2	3	4	5	6

6.2: **For the following questions, we would like to know your belief even if you have no family member living with HIV/AIDS. Please respond to the following statement:**

I would be ashamed to admit in public that/if:

READ EACH STATEMENT	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Don't know
a. My brother/sister is a PLWHA.	1	2	3	4	5	6
b. My wife/husband/partner is a PLWHA	1	2	3	4	5	6
c. My mother/father is a PLWHA.	1	2	3	4	5	6
d. My son/daughter is a PLWHA.	1	2	3	4	5	6

6.4 For the following questions, we would like to know your belief about trust and responsibility related to the spread HIV/AIDS

READ EACH STATEMENT	**Strongly agree**	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**	**Don't know**
a. I would not trust a woman who asks her sex partner to use a condom.	1	2	3	4	5	6
b. I would not trust a man who asks his sex partner to use a condom.	1	2	3	4	5	6
c. When it comes to HIV, women should be held more responsible than men for the spread of the virus	1	2	3	4	5	6
d. When it comes to HIV, men should be held more responsible than women for the spread of the virus	1	2	3	4	5	6

8. HIV Mode of Transmission

8.1 **What is your opinion on the following statements?**

READ EACH STATEMENT	**Strongly agree**	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**	**Don't know**
a. A person who contracts HIV should be shamed.	1	2	3	4	5	6
b. A person who contracts HIV should be rejected	1	2	3	4	5	6
c It is more shameful to get HIV from consensual sex than to get it from rape	1	2	3	4	5	6
d It is more shameful to get HIV from a spouse in marital sex than from non-marital sexual partner.	1	2	3	4	5	6
e A person who contracts HIV through sex is to be shamed.	1	2	3	4	5	6
f A person who contracts HIV through intravenous drug use should be shamed.	1	2	3	4	5	6
g I believe that the shame associated with HIV is because it is associated with sex.	1	2	3	4	5	6
h I believe that the rejection associated with HIV is because it is associated with sex.	1	2	3	4	5	6
i. Men are to be blamed for the spread of HIV	1	2	3	4	5	6

10. INDIVIDUAL SUPPORT FOR PLWH/A

How would you respond to the following statements?

	Always	Sometimes	Never	Not Sure	NA
a. I support community events that support PLWHA.	1	2	3	4	5
b. I participate in community events to support PLWHA	1	2	3	4	5
c I would share meals with members of my family if they lived with HIV and AIDS.	1	2	3	4	5
d I would eat meals cooked by my family member if they lived with HIV and AIDS	1	2	3	4	5
e I would share meals with someone living with HIV and AIDS	1	2	3	4	5

11. Among the following where should we place the emphasis for eliminating shame and rejection associated with HIV/AIDS?

Please pick/check the 3 most important

A Family	
B Community members	
C Hospital/clinic____	
D Provincial Government	
E National Government	
F Other (specify): ______________________________	

3. I have observed my fellow health care providers

Statement	Always	Sometimes	Never	Don't know
a Being rude to patients they suspect may be HIV positive.	1	2	3	4
b Become rude toward a patient as soon as they realize s/he is HIV positive.	1	2	3	4
c Openly discuss the status of PLWHA in front of other patients.	1	2	3	4

4. Among the following where should we place the emphasis for eliminating shame and rejection associated with HIV/AIDS?

Please pick/check the 3 most important

a Family	
b Community members	
c Hospital/clinic____	
d Provincial ____	
e National Government	
f Among PLWHA	
g Other (specify): ______________________________	

5. Based on your response to the above question what should be done to eliminate shame and rejection associated with HIV/AIDS?

5.1 In what way? (please explain below):

End

Thank you for participating on this project should you have any comments please feel free to share them below

Health Care Workers Experiences of Working with PLWH/A

1. What is your profession or role in you health care institution?

a Doctor	1
b Nurse	2
c Clerk	3
d VCT counsellor	4
e Psychologist or Other Therapist	5
f Dentist	6
g Other please specify ______________________________	7

2. As a health care provider

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Don't know
a I am afraid of being infected by my patients.	1	2	3	4	5	6
b I feel uncomfortable taking care of PLWHA.	1	2	3	4	5	6
c I need more training to be more sensitive to the needs of PLWHA.	1	2	3	4	5	6
d I believe our hospital/clinic has all the protection needed to protect us from infection.	1	2	3	4	5	6
e I do not think I have enough training in caring for HIV and AIDS patient.	1	2	3	4	5	6
f I should be given a choice not to treat patients with AIDS.	1	2	3	4	5	6
g I believe we waste too much time treating AIDS patients	1	2	3	4	5	6
h I do not believe that AIDS patients deserve special treatment	1	2	3	4	5	6
i I believe that AIDS patients are rude.	1	2	3	4	5	6
j AIDS patients are a waste of medical resources	1	2	3	4	5	6
k As a health care provider, we need to eliminate shame and rejection associated with HIV/AIDS	1	2	3	4	5	6

9. COMMUNITY, CULTURE & FAITH

What is your opinion on the following statements?

READ EACH STATEMENT	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Don't know
a. HIV is more of a problem for other religious/spiritual groups than mine	1	2	3	4	5	6
b. Shame for having HIV is not a problem in my community	1	2	3	4	5	6
d. Healers contribute to the rejection of PLWHA	1	2	3	4	5	6
e. Healers contribute to the shaming of PLWHA.	1	2	3	4	5	6
f E. Religious leaders contribute to rejection of PLWHA.	1	2	3	4	5	6
g. Religious leaders contribute to shaming of PLWHA.	1	2	3	4	5	6
h. Traditional healers contribute to removing shame from HIV.	1	2	3	4	5	6
i. Doctors contribute to removing shame from HIV and AIDS	1	2	3	4	5	6
j. I have seen healers who discriminate against PLWHA.	1	2	3	4	5	6
k I have seen spiritual leaders who discriminate against PLWHA.	1	2	3	4	5	6
l. Women are to be blamed for the spread of HIV	1	2	3	4	5	6

7. General Questions

7.1 What is your opinion on the following statements?

READ EACH STATEMENT	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Don't know
a Given a choice between two well-qualified applicants for a job, I would support hiring an HIV negative person.	1	2	3	4	5	6
b PLWHA who are poor are treated the same as PLWHA who are rich.	1	2	3	4	5	6
c People who are HIV positive are a financial drain on our national economy.	1	2	3	4	5	6
d I treat a PLWHA who has a job better than I treat one who does not have a job.	1	2	3	4	5	6
e Police officers should protect persons living with HIV and AIDS from abuse and violence.	1	2	3	4	5	6
f I would be ashamed to disclose my status if I ever test positive for HIV.	1	2	3	4	5	6
g HIV is more of a problem for other racial/ethnic groups than mine.	1	2	3	4	5	6
h. Men are to be blamed for the spread of HIV	1	2	3	4	5	6
i. People who lose weight are probably HIV positive	1	2	3	4	5	6
j. A thin person is more likely to get HIV than a heavy person	1	2	3	4	5	6

6.3 **For the following questions, we would like to know your belief even if you have no family member living with HIV/AIDS**

READ EACH STATEMENT	**Strongly agree**	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**	**Don't know**
a Females living with HIV/AIDS are treated worse by their families than their male counterpart	1	2	3	4	5	6
b. If a female member of my family is/was HIV positive I would be more likely to reject her than a male member who is HIV positive.	1	2	3	4	5	6
c. If a male member of my family is/was HIV positive I would be more likely to reject him than a female member of my family who is HIV positive.	1	2	3	4	5	6
d. My family is/would be very supportive of PLWHA .	1	2	3	4	5	6
e. I would treat my family member living with HIV and AIDS who has a job better than I treat the one who does not have a job.	1	2	3	4	5	6

5. HEALTH INSTITUTION SUPPORT & USE OF SERVICES

5.1 **In the past 12 months have you visited? (check all that apply with an X)**

a	Private Medical Doctor	☐
b	Private Hospital	☐
c	Government Clinic	☐
d	Traditional healer	☐
e	Religious faith healers	☐
f	Other	☐

5.2 **Think about what usually happens when you get health care**

READ EACH STATEMENT	**Strongly agree**	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**	**Don't know**
a The nurses treat me with respect.	1	2	3	4	5	6
b The doctors treat me with respect.	1	2	3	4	5	6
c You are treated worse in the clinic because of your race.	1	2	3	4	5	6
d You are treated worse in the clinic because of your sex.	1	2	3	4	5	6
e You are treated worse in the clinic because you are from a different ethnic group than the health care provider.	1	2	3	4	5	6
f You are treated worse in the clinic because you are from a different cultural group than the health care provider.	1	2	3	4	5	6
g. Women living with HIV and AIDS are treated poorly in the clinic compared to men living with HIV and AIDS	1	2	3	4	5	6
h. People living with HIV are treated poorly in the clinic.	1	2	3	[✓ 4]	5	6
i. Men living with HIV and AIDS are treated poorly in the clinic compared to women living with HIV and AIDS.	1	2	3	[✓ 4]	5	6

3. *HIV/AIDS and Relationships*

3.1 **Please mark an X indicating if and when someone you know/knew disclosed their status to you.**

Has a friend or relative told you that he/she is HIV positive?	Never	Past six months	Past yr.	Past 5 yrs.	Past 10 yrs.
	1	2	3	4	5
Husband	1	2	3	4	5
Wife	1	2	3	4	5
Brother	1	2	3	4	5
Sister	1	2	3	4	5
Partner	1	2	3	4	5
Parent	1	2	3	4	5
Friend	1	2	3	4	5
Relative	1	2	3	4	5
Neighbour/member of my community	1	2	3	4	5
Colleague at work	1	2	3	4	5
Own Child	1	2	3	4	5
Community or relative's child	1	2	3	4	5
Acquaintance I knew	1	2	3	4	5
Other______________ ______________________	1	2	3	4	5

3.2 **Please mark an X indicating if and when someone you know/knew died of HIV/AIDS**

Do you know someone who you think or know has died of AIDS?	Never	Past six months	Past yr.	Past 5 yrs.	Past 10 yrs.
	1	2	3	4	5
Husband	1	2	3	4	5
Wife	1	2	3	4	5
Brother	1	2	3	4	5
Sister	1	2	3	4	5
Partner	1	2	3	4	5
Parent	1	2	3	4	5
Friend	1	2	3	4	5
Relative	1	2	3	4	5
Neighbour/member of my community	1	2	3	4	5
Colleague at work	1	2	3	4	5
Own Child	1	2	3	4	5
Community or relative's child	1	2	3	4	5
Acquaintance I knew	1	2	3	4	5
Other______________ ______________________	1	2	3	4	5

1. ADULT RESPONDENT'S BIOGRAPHICAL DATA

1.1. **How old are you?** (Age of the respondent in years)

1.2 **Sex of the respondent**	**Male**	**Female**
	1	2

1.3 **Race/ population group**	**African**	**White**	**Coloured**	**Indian**	**Other**
	1	2	3	4	5

1.4 In which province do you live?

Eastern Cape	01	Northern Province/Limpopo	06
Free State	02	Northwest	07
Gauteng	03	Northern Cape	08
KwaZulu/Natal	04	Western Cape	09
Mpumalanga	05	Other country	10

1.5 **What is your home language?** (**Language spoken most often at home**)

Afrikaans	01	Setswana	09
English	02	Tshivenda	10
Isindebele	03	Xitsonga	11
Isiswati	04	Other African	12
Isixhosa	05	Other European	13
Isizulu	06	Indian language	14
Sesotho sa borwa	07	Northern Sotho	15
Sepedi	08	Other ______________________________	

1.6 **What is your highest educational qualification?**

a	No schooling / no formal education	01
b	Up to Std 1/Gr 3 / ABET 1	02
c	Std 2 - Std 3/ Gr 4 - Gr 5 / ABET 2	03
d	Std 4 - Std 5/ Gr 6 - Gr 7 / ABET 3	04
e	Std 6 - Std 7/ Gr 8 - Gr 9 / ABET 4	05
f	Std 8/ Gr 10 / N1	06
g	Std 9/ Gr 11 / N2	07
h	Std 10/Matric/ N3	08
i	Diploma(s) / Occupational certificate(s)	09
j	First degree(s)/ Higher diploma(s)	10
k	Honours / Master's degree(s)	11
l	Doctorate(s)	12

UNIVERSITY OF LIMPOPO
RESPICE PROSPICE
HSRC
Human Sciences
Research Council
PENNSTATE
1855

28 May 2008

Dear Sir/ Madam

Re: Permission to undertake a survey among Healthcare Practitioners in selected facilities in the Western Cape.

Miss Toni Abrahams has been awarded a fellowship to study stigma related to HIV/AIDS in South Africa. This is capacity building project and requires students awarded the fellowship to identify an area of interest and undertake a survey which forms part of the over all study into stigma related to HIV/AIDS. The project is funded by the **National Institutes of Mental Health** and is a five year partnership between **Pennsylvania State University (PSU)**, the **Human Sciences Research Council (HSRC)**, the **University of the Western Cape (UWC)** and the **University of Limpopo**.

The purpose of the project is to gain a better understanding of the family and health care contexts of HIV/AIDS related stigma. The data collected will be used to look at ways to reduce HIV/AIDS related stigma in South Africa. Another benefit of the study is that the results will help to plan an effective campaign to fight HIV/AIDS-related stigma in South Africa. It is expected that the questionnaire will take approximately 30 minutes to complete. The researcher will book a convenient time that does not disrupt health care duties to administer the questionnaire e.g. afternoon when the clinic or facility is not busy. Where this is not practical, participants will be given an option of completing the questionnaire at a time that is convenient for them i.e. over lunch or after working hours.

We appeal for your assistance in granting permission for the above Researcher to access the facility and undertake the research. This study has been reviewed and granted ethical approval (see attached letter).

Should you require more information or have any queries about the study, feel free to contact the Project Director, Ms Nompumelelelo Zungu at the following number (021) 466 7936 or e-mail her at mzdirwayi@hsrc.ac.za.

Yours Sincerely

Prof Leickness Simbayi
Acting Executive: Behavioural & Social Aspects of HIV/AIDS and Health

PENNSTATE

Senior Vice President for Research
Office for Research Protections

The Pennsylvania State University
201 Kern Graduate Building
University Park, PA 16802-3301

(814) 865-1775
Fax: (814) 863-8699
www.research.psu.edu/orp/

Date: May 1, 2008

From: Jacqueline K. Gardner, Compliance Coordinator

To: Collins O. Airhihenbuwa

Subject: Results of Review of Proposal - Expedited **(IRB #26998)**
Approval Expiration Date: November 18, 2008
"Capacity Building for Research on HIV/AIDS in South Africa"

The Social Science Institutional Review Board (IRB) has reviewed and approved your proposal for use of human participants in your research. By accepting this decision, you agree to obtain prior approval from the IRB for any changes to your study. Unanticipated participant events that are encountered during the conduct of this research must be reported in a timely fashion.

Enclosed is/are the dated, IRB-approved informed consent(s) to be used when recruiting participants for this research. Participants must receive a **copy** of the approved informed consent form to keep for their records.

If signed consent is obtained, the principal investigator is expected to maintain the original signed consent forms along with the IRB research records for this research at least three (3) years after termination of IRB approval. For projects that involve protected health information (PHI) and are regulated by HIPAA, records are to be maintained for six (6) years. The principal investigator must determine and adhere to additional requirements established by the FDA and any outside sponsors.

If this study will extend beyond the above noted approval expiration date, the principal investigator must submit a completed Continuing Progress Report to the Office for Research Protections (ORP) to request renewed approval for this research.

On behalf of the IRB and the University, thank you for your efforts to conduct your research in compliance with the federal regulations that have been established for the protection of human participants.

Please Note: The ORP encourages you to subscribe to the ORP listserv for protocol and research-related information. Send a blank email to: L-ORP-Research-L-subscribe-request@lists.psu.edu

JKG/jkg
Enclosure
cc: Olive Shisana
Leickness Simbayi
Edward A. Smith
Nompumelelo Zungu-Dirwayi

ORP USE ONLY: **IRB#** **Doc. #**
The Pennsylvania State University
Office for Research Protections
Approval Date:
Expiration Date:
Social Science Institutional Review Board

Informed Consent Form for Social Science Research
The Pennsylvania State University

Title of Project: Capacity Building for Research on HIV/AIDS in South Africa

Principal Investigator:
Collins O. Airhihenbuwa, Professor
Department of Biobehavioral Health
The Pennsylvania State University
University Park, PA 16802
USA
+1(814) 865-1382; aou@psu.edu

Advisor:
Leickness Simbayi, Deputy Executive Director
Social Aspects of HIV/AIDS and Health
Human Sciences Research Council
Private Bag x9182
Cape Town 8000
South Africa
+27(0)21 466 7910; LSimbayi@hsrc.ac.za

Other Investigator(s): Olive Shisana and Edward A. Smith

1. **Purpose of the Study:** This research study involves the administration of a survey that will look into behaviors related to HIV/AIDS stigma among South Africans. The results from this study will be used by researchers from four organizations. These organizations are the Pennsylvania State University (PSU), Human Sciences Research Council (HSRC), The University of the Western Cape (UWC), and the University of Limpopo (UL). The purpose of the survey is to gain a better understanding of the family and health care contexts of HIV/AIDS related stigma. The data collected will be used to look at ways to reduce HIV/AIDS related stigma in South Africa.

2. **Procedures to be followed:** You will be asked individually to answer questions on a survey as honestly as you can. You must be 18 years of age or older to complete this survey.

3. **Discomforts and Risks:** Some of the questions that will be asked will be of a sensitive nature, such as living with HIV and AIDS, attitudes of health workers toward people living with HIV/AIDS (PLWHA), and sexual practices. Some participants may experience discomfort related to the topic. However you have the right to decide whether or not to answer any questions and to withdraw your consent at any time during the interview without any negative consequences to you.

4. **Benefits:** There are no direct benefits to you, however the benefits of the study and the results should help to plan an effective campaign to fight HIV/AIDS related stigma in South Africa.

5. **Duration:** The survey will take approximately 30-45 minutes to complete.

6. **Statement of Confidentiality:** Your answers to the survey questions will be kept confidential. All completed surveys will be kept in the office of the Project Director at HSRC, and the PI, Co-PI and the research team members from UWC and UL are the only people who will have access to the surveys. When all surveys have been completed and submitted, they will be securely packaged and sent to the PI at Penn State University via Overnight Express courier delivery service. This will ensure an expedient transfer and minimize the risk of any outside persons accessing the data. Penn State University's Office for Research Protections, the Social Science Institutional Review Board, and the Office for Human Research Protections in the Department of Health and Human Services may review records related to this project. Also, the answers you give on the survey will be kept for five years after the project ends in 2008.

The members of the research team administering the survey will keep anything they may know about you confidential. The answers you give will be used by researchers at PSU, HSRC, UWC, and UL. In an event of a publication or presentation resulting from the research, no information that can identify you will be shared.

7. **Right to Ask Questions:** If you have any questions about your rights, or if you do not like what is being done, you can contact – anonymously, if you wish – Ms Nompumelelo Zungu, Project Director, at the HSRC at Tel: 021 466 7936 or Fax: 021 461 0299 or at mzdirwayi@hsrc.ac.za.

8. **Payment for participation:** You will receive transportation as well as 50 ZAR for your participation in this survey.

9. **Cost of participating:** There will be no additional cost to you that will result from your participation in this research.

10. **Voluntary Participation:** Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer. Refusal to take part in or withdrawing from this study will involve no penalty.

You must be 18 years of age or older to take part in this research study. We are not requesting your signature, but if you agree to the stipulations outlined on this form, you may sign on the line below if you so choose. Completion and return of this survey implies that you have read the information in this form and consent to take part in the research.

You will be given a copy of this consent form for your records.

____ ______________________

Participant Signature Date

____ ______________________

Person Obtaining Consent Date