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The Effect of Direct Contact on Public Attitudes Towards People Living with Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) in Zimbabweans

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ABSTRACT

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M.S.P.H., Walden University, 2008
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Submitted in Partial Fulfillment
of the Requirements for the Degree of
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Public Health Epidemiology

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Stigma surrounding HIV and AIDS poses a significant threat to the curtailing of the epidemic by acting as a barrier to HIV testing and disclosure of serostatus. Previous research in the United States found personal knowledge of someone with HIV/AIDS to be a predictor of lower levels of HIV/AIDS-related stigma. However, no study to date has examined this relationship in Zimbabweans. Allport's contact hypothesis was hypothesis was the theoretical frame used to assess the effect of direct contact on public attitudes towards people living with the human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) in Zimbabweans with the goal of identifying areas of stigma reduction. Stigma surrounding HIV and AIDS poses a significant threat to the curtailing of the epidemic by acting as a barrier to HIV testing and disclosure of serostatus. Previous research in the United States found personal knowledge of someone with HIV/AIDS to be a predictor of lower levels of HIV/AIDS-related stigma. However, no study to date has examined this relationship in Zimbabweans. This study surveyed English-speaking adult Zimbabweans from anywhere in the world. Descriptive statistics, Pearson product-moment correlation coefficients, and hierarchical stepwise multiple regression were used for analysis. Personal knowledge of someone with HIV/AIDS and the beliefs about HIV/AIDS transmission through casual contact emerged as the statistically significant predictors of stigma in the final model (r =- .172, $p < .01$, and r = .281, $p < .001$, respectively. There was an inverse correlation between personal knowledge of someone with HIV/AIDS and stigma. Potential positive social change contributions include a mobilized population with a common goal of eradicating HIV/AIDS, seeking HIV/AIDS testing services, disclosure of HIV serostatus, and seeking treatment leading to control of HIV transmission.

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Dedication

I dedicate my dissertation to my mother and the memory of my father for instilling the value of education and faith in us at an early age. My siblings and I were raised to believe that education was the gateway to all life possibilities. I also dedicate this dissertation to my son Tapiwa and my siblings: Gerald, Nyaradzo, Chipo, Nako, and Tine for believing in me and encouraging me throughout the dissertation process.

Acknowledgement

I wish to express my appreciation to my committee members for the expert guidance, valuable time, and patience during the dissertation process. Thank you Dr. Anderson, Dr. Barkley, Dr. Palmer for agreeing to serve on my committee and making this dissertation a success.

I am grateful to my sister, Dr. Nyaradzo Mvududu who helped me overcome the fear of statistics. She would say, “Sisi Mavie, you should not be intimidated by statistics. Just think of it in terms of your everyday life: decisions to purchase one brand and not the other in the grocery store, for instance involve an application of statistics”. I also thank my friend Temba for serving as the audience for my practice dissertation oral defense and my cousin Natsai Zhou for joining Walden University and providing social support. I greatly appreciate my son for frequently sponsoring the much needed visits to massage parlors during the dissertation process.

Finally, I would like to acknowledge the contribution of all the Zimbabweans worldwide who to time to participate my study.

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CHAPTER 1: INTRODUCTION TO THE STUDY

Introduction

Stigma surrounding human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) poses a significant threat to the curtailing of the epidemic by acting as a barrier to HIV testing and disclosure of serostatus. Many studies conducted in the past 15 years have shown that HIV/AIDS-related stigma poses a great challenge to public health prevention efforts (Brimlow, Cook, & Seaton, 2003; Herek, 2002; Herek & Capitanio, 1997; Herek, Capitanio, & Widaman, 2003; Klitzman & Bayer, 2003; Sambisa, Curtis, & Mishra, 2010). HIV/AIDS-related stigma has also been called the enemy of public health because it impedes HIV prevention efforts by acting as a barrier to HIV disclosure and testing (Valdiserri, 2002; Weiss & Ramakrishna, 2006). This statement applies across cultures and continents. In the Zimbabwean context, this stigma acts as a barrier to disclosure of HIV positive serostatus, even to spouses, fueling the epidemic (Zimbabwe National AIDS Council, 2007).

The present-day meaning of the word *stigma* has its roots in the work of Erving Goffman (1963), who described *stigma* as constituting a discrepancy between virtual (as perceived by the one stigmatizing) and actual identity due to possession of an undesirable attribute. Although the origins of stigma had negative connotations since it often branded people involved in deviant behaviors, it is interesting to note that at some point in history it was associated with *stigmata*, which signified holiness. Herek (2002) stated that *stigmata* referred to a cluster of wounds manifested by Catholic saints that corresponded to the wounds of the crucified Jesus. Brimlow et al. (2003) echoed Goffman's (1963)

definition and explained that stigma focuses on the public's attitude toward a person who possesses an attribute that falls short of societal expectations.

Herek, Capitanio, and Widaman (2003) studied American public attitudes toward HIV surveillance policies and found that stigma contributed to the fear of HIV testing and disclosure. This fear shaped attitudes and beliefs about HIV and people living with HIV/AIDS. According to Ogden and Nyblade (2005), efforts to combat stigma worldwide have not "adequately matched the magnitude and apparent universality of the problem" (p. 37). Efforts to combat HIV/AIDS-related stigma have lagged behind biomedical advances in the field (Rintamaki, Scott, Kosenko, & Jensen, 2007).

The Joint United Nations Programme for HIV/AIDS (UNAIDS) and the World Health Organization (WHO) estimated that 33 million people globally were living with HIV in 2007: There were 2.7 million new infections and 2.1 million AIDS deaths (UNAIDS, 2008). Although most of the diagnoses of HIV and AIDS were among men, there was a notable increase in newly diagnosed infections in female adults and adolescents, and globally women accounted for 50% of people living with HIV. While sub-Saharan Africa accounted for 67% of all people living with HIV and 72% of the global AIDS deaths in 2007, the southern African subregion accounted for a third of global new infections and deaths. In 2005 national adult prevalence of HIV/AIDS infection exceeded 15% in seven countries: Botswana, Lesotho, Zambia, Namibia, South Africa, Swaziland, and Zimbabwe. In Zimbabwe adult prevalence was 18%. Most people living with HIV were female, with a prevalence of 21% compared with a male prevalence of 15%.

According to a UNAIDS report of 2008, the first case of AIDS in Zimbabwe was reported in 1985, and the current primary mode of transmission is heterosexual contact (UNAIDS, 2008). The same report mentioned that at the end of 2006 approximately 60% of adults in Zimbabwe living with HIV were women. Contributing factors to the spread of the epidemic included low socioeconomic status of women, multiple sexual partners, low level of male circumcision, poverty, and settlement patterns and mobility. HIV infection has been greatly associated with poverty but emerging research also suggested that in sub-Saharan African countries HIV infection was associated with wealth status (Mishra et al., 2007). Wealth was more likely associated with better education, mobility, and living in urban areas where HIV was prevalent, as well as with more leisure time and multiple lifetime sex partners. Yeboah (2007) noted that a mutually reinforcing relationship between poverty, gender inequality, and HIV/AIDS, which exacerbated the spread of the HIV virus. In addition, HIV-related stigma consistently features as a barrier to prevention efforts (Without identity, 2004). Therefore, stigma is worth exploring as it plays a major role in perpetuating the HIV epidemic. Weiss and Rimakrishna (2006) recommended antistigma interventions incorporating cultural contexts. With the emphasis on cultural sensitivity in designing public health prevention interventions, knowledge of how HIV/AIDS-related stigma is constructed among Zimbabweans will be an asset across the various geographic contexts.

Social epidemiology suggests that contact patterns that enhance HIV/AIDS vulnerability occur at multiple levels, including the individual, social, and structural levels (Poundstone, Strathdee, & Celentano, 2004). The same authors provided a

heuristic framework for social epidemiology of HIV and AIDS that conceptualized contact patterns that enhance HIV/AIDS at these three levels. HIV-related stigma is constructed in social relationships and also occurs at these three levels. Consequences of stigma included delays in seeking treatment, job loss, loss of housing, and rejection by family and society (Brimlow et al. 2003; Hutchinson & Mahlalela, 2006; Klein, Karchner, & O'Connell, 2002). Herek et al. (2003) found evidence indicating that concerns about AIDS influences future decisions to undergo HIV testing. Klitzman and Bayer (2003) sought to understand the multiple dimensions of disclosure and conducted in-depth interviews with 59 HIV-infected and 18 uninfected gay, bisexual, and heterosexual men and women. Five strategies emerged for dealing with disclosure and safer sex: disclosing HIV and practicing safer sex, abstaining from sex altogether or from certain sexual acts, not disclosing HIV status but adhering to safer sex, disclosing HIV to partners and still engaging in unprotected sex, and not disclosing HIV infection and engaging in unprotected sex (p. 235). The benefits of disclosing HIV status to family and friends who might provide love and support were weighed against the risks of burdening others and being rejected and betrayed in HIV-status disclosure decisions.

Because stigma is a social process that is constructed in social relationships, the social change implications of this study lie in overhauling the social structures that promote stigma. Positive social change can be effected at the individual, social, and structural levels. Individual-level change can include creating safe spaces for discussing values and beliefs (Nyblade, 2004). Despite a plethora of literature on AIDS stigma, it appears that no study has specifically examined the relationship between knowing

someone who is HIV-positive and levels of stigma in the Zimbabwean cultural context. The study by Klitzman and Bayer (2003) concluded that the interpersonal dynamics of HIV-positive people are tangled and constantly shift; in other words, they are themselves dynamic, rendering prediction a challenge. To this end, it is worthy to pursue studies that will highlight and seek to eliminate any cultural and social factors that underlie the animosity entailed in HIV/AIDS-related stigma.

Problem Statement

Herek (2002) stated that despite the high prevalence of HIV/AIDS in sub-Saharan Africa, anecdotal evidence suggested that this area had a higher level of HIV/AIDS-related stigma than found in the United States. Earlier Brown, Trujillo, and MacIntyre (2001) had implied that in sub-Saharan Africa everyone was at risk and that the "ubiquity of HIV stigma and its persistence even in areas of high prevalence made it an important and yet difficult area of study" (pp. 1, 21). Zimbabwe is one of the countries in sub-Saharan affected by high HIV/AIDS prevalence (Yeboah, 2007). Figures 1 and 2 illustrate the geographical distribution of the disease on the continent. The yellow shaded area in Figure 1 represents larger numbers of HIV/AIDS.

Figure 1: Map of Africa. Adapted from: ***http://www.africamap.com/***

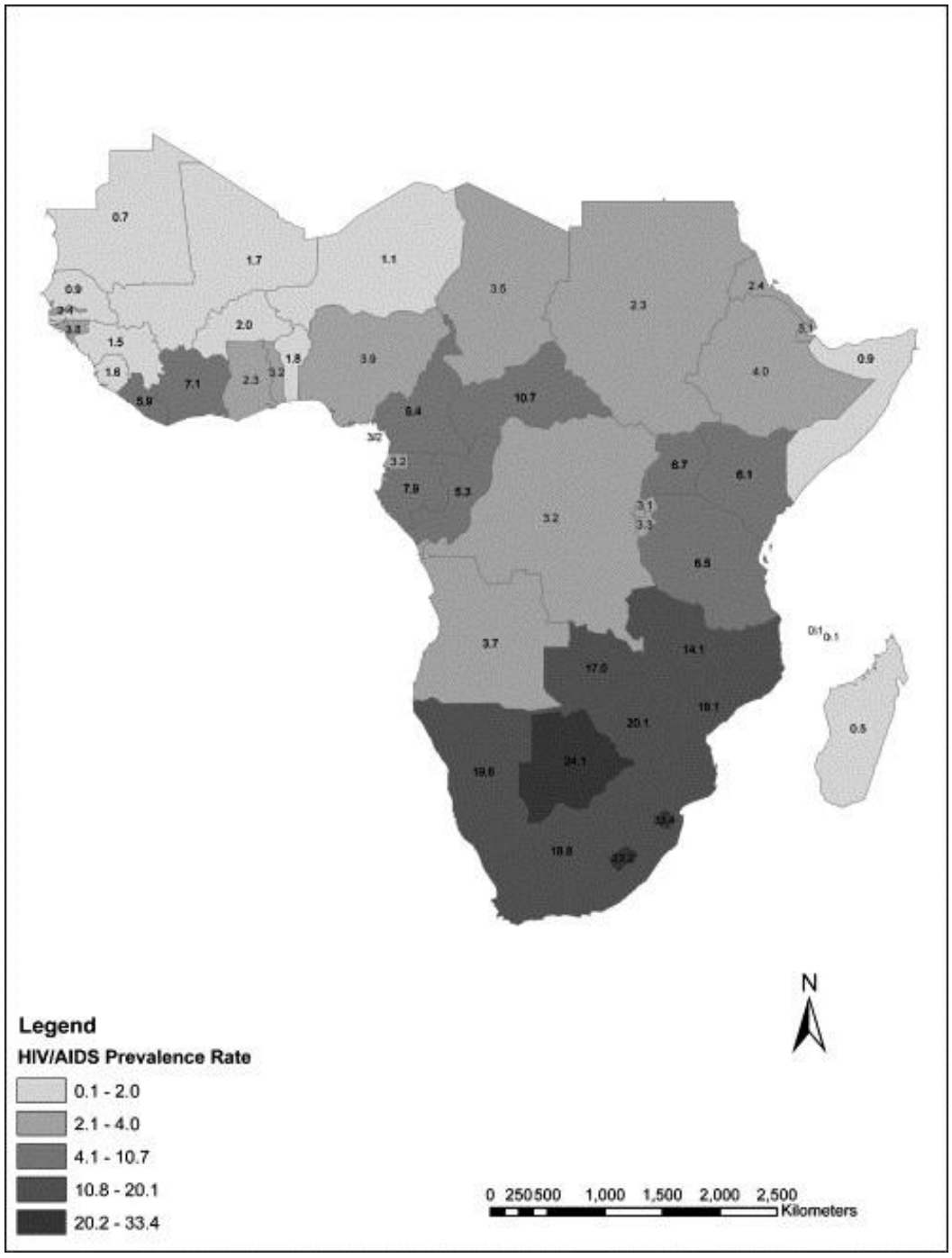

Figure 2: HIV prevalence rates in sub-Saharan Africa (2006). From "HIV/AIDS and the construction of sub-Saharan Africa: Heuristic lessons from the social sciences for policy," by I. E. A. Yeboah, 2007, *Social Sciences & Medicine*, *64*(5), p. 1131. Used with permission.

Literature on personal knowledge of someone with HIV as a predictor of lower levels of HIV-related stigma is sparse. Other than the study described by Herek (2002), in which knowing someone with HIV was a predictor of lower levels of HIV-related stigma, knowing someone with HIV has only been studied in conjunction with use of voluntary counseling and testing services (VCT) and condom use. In a study to examine patterns and determinants of use of VCT, Hutchinson and Mahlalela (2006) concluded that knowing someone with HIV increased the likelihood of being tested for HIV by about 4%. A recent study by Sambisa et al. (2010) investigated the prevalence of HIV testing in a Zimbabwean national population-based survey using the 2005-2006 Zimbabwe Demographic and Health Survey. The outcome variable was HIV testing uptake (voluntary testing, testing when offered, and testing when required) and the independent variables were dimensions of AIDS stigma in the form of social rejection, prejudiced attitudes, and disclosure concerns. Their logistic regression models found social rejection to be inversely associated with HIV testing uptake for women and not for men. Another interesting finding was that respondents who knew someone with HIV and had observed enacted stigma were more likely to test through all pathways while those who knew someone with HIV but had not observed enacted stigma were more likely to test voluntarily. Muula and Mfutso-Bengo (2005) called for further research when they reported on studies that showed conflicting evidence of the relationship between knowing someone who is HIV positive and condom use.

Weiss and Ramakrishna (2006) emphasized that stigma was an increasing public health concern that required new research to guide effective health policies. The authors

acknowledged that stigma was a broad topic and defined health-related stigma as "a social process or related personal experience characterized by exclusion, rejection, blame, or devaluation that results from experience or reasonable anticipation of an adverse social judgment about a person or group identified with a particular problem" (p. 536). They recommended an all-encompassing approach, which included cultural epidemiological features incorporating local dimensions of stigma. Mawar, Sahay, Pandit, and Mahajan (2005) made a similar point when they emphasized that HIV was not just a medical problem but a social problem as well.

Herek (2002) stated that the relationship between knowing someone with HIV/AIDS as a predictor of lower levels of stigma was not known in other cultures and specifically mentioned African cultures. While culture plays a pivotal role in the spread of HIV in sub-Saharan Africa (Caldwell & Caldwell, 1996), the most misunderstood aspect of sub-Saharan Africa was its culture (Yeboah, 2007). Both researchers and medical practitioners alike misunderstand culture and this misunderstanding can impact HIV prevention efforts negatively. To remedy this situation, this study examined the three measures of personal knowledge of an HIV/AIDS-infected person, HIV/AIDS-related beliefs, and attitudes towards the roles of women in society among Zimbabweans to determine areas in Zimbabwean culture that foster stigma. It is hoped that these findings can be applied to Zimbabweans globally.

Research Question

The research question for this study was framed as follows:

> To what extent are the three factors (a) personal knowledge of someone with HIV/AIDS, (b) HIV/AIDS-related beliefs about transmission by casual contact, and (c) attitudes towards the roles of women in society (pro-feminist or traditional) related to HIV/AIDS-related stigma for Zimbabweans?

The study used gender, age, educational attainment, and length of residency out of Zimbabwe as control variables. The study had four hypotheses that were tested at the .05 level of significance.

Hypothesis 1

> Null: There is no correlation between personal knowledge of someone with HIV/AIDS and HIV/AIDS-related stigma.
>
> Alternate: Personal knowledge of someone with HIV/AIDS will be negatively correlated with HIV/AIDS-related stigma.

Hypothesis 2

> Null: There is no correlation between the belief that HIV/AIDS can be contracted by casual contact and HIV/AIDS-related stigma.

Alternate: The greater the belief that HIV/AIDS can be contracted through casual contact, the greater the level of stigma attributed to people with HIV/AIDS.

Hypothesis 3

Null: There is no correlation between attitudes about roles of women in society and HIV/AIDS-related stigma.

Alternate: The more traditional one's attitudes about the roles of women in society, the greater the level of stigma attributed to people with HIV/AIDS.

Hypothesis 4

Null: These variables together do not predict HIV/AIDS–related stigma.

Alternate: These variables together predict HIV/AIDS–related stigma.

Definitions of Terms and Variables

Common terms used in the study are defined here. The definitions were adopted mainly from renowned authors in the field of stigma (Allport, 1954; Brimlow et al. 2003; Goffman, 1963; Herek, 2002; Morrison, 2006; Steward et al. 2008).

Terms

Stigma: An enduring attribute that is negatively valued by the majority population and resides in the structure and relations of society (Brimlow et al. (2003).

Characteristics of diseases-associated stigma include being undesirable in society, being lethal and incurable, and being perceived as posing risk to others.

Prejudice: An individual attitude towards certain groups (Herek, 2002).

Discrimination: Allport (1954) cited a memorandum of the United Nations that described discrimination as "any conduct based on a distinction made on grounds of natural or social categories, which have no relation either to individual capacities or merits, or to the concrete behavior of the individual person" (p. 52).

Instrumental stigma: HIV/AIDS-related stigma relating to one's self-interest for protection against the incurable disease (Herek, 2002).

Symbolic stigma: HIV/AIDS-related stigma relating to society's perception of what HIV or AIDS symbolizes, such as promiscuous sexual behavior, homosexuality, or injection drug use. It thus reflects the society's values and norms and is embedded in the same (Herek, 2002).

Enacted stigma: Overt acts of discrimination and hostility directed at a person because of the perceived stigmatized status (Morrison, 2006).

Felt stigma: The subjective awareness of stigma. Felt stigma is self-stigmatization associated with the shame that people feel by having an illness (Steward et al., 2008).

Internalized stigma: The extent to which an individual accepts stigma as valid (Morrison, 2006).

Courtesy or associative stigma: Stigmatization of people associated with HIV/AIDS or HIV-positive people (Brimlow et al. (2003).

Zimbabwean: For the purpose of this study the term describes people who are natives or inhabitants of Zimbabwe and relating to or characteristic of Zimbabwe or its people (http://wordnetweb.princeton.edu/perl/webwn?s=zimbabwean).These may or may not live in Zimbabwe.

Variables

The definitions of the variables used in this study are described here. A pilot study was conducted with a sample of 26 Zimbabweans and four Nigerians in the Dallas/Fort Worth metropolitan area. The pilot study assessed the reliability of the HIV/AIDS-stigma questions 1 through 10 assessed by four scales: negative feelings towards people with HIV/AIDS, support for coercive HIV/AIDS–related policies, blaming people with HIV/AIDS, and intentions to avoid a person with HIV/AIDS in various situations.

Dependent variable. Stigma is described as a dependent variable.

Stigma: This variable refers to the negative value attributed to people with HIV/AIDS. Stigma was assessed by four scales on the online questionnaire: negative feelings towards people with HIV/AIDS, support for coercive HIV/AIDS–related policies, blaming people with HIV/AIDS, and intentions to avoid a person with HIV/AIDS in various situations. The questions had four response alternatives. For example, scoring for negative feelings towards people with HIV/AIDS was scored as (a) very angry, (b) somewhat angry, (c) a little angry, or (d) not at all angry; and support for

coercive policies against people with HIV/AIDS and blame for people with HIV/AIDS as (a) agree strongly, (b) agree somewhat, (c) disagree somewhat, or (d) disagree strongly. In scoring items, (a) = 3, (b) = 2, (c) = 1), and (d) = 0. Intentions to avoid people with HIV/AIDS was scored as (a) willing to take care of friend/relative with HIV/AIDS, (b) not willing, (c) not willing because of HIV/AIDS, and (d) not willing for other reasons where (a) = 0, (b), (c), and (d) = 1. Because this question had a skip option, SurveyMonkey (the online survey tool) numbered (c) and (d) as 1 and 2, respectively. To this end (a) = 0 for no stigma (supportive) while (b), (c), and (d) =1, showing stigma (avoidant). The item values were averaged across the responses resulting in an ordinal level variable in which high scores indicated high levels of stigma.

Predictor variables. The following predictor variables are described: knowledge beliefs, and attitudes towards women.

Knowledge: This measured whether someone knew or had known family or friends with HIV/AIDS. This was a dichotomous variable in which "Yes" responses on the online questionnaire were coded 1 and 'No" responses were coded 0.

Beliefs: This measured the belief that HIV/AIDS could be contracted through casual contact. It was assessed by asking five questions on the online questionnaire with five response alternatives on how likely it would be that a person would get HIV/AIDS in five different situations. Items were scored as follows: very likely= 3, somewhat likely = 2, very unlikely = 1, and impossible = 0. Points were averaged across all five questions resulting in an ordinal level variable.

Attitudes towards women: The online survey for attitudes towards women scale had 15 questions with four response alternatives: (a) agree strongly, (b) agree mildly, (c) disagree mildly, or (d) disagree strongly. In scoring items, (a) = 0, (b) = 1, (c) = 2, (d) = 3 except for items with an asterisk where the scale is reversed. An overall average was calculated resulting in an ordinal level variable. A high score indicated a pro-feminist, egalitarian attitude, while a low score indicated a traditional, conservative attitude.

Control variables. These variables included age (in years), gender (male = 0 and female = 1), educational attainment (in number of years of school completed), and length of residency outside Zimbabwe (in years).

Purpose of the Study

The purpose of the study was to find out whether a relationship existed among personal knowledge of someone with HIV/AIDS, the belief that HIV/AIDS can be contracted through casual contact, attitudes about roles of women in society, and HIV/AIDS-related stigma for Zimbabweans worldwide, as was the case for Americans for the first hypothesis (Herek, 2002).

Migration of populations renders cultural competencies essential in designing interventions to combat the spread of HIV. In his article on HIV/AIDS and African immigrant women in Philadelphia, Foley (2005) reported an increase in African immigrants in the United States. Kerani et al. (2008) conducted a study to determine newly reported HIV diagnoses occurring in African-born persons in selected areas of the United States. They reported that African-born persons accounted for 0.6% of the

population and 3.8% of HIV diagnoses between 2003 and 2004. People of the same race do not necessarily share the same beliefs, value systems, and social norms. Bhugra and Becker (2005) highlighted the difference between ethnicity and race. They noted that cultural identity is based on ethnicity and is thus different from race. The same authors gave an example of people from the West Indies, Africa, and parts of North and South America who were of the same race but held different belief systems. This necessitates the understanding of factors that foster stigma in different cultures for public health prevention efforts.

Conceptual Framework

The contact hypothesis, mostly associated with the work of Allport (1954), guided this study. Stigma is grounded in society's power relations, with those in power (the majority group) stigmatizing those lacking in power (the out group or minority). The Allport work dealt mainly with prejudice. Allport described several studies in which sustained knowledge-giving contact between the majority and minority groups led to less prejudice. The conclusion drawn from these studies is what is known as the "contact hypothesis" and states 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 pursuit of common goals. The effect is greatly enhanced if this contact is sanctioned by institutional support (i.e., by law, custom or local atmosphere), and provided it is of a sort that leads to perception of common interests and common humanity between members of the two groups. (p. 281, para. 2)

The four necessary conditions for the reduction of prejudice in contact were equal status of the groups in question, intergroup cooperation, common goals, and support by

those in authority. In conclusion, Allport acknowledged that some personality differences resisted changes even in situations where the four conditions were met. Because stigma is socially constructed and embedded in societal norms and beliefs, the contact hypothesis provided an ideal framework for the study of HIV/AIDS-related stigma. The hypothesis gave hope for change in Zimbabwean and other cultures.

Yeboah (2007) acknowledged that the issue of HIV/AIDS in sub-Saharan culture was a challenging one to articulate. Yeboah stated, however, that culture was dynamic and that this context of changing culture provided the hope for the fight against HIV/AIDS in Africa. The author noted that in all regions where the mode of HIV transmission was heterosexual contact women had a low status. An important aspect of HIV/AIDS-related stigma is that it is linked with pre-existing sources of stigma and discrimination. Parker, Aggleton, Attawell, Pulerwitz, and Brown (2002) listed sexual relations, gender relations, race relations, and class relations as pre-existing sources of stigma and discrimination. According to Poundstone et al. (2004), these fell into the category of structural violence, which manifested in patterns of discrimination based on race/ethnicity, gender, sexual orientation, and HIV/AIDS status. Adopting the contact hypothesis, the four conditions would have to be met between the majority and these minority groups within these patterns of discrimination.

Pettigrew and Tropp (2006) conducted a meta-analysis of 713 samples from 515 studies and concluded that intergroup contact did in fact reduce prejudice. They noted, however, that it was not necessary for all four conditions to be present simultaneously. While Allport (1954) concentrated on racial groups, Pettigrew and Troop suggested that

the contact hypothesis could be extended to other groups. Herek and Capitanio (1997) examined the relationship between AIDS-related stigma and two types of contact with people with AIDS, direct contact and vicarious contact through mass media (they used the disclosure by Magic Johnson for vicarious contact). Their study entailed a 2-wave national telephone survey of a probability sample of U.S. adults and an oversample of black Americans. Direct contact was associated with lower levels of AIDS-related stigma, measured by support for coercive AIDS policies, blaming of people with AIDS, and avoidance of people with AIDS in both samples. The effect of vicarious contact was more significant in people who had manifested high levels of stigma in the first wave of interviews. Respondents who had heard of Magic Johnson's announcement of his HIV-positive status manifested lower levels of HIV/AIDS-related stigma in the second wave of interviews.

Schiappa, Gregg, and Hewes (2005) proposed a hypothesis analogous to the contact hypothesis that they termed the *parasocial contact hypothesis* (PCH). These authors stated that the term *parasocial* contact suggested that the communication that media provided to viewers (parasocial interaction) led to reactions that parallel real contact situations. It enabled the majority to learn about minority groups through mediated messages. Schiappa et al. (2005) conducted three studies using the PCH. The first two studies involved parasocial contact with gay men and the third study was conducted to test the generalizability of the PCH from the first two to another stigmatized minority group, transvestites. The studies entailed three television series: *Six Feet Under*, *Queer Eye for the Straight Guy*, and *Dress to Kill*. All three studies found support for the

PCH and concluded that when this contact is of sufficient quantity and quality to allow the sort of judgments to be made about mass mediated characters that people make with direct interpersonal contact, there was less prejudice. Akin to the vicarious contact described by Herek and Capitanio (1997), parasocial contact was associated with less prejudice.

Amichai-Hamburger and McKenna (2006) applauded the benefits of the contact hypothesis but cited three defects in meeting the four conditions. The first was the impracticality of always making social contact, the second was the anxiety involved in contact situations, and the third was the problem of generalization, the fact that contact was limited to the context of the meeting and to those participants. To this end, they reconsidered the contact hypothesis by incorporating interaction via the internet. They argued that the internet contact leveled the field and reduced anxiety. In an earlier article Wysocki (1998) stated that the internet allowed individuals to know one another by their internal characteristics first, rendering physical characteristics less significant. Internet contact ameliorated the effects of status differences and the effects of visual cues that could be used to gauge status. It also facilitated contact across geographic boundaries. While acknowledging that contact through cyberspace would require interactive learning systems, Amichai-Hamburger and McKenna (2006) advocated for intergroup contact via the internet arguing that it also allowed greater self-disclosure and more intimate exchanges. Power differentials were minimized in internet contact (Ross, Tikkanen, & Mansson, 2000).

Pettigrew (2008) suggested that future directions for intergroup contact theory should place contact in its longitudinal, multilevel social context. The contact hypothesis was ideal for the study of HIV/AIDS-related stigma in that it provides avenues to dispel inaccurate beliefs about HIV/AIDS. This, in turn, would lead to a change in attitudes towards people living with HIV/AIDS. Application of the contact hypothesis will, therefore, be relevant for dismantling the barriers to curbing the spread of the epidemic caused by HIV/AIDS-related stigma.

Assumptions and Limitations

It was assumed that study participants would co-operate with the researcher and answer all survey questions. Since the study did not specifically survey people with HIV or AIDS, it is assumed that study participants gave honest answers. Singleton and Straits (2005) discussed social desirability bias in research. This bias occurred when participants gave socially desirable answers as opposed to honest responses, thus compromising the validity of the study. The authors posited that techniques to minimize such bias included use of indirect questions, careful placement of wording of sensitive questions, and assurances of anonymity and scientific importance. The surveys for this study followed these techniques.

The sample was a convenient voluntary sample of adults with internet access, recruited from a population of Zimbabweans who have access to ZimNet, a social networking site for Zimbabweans worldwide; the researcher's e-mail contacts and their contacts; and other informal Zimbabwean associations. The unique nature of an online study had both positive and negative aspects. The negative aspects included the inability

to calculate the response rate, inability to obtain a representative sample, and the inability to control multiple entries. Also, some people might have had confidentiality concerns with the online design. Another negative aspect was that the snowball radio approach might have only attracted those Zimbabweans who listen to ZimNet radio.

The online form of data collection had a wider geographic reach, hence these limitations were counter-balanced by the ability to reach larger numbers of Zimbabweans around the world and the anonymous data collection methods. There might have been variations in responses depending on current country of residency and length of stay outside Zimbabwe. However, Bhugra and Becker (2005) concluded that social and cultural qualities and attitudes were typically more resistant to change and were last to alter during acculturation.

This study closely followed the methodology of a study conducted by Herek et al. (2002) and utilized the same instrument with a few adaptations. Adopting the instrument to include gender as a pre-existing stigma in the Zimbabwean context might have interfered with the validity of an established instrument. Borrowing the gender appendage from questionnaires done by other renowned researchers in the field such as the Population Council, however, sustained the validity of the instrument.

Significance of the Study

The findings from this study will serve to refine any current interventions and guide new antistigma interventions. The study by Herek and Capitanio (1997) found personal knowledge of someone with HIV/AIDS to be a predictor of lower levels of HIV/AIDS-related stigma. The findings will serve as a basis for deciding if HIV/AIDS-

related stigma interventions employed in the United States should be adopted with or without modification when dealing with the Zimbabwean population. This information was not known within the Zimbabwean cultural context. Migration patterns noted by Foley (2005) might make it imperative to understand how stigma is constructed in different cultural contexts. Rosenthal et al. (2003) investigated HIV/AIDS knowledge, risk behaviors and perceptions, and access to services among black immigrants from more than 20 African countries living in Houston, Texas. Of significance were the findings that stigma was pervasive and that females tended to be more pessimistic about how their communities/cultures reacted to and treated people with HIV than were males.

In the Zimbabwean National AIDS Council's 2006-2010 National Behavioral Change Strategy for prevention of sexual transmission of HIV, the Zimbabwean minister of Health and Child Welfare stated that every family in Zimbabwe had lost relatives or were taking care of infected family members, neighbors, or friends due to HIV/AIDS (Zimbabwe National AIDS Council, Foreword, p. 2 of 40). Zimbabwe has experienced one of the highest levels of HIV in sub-Saharan Africa with prevalence being more pronounced among pregnant women (National AIDS Council). Preliminary findings of the Demographic and Health Survey 2005-2006 reported a prevalence of 18.1%. Nyblade (2002) stated that, overall, the causes and consequences of stigma were similar across the globe. To this end, findings from this study can be evaluated against interventions implemented in other countries and guide future interventions. Interventions can also be tailored to address the social structures existing among Zimbabweans that enhance stigma.

The findings from this study may lead to positive social change in several ways. They can be used to design HIV/AIDS prevention programs, shed light on whether programs are meeting program goals, serve as a guide to improve programs, and serve as a model to be implemented in other cultures by sharing lessons learned. Communities, and ultimately, societies can be transformed if the barriers embedded in social structures can be highlighted. The findings can be used to inform studies among different sub-cultures across varying global contexts. In addition to data collection, the online design will prompt the discussions on the sensitive topic of HIV/AIDS among Zimbabweans beyond the present study. It is hoped that discussions will be continued on the author's Web page, Facebook, e-mail, and online forums beyond the present study.

Summary

This study examined the relationships between personal knowledge of someone with HIV/AIDS, HIV/AIDS–related beliefs about transmission by casual contact, and attitudes towards the roles of women in society and levels of stigma within the Zimbabwean culture. Its findings can provide avenues for tackling the AIDS epidemic and cultural practices that fuel the spread of the epidemic. Nyblade (2002) attributed the persistence of HIV to " . . . a lack of in-depth knowledge of HIV/AIDS, which allows fears of casual transmission to endure, strong norms about 'improper' and 'proper' sex and its association with HIV, and a lack of recognition of stigmatizing attitudes and behavior" (p. 1). The research tested the relationship between aspects of each of Nyblade's variables and HIV/AIDS stigma among Zimbabweans.

The next chapter will review the relevant body of literature in the context of the problem statement. It will review literature on disclosure of HIV status and uptake of HIV counseling services, literature on inaccurate beliefs about HIV transmission, attitudes towards people living with HIV/AIDS, public health implications of stigma, the Zimbabwean cultural context, gender relations, and existing interventions from the literature. Chapter three will describe the detailed methodology and instruments used for this study. Chapter four will present the study findings and interpretations while chapter five gives an overview of the study culminating into recommendations for action and further studies.

CHAPTER 2: REVIEW OF THE LITERATURE

Introduction

This chapter presents a literature review of current research in the area of HIV/AIDS-related stigma. A comprehensive, peer-reviewed literature search was conducted in the EBSCO databases, mainly MEDLINE, Academic Search Premier, Cumulative Index to Nursing and Allied Health Literature (CINAHL), ProQuest, Google scholar, and related current conference papers on the internet. Keywords in the search included *AIDS*, *HIV*, *stigma*, *discrimination*, *prejudice*, *attitudes*, *fear*, and *Zimbabwe*. The search entailed reading through the abstracts to determine relevance for the study. Books by renowned authors in the field were also reviewed.

The chapter reviews literature under five sections. The first section explores the basis and types of stigma. The second section reviews literature on the public health implications of HIV/AIDS-related stigma in light of the conceptual framework. The third section discusses literature on the influence of culture on stigma to provide a cultural backdrop for the Zimbabwean study, while the fourth reviews literature on existing anti-HIV related stigma interventions. The fifth section reviews literature related to the proposed methodology, culminating in a summary of recommendations from current research and insights into areas for future studies. Overall, the chapter provides a basis for understanding the problem under study.

Basis and Types of Stigma

In discussing the basis and types of stigma, an important term is *spoiled identities*. These are created in social structures by power differentials for control purposes and

translate into stigma (Goffman, 1963). The power differentials in any social structure enable the elites to control the perceptions of lower orders. Goffman also discussed a different type of stigma known as *courtesy stigma*. This stigma is experienced by people who are associated with a person who has a stigmatized condition. Courtesy stigma can be experienced by health care workers and family members who take care of people with HIV. Poindexter (2005) examined courtesy stigma in a qualitative report describing the experiences of a mother who took care of her HIV-positive son. As the disease progressed, the son did not want to deal with callers or visitors. The mother took on the role of gatekeeper by balancing her son's wishes for privacy while making efforts not to offend the would-be well-wishers. This type of stigma management can be an emotionally daunting task.

A common theme running through studies of stigma is fear that the stigmatized threaten society; underlying this fear is ignorance about disease transmission. A poorly understood contagious disease unleashes fear among a population. This fear, however, is reduced as the disease becomes better understood and treatment options become available. Such was the case with the cholera epidemic of the 19th century—medical advances dispelled the fear and subsequent stigma against people with cholera (Herek, 2002).

Herek (2002) distinguished stigma from prejudice and discrimination and described stigma as an enduring attribute, which was negatively valued by the large majority. He defined prejudice as an individual attitude towards certain groups, discrimination as the behavior towards certain groups, and stigma as residing in the

structure and relations of society. Common aspects of stigmatized conditions were the belief that the stigmatized were to blame for the condition, the condition was progressive and incurable, the condition was ill understood in the general population, and symptoms were evident (Goffman, 1963). Herek (2002) alluded to this and described the three characteristics underlying HIV stigma as (a) being undesirable in society, (b) being lethal and incurable, and (c) being perceived to pose risk to others. The author distinguished two categories of HIV-related stigma. These were instrumental stigma relating to one's self-interest for protection against the incurable disease, and symbolic stigma relating to what HIV or AIDS symbolized in different cultures, such as promiscuous sexual behavior, homosexuality, or injection drug use. According to Herek, symbolic stigma reflects the values and norms in a society.

Layering of stigma. Complicating the issue of HIV-related stigma is the presence of pre-existing stigma associated with vulnerable groups. Several studies have demonstrated the interrelationships between HIV-related stigma and stigmas related to modes of transmission (Chan & Reidpath, 2007; Lau, Choi, Tsui, & Su, 2007; O'Leary et al., 2007; Simbayi et al., 2007). In the United States, HIV has been strongly associated with homosexuals and injection drug users (IDUs). The first case of HIV in the United States in 1981 was a homosexual man and HIV was thus portrayed as a homosexual disease (Herek, 2002). These groups were already marginalized, so that HIV-related stigma added an additional layer of stigma. Other marginalized groups associated with HIV include commercial sex-workers and, in patriarchal societies, women (Yeboah, 2007). Chan and Reidpath (2007) investigated the interrelationship between HIV/AIDS-

related stigma and injection drug use (IDU) and commercial sex (CS) among Thai nurses. Severe stigmatizing attitudes were displayed toward people living with HIV/AIDS (PLWHA) associated with IDU and CS. In a similar study Lau, Choi, Tsui, and Su (2007) investigated the interrelationships between the stigmatization of PLWHA and different stigmatized groups such as men who have sex with men (MSM), injection drug users (IDUs), female sex workers (FSW), and clients of female sex workers (CFSW). Again significant correlations were found. The finding of "enmeshing of stigmas" was reinforced by Simbayi et al. (2007). These authors discussed the intricate enmeshing of HIV-related stigma with stigma associated with behaviors termed deviant, such as sexual promiscuity, homosexuality, and injection drug use. Their study examined the prevalence of discrimination experiences and internalized stigma among 420 HIV-positive men and 643 HIV-positive women recruited from AIDS services in racially diverse Cape Town, South Africa. Discrimination experiences were common and internalized stigma was prevalent in HIV-positive people (Simbayi et al. 2007). HIV-related stigma can be assessed through attitudes toward PLWHA and inaccurate beliefs about transmission of HIV, and it has negative implications for public health and PLWHA.

Attitudes toward PLWHA.

Health care workers have also been accused of stigmatizing PLWHA. Although historically there are a number of conditions that have been stigmatized, such as mental illness and epilepsy, studies suggest that stigmatization weighs heavier on PLWHA. Lau and Tsui (2007) compared the magnitude of discriminatory attitudes toward PLWHA and people with mental illness in the Hong Kong general population. While both conditions faced discriminatory attitudes, PLWHA faced a greater degree of discrimination.

Rintamaki et al. (2007) employed a grounded theory approach to examine the experiences of American military veterans living with HIV and their interactions with health care personnel. The veterans reported various forms of stigmatization, including nonverbal cues such as avoiding eye contact and keeping a distance. They also mentioned heightened voice tonation and irritation and anger with patients. Dlamini et al. (2007) reported similar findings. They explored manifestations of HIV/AIDS- stigma in five African countries and found evidence of verbal and physical abuse as well as neglect. Li et al. (2007) examined how individual and institutional factors affected attitudes of health care providers toward PLWHA and had encouraging findings. More institutional support was associated with lower levels of discrimination toward PLWHA.

Inaccurate beliefs about HIV transmission.

Inaccurate beliefs and misconceptions about HIV transmission form the backbone that supports HIV-related stigma. Boer and Emons (2004) assessed beliefs about HIV transmission, emotional reactions to PLWHA, stigmatizing attitudes, and motivation to protect oneself from HIV infection. Inaccurate beliefs about HIV transmission were associated with more fear of and irritation towards infected people and vulnerable groups. The effect of inaccurate beliefs and misconceptions was further confirmed by Quian et al. (2007). Their study assessed knowledge about HIV transmission based on routes of transmission, namely sexual contact, blood transfusion, sharing needles, and mother-to-child transmission. Inaccurate beliefs were measured on items entailing casual contact such as shaking hands, sharing meals, swimming, and mosquito bites. Misconceptions about infection from casual contact were prevalent in the surveyed population of 524

randomly selected adult residents from 12 rural Chinese communities where HIV infection among plasma donors had been reported. Negative attitudes toward PLWHA and misconceptions about HIV transmission have negative public health implications.

Public Health Implications of HIV/AIDS-related Stigma

As a social process HIV-related stigma operates within complex pathways that have significant implications for public health. The pathways include emotional and behavioral change, limited life chances, and high-risk behavior for people living with HIV/AIDS. Fear and negative attitudes in the society at large translate into tensions between telling and not telling for PLWHA. The tensions involved in disclosure and VCT seeking decisions have a major impact on public health prevention efforts both at the primary and secondary levels. Herek et al. (2003) conducted a study to find out how illness-related stigma could be expressed through attitudes towards health policies. They found evidence indicating that concerns about AIDS affected future decisions to undergo HIV testing. Klitzman and Bayer (2003) explored how those infected with HIV approached issues of disclosure; what they found was that the challenge involved weighing the benefits of not telling against telling. Stigma affected disclosure decisions about HIV status. These factors were detrimental to surveillance efforts that serve to determine policies and resources to combat HIV. Wolfe et al. (2006) conducted a study to assess the effects of HIV-related stigma on an early sample of patients receiving antiretroviral therapy in Botswana. They found strong evidence of the negative effects of HIV-related stigma for testing, disclosure, and seeking treatment. Daftary, Padayatchi, and Padilla (2007) conducted a study to explore the decision-making process for HIV

testing and serostatus disclosure in patients hospitalized with multi- or extensively drug resistant TB (M/XDR-TB) in Durban, South Africa. In this study what they referred to as *felt stigma* emerged as a conceivable impediment in disclosure. Felt stigma is self-stigmatization associated with the shame people feel in having an illness, in this case HIV.

Stigma and stress.

Several authors have alluded to the severe emotional stress imposed by stigma (Herek, 2002; Kang, Rapkin, & DeAlmeida, 2006; Link & Phelan, 2006; Morrison, 2006). Emotional stress and damaging behavior, limited life choices, and risky behaviors are some of the pathways through which HIV-related stigma might fuel the epidemic. Kang et al. (2006) conducted a 2-year longitudinal study to examine the relationship between multiple dimensions of HIV-stigma and changes in psychological distress dimensions on a convenience sample of HIV-positive Asians and Pacific Islanders in New York City. The multiple layers included positive HIV status, illegal immigration status, gender, and sexual orientation. They found evidence of increased psychological distress. Link and Phelan (2006) stated that stigma contributed to chronic stress. They equated the level of stress to that of a career woman who worked under great pressure to prove that she was just as good as a man. They asserted that such coping efforts could result in stress and negative health outcomes, such as hypertension. They argued that stigma placed affected people under great stress, exacerbating the illness. A later study by Steward et al. (2008) established that disclosure avoidance mediated between felt normative stigma, internalized stigma, and depression. Simbayi et al. (2007) reported

similar findings. In their study, internalized stigma was a predictor of cognitive-depression.

Stigma and risky behaviors.

Stigma can lead to decreased self-esteem and subsequent risky behavior because a person does not value him- or herself. Link and Phelan (2006) examined a nationally representative sample in which multiple stigmas were considered in relation to self-esteem. They found that stigma contributed to 20% of variance after controlling for age, sex, and education. The motivation to conceal HIV-positive status can lead to damaging behavior that includes poor adherence to antiretroviral therapy. HIV medications must often be taken at inopportune times or in less-than-private environments. Rintamaki et al. (2006) conducted a study to evaluate concerns about social stigma on proper adherence to HIV regimens. They found concern over revealing one's HIV status to be the only statistically significant predictor of medication adherence. Stigma has a profound negative impact on people's lives. In a recent study, Derlega, Winstead, Gamble, Kelkar, and Khuanglawn (2010) conducted a qualitative study in which 17 men with HIV participated. The study examined three issues: the nature and impact of HIV/AIDS stigma on inmates, the decisions made by inmates about disclosing and/or concealing the HIV-positive status to other inmates, and the challenges of carrying through these decisions in a prison or jail. Nearly 50% of the participants concealed their HIV-positive status because their concerns about stigmatization outweighed the benefits of disclosure (desire to challenge the stereotypes, desire to educate others about the disease, and relief from offloading the secrecy burden).

Ware, Wyatt, and Tugenberg (2006) conducted 214 qualitative interviews with 52 HIV-positive, active illegal drug users to examine the intersection between taking highly active antiretroviral therapy (HAART) and building a life with HIV/AIDS. Their research detailed tensions between requirements for adherence and building social relationships. A theme that emerged was that social marginalization led to loneliness because the desire for connection and sociability led to fear of disclosure. The fear would, in turn, compromise adherence to HAART. Participants reported going to bars and clubs to meet people in their quest for connections, yet this could perpetuate risky behavior. They lost their old connections due to their HIV-positive status and sought new social connections in environments that may promote risky behavior.

The Cultural Context

Stigma is further complicated by socio-cultural factors, as will be examined in the Zimbabwean situation. Cultural practices in Zimbabwe are a major contributing factor to the current HIV epidemic (Zimbabwe National AIDS Council, 2007). Tylor (2009) defined culture as "that complex whole which includes knowledge, belief, art, law, morals, custom, and any other capabilities and habits acquired by man as a member of society" (p. 1). Allport (1954) simply referred to it as "that which gives ready-made answers to the problems of life" (p. 285). Culture is the way a society approaches social problems.

Gender-based social inequities exacerbate HIV infection in sub-Saharan Africa (Kalipeni, Oppong, & Zerai, 2007; Mill & Anarfi, 2002). In some cultures in the region women are considered inferior (Yeboah, 2007). The socialization process in Zimbabwe is

patriarchal and leaves female sexuality at the mercy of males (Kambarami, 2006). The Zimbabwean culture imposes strict sexual control on women; it is more tolerant towards men, allowing them to have multiple partners (AIDS Research Institute; Kambarami, 2006). Van de Wijgert et al. (1999) indicated that in Zimbabwe men had authority around sexual issues. These researchers held focus groups to assess men's attitudes toward vaginal microbicides and microbicide trials in Zimbabwe. The researchers concluded that social acceptance of microbicides would be more likely if researchers directly informed men about these products and sought male permission for their female partners to enroll in trials.

Jewkes, Levin, and Penn-Kekana (2003) highlighted the fact that within sexual relationships, women were usually expected to give priority to their partners' needs and wishes, making it difficult to suggest preventive measures such as condom use. Mbonu et al. (2009) shared similar findings from their literature review on HIV stigma in sub-Saharan Africa. Chimbiri (2007) assessed the condom situation within marriage in Malawi and concluded that despite the prevalence of polygamous unions, using condoms was only discussed in association with the risk of contracting sexually transmitted diseases from extramarital affairs. The AIDS epidemic was bringing sexual behavior change outside, but not within, marriages; in other words, the condom was considered an "intruder" in marriage. These situations mirror the practices in Zimbabwe. Zerai summed this up by stating that the liberation of women in Zimbabwe would be a major contribution to curbing the spread of HIV/AIDS (Yeboah, 2007). Culture has a profound impact on disclosure decisions. Mawar et al. (2005) described the patriarchal differential

power relations and their conceptualization of the consequences of HIV/AIDS stigma, which include the inability of women to take the lead in suggesting condom use.

According to the Zimbabwe National AIDS Council report (2007), practices that increase the vulnerability to HIV infection and subsequent stigma in Zimbabwe include risky sexual behavior due to poor understanding of HIV transmission; young women dating older men (sugar daddies) for economic support; concurrent partnerships; nonuse of condoms due to stigma; widow inheritance; girl pledging and forced marriage; "chiramu," a practice where a husband can have sex with the younger sister of his wife; and postmenopausal abstinence for women during which time the husband may have sex with other women. Widow inheritance is where a brother of the late husband can marry the widow (Kambarami, 2006). Girl pledging is the practice where poor parents pledge their young daughters (even at birth) to rich businessmen. The custom of having multiple partners had given rise in urban areas to a phenomenon known as "small house," where a man will live with his legal wife and buy or rent out houses for his other women. Hunter (2005) conducted an ethnographic study on cultural masculinities in KwaZulu-Natal, South Africa. One of the findings was that historically a man's wealth was measured by how many wives and cattle he had. Zimbabwe has a similar background. The cultural background of polygamy in Zimbabwe provides an ideal context for the small-house relationships. In 1999, 15% of married women in Zimbabwe were in a polygamous union (Zimbabwe National AIDS Council, 2007). Women lack power in these relationships and this makes it difficult to disclose their HIV status. The culture

places pressure on women in disclosure issues, as the woman is supposed to consider the negative effects on the family and extended family.

A study by Yoshioka and Schustack (2001) on disclosure of HIV status and cultural issues in Asian patients found the desire to protect family from shame to be an important factor in disclosure decisions. This phenomenon appears to be common among minority ethnic cultures where individual goals are subordinate to in-group goals, as reflected in a study by Körner (2007). Körner employed a narrative approach in a qualitative study utilizing semi-structured interviews to describe lived experiences of HIV-positive people. Participants were from culturally and linguistically diverse backgrounds in Sydney, Australia. HIV-positive status disclosure was found to be intertwined with complex gender, sexual orientation, and cultural diversity relationships, arguing for public health practitioners to adopt an ecological perspective of health as opposed to relying on a solely rational perspective. Ethnicity was a strong predictor of disclosure of HIV status and disclosure rates were lower in these minority ethnic groups.

In their literature review to elucidate what is known about HIV/AIDS stigma in sub-Saharan Africa, Mbonu et al. (2009) drew similar conclusions as Körner about collective cultures: people from collectivist communities were more likely to be concerned with harmony and equality in the group. These results reflect the situation for women in Zimbabwe.

Female gender in Zimbabwean culture carries a heavier burden of stigma. Duffy (2005) wrote that in Zimbabwe women had been historically blamed for sexually transmitted diseases, and are currently blamed for HIV/AIDS. Cultural norms and values

contribute to differential stigma burdens between men and women in the patriarchal Zimbabwean culture.

There is no doubt that in some sub-Saharan cultures women are a marginalized population. Given that HIV-related stigma is linked with pre-existing stigmas and discrimination, it follows that women would be impacted more negatively. Women are expected to uphold the morals of society (Duffy, 2005) and HIV is associated with multiple concurrent sexual partners, a behavior that is shunned for women. Parker et al. (2002) made the point that stigma and discrimination are social processes used to produce, legitimize, and perpetuate social inequality. Herek (2002) posited that self-disclosure of HIV status might prove to be a challenge for women who are already lacking in power in societies in which both seroprevalence and stigma are high, as is the case in Zimbabwe. They are already marginalized due to gender and will suffer from enacted stigma, if say, they test positive for the HIV virus at antenatal clinics. They also experience exacerbated levels of internal stigma in the form of shame and guilt, leading to the need for self-protective action represented by disclosure avoidance.

The literature is replete with examples of heightened stigma among women (Abel, 2007; Ostrom, Serovich, Lim, & Mason, 2006). A study of the utilization of voluntary counseling and testing services in the Eastern Cape, South Africa found utilization to be positively associated with low levels of stigma, particularly among women. Ostrom et al. (2006) conducted a study to explore and quantitatively assess reasons women gave for disclosing or not disclosing their HIV status to their children. Stigma had a significant impact on disclosure decisions; there was also evidence of concern for the children,

implying a double burden for women. Women were concerned that their children would also be stigmatized. The fear of HIV-related stigma was greater than the fear of death among women (Abel, 2007). This finding was supported by Mawar et al. (2005) when they stated that the psychosocial implications of an HIV-positive diagnosis were greater than the physiological impact. In sub-Saharan Africa, society was more intolerant of females living with HIV/AIDS than their male counterparts (Mbonu et al., 2009). This finding, however, was not confined to sub-Saharan Africa. Phinney (2008) reported on an ethnographic study (part of a National Institute of Health-funded study to understand how men contribute to marital HIV risk) in Vietnam that highlighted the ways in which unequal gender relations were socially, economically, and politically organized. The context provided men with opportunities for extramarital liaisons and to marital HIV risk. A similarly funded study in Uganda by Parikh (2007) had also found that gender inequalities shaped HIV marital risk. Both studies reported that married women's greatest risk of contracting HIV was from their husbands.

In Zimbabwe women are blamed for spreading HIV because of the negative stereotype of the promiscuous woman. This is despite the fact that they play a subordinate role in gender relationships, and they are the segment of the population who is suffering most (worldwide, most new infections are among women). Bunnett (2007) stated that HIV in women was discussed more in relation to promiscuous behavior than to their marginalized power in sexual negotiations. Stigma negatively impact women's VCT services-seeking behaviors to a greater extent than it does men's. Hutchinson and Mahlalela (2006) demonstrated this in their study examining patterns and determinants of

use of VCT services. Fear of abandonment by partners, ostracism, and violence dominated women's decisions. Supporting research on TB patients by Daftary, Padayatchi, and Padilla (2007) in Durban, South Africa also found lack of a male partner to be a deterrent in seeking VCT services. Logically, it would seem that if there is no man to lose or judge her, a woman would be more likely to seek VCT services, but this would mean the woman had been promiscuous by having sex out of wedlock. Apparently the women's decisions to seek VCT services depended on the male partner's approval. Social responses to HIV have included hate crimes, including murder, directed at women living with HIV. Earlier Jewkes (2006) had written about a hate crime in which Gugu Dlamini, an AIDS activist in Durban, was beaten to death by her neighbors after revealing her HIV-positive status on Zulu television in 1998. This underscored the need to pursue research that would lead to effective antistigma interventions.

Antistigma Interventions

The response to HIV stigma has not matched the magnitude of the problem. Herek (2002) concluded that empirical research literature on strategies for challenging AIDS stigma and its consequences was sparse. Herek further asserted that relatively few interventions had been attempted and even fewer had been reported at professional conferences or in print. Brimlow et al. (2003) reported finding a plethora of literature on the evolution of HIV/AIDS-related stigma, and policy-related and legal efforts to combat stigma, but none on actual practical solutions to address stigma.

Klein et al. (2002) proposed multiple interventions in a logic model. Interventions in this model include statutory action, policy development, and programs and services. The targets of interventions include state agencies, local agencies, health care settings, legislators, faith leaders, media, the general public, and HIV/AIDS organizations. Desired outcomes include favorable HIV policies, educated and informed consumers, trained and knowledgeable staff, compliance with and enforcement of laws and regulations relating to HIV/AIDS, and nondiscrimination, tolerance, and respect for diversity. Brimlow et al. (2003) called for a similar model. The International Center for Research on Women (ICRW) and its partners developed a toolkit to assist in reducing stigma. The tools assist in increasing stigma visibility, enhancing practical knowledge to reduce fear of causal transmission, providing safe discussion areas, finding a common language to discuss stigma, strengthening the capacity of people living with HIV/AIDS to challenge stigma, enhancing the process of individual and community response to stigma, and providing resources to equip providers with skills to combat stigma (ICRW, 2006). ICRW also developed indicators in four dimensions, namely, fear-driven stigma, value-driven stigma, enacted stigma, and disclosure of HIV status for measuring stigma. It is against this background that this study was conducted.

The media and stigma.

The media can be a great resource in dispelling HIV-related stigma. O'Leary et al. (2007) surveyed a sample of residents in Botswana to assess the association between viewership of a television drama with an antistigma story line and HIV stigma. Mass media entertainment proved to be a good way to influence attitudes. Residents who had

viewed the television show indicated lower levels of HIV stigma compared to nonviewers. The power of the media to direct public opinion had been discussed by Pitt (2006). He described the approaches the media took to black and white male bisexuality after release of the movie *Brokeback Mountain.* Pitt reviewed 170 articles written between 2001 and 2006 and concluded that the media portrayed "black bisexuals as duplicitous homosexual while portraying white bisexuals as victimized homosexuals" (p. 255). This serves to show that public health collaborations can employ the media in antistigma interventions.

Marketing strategies.

HIV-related stigma is rife in societies the world over, and effective marketing strategies are needed to combat it. These strategies can encompass the "5 Ps" of social marketing: product, place, price, promotion, and partnerships, also known as the marketing mix elements. A communication strategy for addressing HIV/AIDS stigma would stem from the promotion "P" of the marketing mix elements. The intended purpose of the communication would be to reduce stigma so that people can come forward for HIV testing, disclose their status, get treatment where needed, and reduce transmission of the disease. To this end, such a strategy could lead to social change by dispelling fear and encouraging people to seek treatment (Siegel & Doner, 1998).

While ideally anti-stigma communication should target the entire population, Kotler and Roberto mentioned that although a campaign targeting an amorphous general public was a high priority in changing stigma, it had limitations (Kirkwood & Stamm,

2006). The strategy worked for social products (such as condom use in HIV prevention) that corresponded with personal goals but did not change attitudes and/or behaviors. Siegel and Doner (1998) agreed, stating that decisions to target "the general population" did not make good communication policy. In the case of HIV, the target audience could include the PLWHA and their families, providers of services for HIV and AIDS, and government officials and policy makers.

In discussing stigma related to mental illness, Corrigan and Gelb (2006) proposed an overall communication message that encompassed three approaches—protest, education, and contact. Protest referred to an approach where stigma was presented as a social injustice and could include activities such as boycotting businesses of stigmatizing groups. Education referred to challenging inaccurate beliefs and stereotypes by providing factual information. Contact referred to interpersonal contact between consumers and the general public (Corrigan & Gelb, 2006). In the case of HIV, consumers would be PLWHA and their families. They recommended a media campaign that was sustained over a long period of time.

Literature Related to Methodology

This section briefly discusses literature related to online surveys, as the survey instrument for this study was administered online. Advances in computer technology have greatly increased the power and effectiveness of online surveys. Several authors have discussed the advantages and disadvantages of online surveys (Deutskens, De Jong, De Ruyster, & Wetzels, 2006; Dommeyer, Baum, Hanna, & Chapman, 2004; Riggle,

Rostosky, & Reedy, 2005; Sax, Gilmartin, & Bryant, 2003; Van Selm & Jankowski, 2006). Arguments for favoring online surveys include their wider geographic reach, faster response time, ability to provide feedback and summary statistics about an individual's responses (serving as an incentive to participate), and reduced field costs. Ross et al. (2000) reviewed literature on cyberspace and compared data from 716 written questionnaires and 678 internet questionnaires of men who have sex with men, with the goal of highlighting implications for research and HIV interventions. They found the internet sample to have fewer missing data points than the conventional sample. More people in the internet sample compared to the conventional sample indicated an interest in discussing HIV issues. Pequegnat et al. (2007) discussed internet-based research related specifically to HIV prevention. Their paper summarized the collective experience of internet-based HIV prevention researchers funded by the National Institute of Health, Centers for Disease Control and Prevention, the Swedish Social Science and Work Life Research, and the United Kingdom Medical Research Council. Of significance was the noted increase in use of the Internet generally and by populations identified as most at risk for HIV.

Cited disadvantages included concerns about security and data integrity, nonrandom and self-selected nature, confidentiality, lower response rate, less accurate responses. Also noted were participant computer anxiety, questionable generalizability of results, inability to determine response rate, and inability to reach populations without internet access. Hamilton acknowledged that the development of ethical guidelines to regulate internet research had lagged behind its growth (Sax et al., 2003). Dommeyer et

al. (2004), however, stated that the only serious problem with online surveys was a potentially low response rate. My study minimized this problem by adopting a form of snowball sampling where participants could pass the survey on to other individuals (who would fit the study criteria and would be interested in the study) via their Web pages, Facebook, or e-mail.

Wysocki (1998) conducted a study on an adult online chat-line. The purpose was to examine why people participated in sexually explicit computer bulletin boards and to see if sex online was replacing or enhancing face-to-face relationships. The author concluded that individuals got to know each other better online and that the internet enhanced face-to-face relationships. Wysocki (1998) stated that at initial face-to-face meetings, physical characteristics such as gender, ethnicity, and class were evident and could interfere with true responses A significant finding, which applies to my study, was that the most commonly given reasons for taking part in sex on-line were the need for anonymity and time constraints in their personal lives. Anonymity provided a shield against stigma (Wysocki, 1998).

Deutskens et al. (2006) evaluated the performance of mail and online surveys in a customer-perceived service quality setting using an adapted SERVQUAL scale. Results of reliable response quality for online surveys and generalizability were comparable to mail surveys. The authors stated that the wide geographic reach, fast response rate, and lower costs made online surveys more suitable for cross-sectional studies. While computer anxiety could negatively affect responses, this was not a concern in my study since the survey was administered on familiar screen formats (Web page and e-mail, both

of which are commonly used). E-mail and Web-based delivery is increasingly becoming popular for marketing surveys (Riggle et al., 2005; Van Sem & Jankowski, 2006), therefore, an online survey was beneficial for my study.

Summary of Literature Review

The widespread evidence of HIV/AIDS-related stigma in the face of an increasing epidemic reveals the need for exploring ways to highlight sources of stigma and combat it. The limited amount of literature on actual antistigma interventions further underscores this need. Prominent researchers and ./authors in the field of stigma have recommended all-encompassing approaches that include the cultural context of those affected (Herek, 2002; Weiss & Ramakrishna, 2006). Herek specifically mentioned higher stigma levels in Africa despite the high prevalence of HIV, making this an area of research requiring further exploration. Online survey methods are especially suitable for a cross-sectional study on geographically dispersed populations such as those targeted in this study. The next chapter will describe the methodology for the study based on the reviewed literature.

CHAPTER 3: RESEARCH METHOD

Introduction

This chapter will present a description of the research design and rationale for choosing the design to explore the relationship between personal knowledge of someone with HIV/AIDS, the belief that HIV/AIDS can be contracted through casual contact, attitudes about roles of women in society, and HIV/AIDS-related stigma for Zimbabweans. The chapter will also describe the sample and setting, instrumentation, data collection and analysis, measures taken to protect participants' rights, and limitations.

The study employed a cross-sectional survey design (Babbie, 2007). The cross-sectional design is suitable for the relational/predictive nature of the present study. While an experimental design would be a more rigorous approach to establishing cause and effect, in this case the researcher is not in a position to manipulate variables such as personally knowing someone who is HIV-positive (Singleton & Straits, 2005). The study sought to explore the predictors of HIV/AIDS-related stigma, and included the following questions and hypotheses:

Research question: Do personal knowledge of someone with HIV/AIDS, HIV/AIDS-related beliefs about transmission through casual contact, and attitudes towards the roles of women in society predict HIV/AIDS-related stigma in Zimbabweans?

Null Hypothesis 1: There is no correlation between personal knowledge of someone with HIV/AIDS and HIV/AIDS-related stigma.

Alternate Hypothesis 1: Personal knowledge of someone with HIV/AIDS will be negatively correlated with HIV/AIDS-related stigma.

Null Hypothesis 2: There is no correlation between the belief that HIV/AIDS can be contracted by casual contact and HIV/AIDS-related stigma.

Alternate Hypothesis 2: The greater the belief that HIV/AIDS can be contracted through casual contact, the greater the level of stigma attributed to people with HIV/AIDS.

Null Hypothesis 3: There is no correlation between attitudes about roles of women in society and HIV/AIDS-related stigma.

Alternate Hypothesis 3: The more traditional one's attitudes about the role of women in society, the greater the level of stigma attributed to people with HIV/AIDS.

Null Hypothesis 4: These variables taken together do not predict HIV/AIDS-related stigma.

Alternate Hypothesis 4: These variables taken together predict HIV/AIDS-related stigma.

Research Design and Approach

The study was a quantitative cross-sectional relational study employing a survey design and was conducted online. The study described the measures for *stigma* (HIV/AIDS-related stigma) and sought to explore the relationship between this variable and three selected predictors of HIV/AIDS-related stigma. The predictor variables were *knowledge* (personal knowledge of someone with HIV/AIDS); *beliefs* (HIV/AIDS-related beliefs about transmission through casual contact); and *attitudes towards women* (attitudes about the roles of women in society). Singleton and Straits (2005) stated that the cross-sectional design was the most commonly used survey design for respondents chosen to represent a particular target population and social contexts. They did, however, acknowledge that cross-sectional surveys were limited by the amount and accuracy of the information provided by the respondents. Despite these limitations, this design remained appropriate for the present study because of the researcher's limited resources and the wide geographic reach of the study sample. This is also a suitable design for laying the ground for future studies. The design was structured and allowed for the selection of predictor and dependent variables whose relationships could be analyzed and which set the ground for interventions and future research.

Sample and Setting

Participants in the study were Zimbabweans age 18 years and older who listen to ZimNET Radio, an internet radio station operated by ZimNET Radio Limited; Zimbabweans from the author's e-mail address book; and individuals who are members of informal Zimbabwean groups within the Dallas/ Fort Worth metropolitan area, and their contacts. They were between the ages of 18 to 61 years; the median age was age 33 years. ZimNET radio station provides live music, chat rooms, and forums for discussion of issues pertaining to Zimbabwe. Access to the ZimNet audience was achieved through

an announcer, whose broadcasting name is DJ Dynamite, who worked for the station three days a week from 3 p.m. to 7 p.m. Central Standard Time and on average had 300 listeners a day, as measured by the station's broadband scanners.

In an International Organization for Migration (IOM), Bloch (2005) examined the development potential of Zimbabweans in the diaspora by surveying Zimbabweans living in the United Kingdom and South Africa. The main reason for emigration was cited as related to the economy and employment for 48% of the respondents, while 26% cited political reasons. Of note were the facts that 82% arrived in the United Kingdom and South Africa with a qualification (38% with a first degree or higher) and that 96% maintained regular contact with family members in Zimbabwe. Activity among Zimbabweans was common: 81% of the respondents mentioned that they were involved in activities with other Zimbabweans in the country of residence; the activity mentioned most often was participation in Internet discussion groups. The author acknowledged that many Zimbabwean immigrants were undocumented and of those documented, 36.8% were in the United Kingdom, 34.5% in Botswana, 6.9% in the United States, 4.6% in South Africa, and 3.4% in Canada. Anecdotal evidence suggests that there is a large volume of networking among Zimbabweans through e-mails. Emerging research by Mishra (2007) suggested that the prevalence of HIV infection increased with wealth. The targeted population, therefore, had access to Internet, either through work or at home, both in Zimbabwe and in the diaspora.

The projected sample size for detecting significant correlations at or above $r = |.18|$ is available in the PUBH 9000 document sharing (Tables to calculate necessary size, PUBH 9000, Walden Administrator, May 27, 2010).

This effect size is based on correlations of r = -0.18 from previous research in the United States on which this study is based (Herek, 2002). To obtain statistical power of 80% at the .05 level of significance it is necessary to have a sample size of n = 255.

For the multiple regression analysis for hypothesis 4, using an effect size halfway between Cohen's (1988) small and medium effects (f^2 = .08), the .05 level of significance, and n = 255, power for hypothesis 4 was calculated to be 98% using G*Power (http://www.psycho.uni-duesseldorf.de/aap/projects/gpower/user_manual/user_manual_02.html). The actual sample size was 263, which generated a statistical power of higher than 80% for all hypotheses.

Data Collection

The researcher subscribed to surveymonkey.com for the duration of the data collection period, which was from March 30, 2010 to June 3, 2010. A Web site (mavismash.com) where the link could be accessed was created and set up on April 20, 2010. The researcher described the study to the ZimNet radio announcer to create awareness about the survey and refer the Zimbabwean listeners to the Web site where they could access a link to the voluntary online survey (Appendix A). The researcher utilized extensive contacts within Zimbabwe, and reached approximately 100 primary contacts and approximately 1000 secondary contacts. Participants residing in Zimbabwe and neighboring countries in Africa such as South Africa and Namibia were reached via e-mail. Participants received a brief description of the purpose of the study and were encouraged to pass on information about the survey to their contacts. Specific

instructions were given to the radio announcer to read the script provided in Appendix A and not to discuss stigma on the air to avoid listener bias. SurveyMonkey offers options to design a survey, collect responses, and analyze responses. The survey link was posted on the author's Web page and included e-mails sent to the primary contacts. Participants were encouraged to forward the link to persons in their e-mail address book or to Facebook friends. A personal Facebook profile was also used to communicate information about the survey.

Instrumentation and Materials

Instrumentation included demographic questions in the Confidential Personal Information Sheet (Appendix B), a measure of personal knowledge of someone with HIV/AIDS, stigma, and beliefs that HIV/AIDS can be contracted by casual transmission, attitudes and beliefs about HIV/AIDS survey (Herek & Captianio, 1993, 1997; Herek, 2002 in Appendix C), and a measure of attitudes towards women (AWS) survey (Appendix D, also available at http://www.popcouncil.org/horizons/AIDSQuest/instruments/aws.pdf). Demographic information included gender, age, educational attainment, and length of residency outside Zimbabwe as control variables to describe the sample.

A pilot study was conducted using a sample of 30 (26 Zimbabweans and 4 Nigerians), mainly from the Dallas/Fort Worth metropolitan area in the United States. The pilot study was to test the reliability of the stigma instrument assessed by four scales: negative feelings towards people with HIV/AIDS, support for coercive HIV/AIDS–related policies, blaming people with HIV/AIDS, and intentions to avoid a person with

HIV/AIDS in various situations. Nigerians and Zimbabweans share what Körner (2007) referred to as a collective culture, and their inclusion will facilitate the test-retest reliability of the attitudes and beliefs about HIV/AIDS instrument. Potential participants were approached at informal gatherings and through e-mail contacts and were asked if they would be willing to take a health-related survey at two different points in time. A pretest was conducted with those agreeing to participate beginning March 7, 2010, followed by a retest two weeks later. The pilot study was completed on March 27, 2010. The internal consistency reliability as measured by Cronbach's alpha was .70 for the first phase and .73 for the second phase two weeks later. A Cronbach's alpha of .70 or above is conventionally acceptable (http://www.ats.ucla.edu/stat/spss/faq/alpha.html; Nunnally, 1978). The test-retest reliability was .65. The findings may have limited applicability as it was below the conventionally accepted .70 value for reliability (http://www.hr-guide.com/data/G362.htm).

The AWS is widely used by Horizons, a program funded by the President's Emergency Plan for AIDS Relief (PEPFAR) and by the U.S. Agency for International Development (USAID). Studies by Daugherty and Dambrot (1986) and Yoder, Rice, Adams, Priest, and Prince (1982) found the AWS to be highly reliable. Daugherty and Dambrot (1986) investigated the reliability of the 15-item AWS on college students. The study had an 86% participation rate in the pretest and 80% participation rate in the retest 3 weeks later. They scored the items from 0 to 3, with 0 representing the most traditional, conservative attitude and 3 reflecting the most liberal, pro-feminist attitude. They reversed the scoring for negative items and obtained individual scores by summing up the

items values. They found high test-retest reliability for the 15-item scale, at .86. Yoder et al. (1982) also sought to examine the reliability of the AWS and conducted a study at Project Athena, a United States Military Academy project designed to examine the impact of admitting women to the academy. They administered the test in early July 1976 and again in mid-September 1976 to 1007 male and 78 female freshman cadets. The test-retest reliability for the AWS for males was .74; it was .79 for females.

The first 10 questions in the HIV/AIDS survey items assessed stigma. Questions 1 to 6 had four response alternatives for feelings towards people with HIV/AIDS, support for coercive HIV/AIDS policies, and blaming people with HIV/AIDS. For example, scoring for negative feelings towards people with HIV/AIDS was scored as (a) very angry, (b) somewhat angry, (c) a little angry, and (d) not at all angry; and support for coercive policies against people with HIV/AIDS and blame for people with HIV/AIDS as (a) agree strongly, (b) agree somewhat, (c) disagree somewhat, and (d) disagree strongly. In scoring items, (a) = 3, (b) = 2, (c) = 1, and (d) = 0. Responses (a) and (b) indicate manifestation of stigma while (c) indicates a lower level of stigma, and (d) indicates no stigma. Questions 7 to 10 asked respondents to predict personal behavior in four different situations involving potential contact with a person with HIV/AIDS and the answers could either be supportive or avoidant. Intentions to avoid people with HIV/AIDS was scored as (a) willing to take care of friend/relative with HIV/AIDS, (b) not willing, (c) not willing because of HIV/AIDS, and (d) not willing for other reasons where (a) = 0 for supportive/no stigma, (b), (c), and (d) = 1 for avoidant/showing stigma. For question 8, which had five options, (b) and (e) indicated supportive behavior while (a), (c) and (d)

indicated avoidant responses. In scoring items, (a), (c), and (d) = 1, (b) and (e) = 0. In question 9, with six options, (a) and (f) were supportive responses while (b), (c), (d), and (e) were avoidant responses. In scoring items, (a) and (f) = 0, while (b), (c), and (e) = 1. Finally, responses (a) and (e) were supportive and (b), (c), and (d) avoidant responses for question 10. In scoring items, (a) and (e) = 0, (b), (c), and (d) = 1. These were ordinal data but treated as continuous/interval variables (Munro, 2005). The item values were summed across the responses with high scores indicating high levels of stigma.

Beliefs were assessed by questions 11 to 15, with five response alternatives indicating how likely the participant thought a person would get HIV/AIDS in five different situations. The five response alternatives were scored very likely = 4, somewhat likely = 3, somewhat unlikely = 2, very unlikely = 1, and impossible = 0. The last question in the stigma items assessed knowledge and asked if the participant knew or had known anyone with HIV/AIDS. The response Yes = 1 and No = 0. The scale for attitudes towards the roles of women in society has 15 questions with four response alternatives: agree strongly, agree mildly, disagree mildly, and disagree strongly. In scoring items, (a) = 0, (b) = 1, (c) = 2, (d) = 3, except for items with an asterisk where the scale is reversed. Again, these were ordinal data but treated as continuous/interval variables. The scores were added up and divided by the number of items to create a quasi-interval ratio scale. A high score indicated a pro-feminist, egalitarian attitude, while a low score indicated a traditional, conservative attitude. The study utilized the same scoring method as previous studies that found high reliability for the 15-item scale in Appendix D.

Analysis

The analysis included both descriptive and inferential statistics. Descriptive statistics included information on the nominal variables of gender, age (continuous), education attainment, and length of residency outside Zimbabwe (continuous). Frequency data (counts and percentages) were used to describe the variables by gender. Measures of central tendency (mean, median, mode, and standard deviation) were used to describe age and length of residency outside Zimbabwe. Inferential statistics were performed with correlation and stepwise hierarchical multiple regression. The data were tested for the Pearson's Product-Moment Correlation and regression assumptions. According to results from the Kolmogorov-Smirnov test and the Shapiro-Wilk test, the data violated the assumption of normality but not that of linearity. There were no significant outliers. To this end, both the parametric test (Pearson Product- Moment correlation) and the nonparametric test (Spearman's correlation) were performed for hypotheses 1 through 3 and were tested at .05 level of significance. While it is often assumed that the two measures to be correlated must be at the interval level, valid results also may be obtained with ordinal data (Munro, 2005). The same author stated that although correlations could be calculated with data at all levels, the results could not be generalized beyond the sample statistic if the assumptions of representativeness, normal distribution, homoscedasticity, and linear relationship are not met. Stepwise hierarchical approaches require large sample sizes, for instance, a ratio of 50 subjects to 1 variable (Munro, 2005). Categorical variables could be coded for use with *r* and with regression equations. The seven variables (four control variables and three predictor variables) and sample size of 263 were adequate for testing hypothesis 4 using hierarchical stepwise multiple

regression. The control variables gender, age, education attainment, and length of residency outside Zimbabwe were entered into the prediction equation first, followed by the three main predictor variables, knowledge, beliefs, and attitudes towards the roles of women in society. Analysis sought to examine the extent to which the predictor variables added to the predictability of stigma over and above the control variables.

To answer the research questions, a total of three correlations and one hierarchical stepwise regression were performed.

Research Question 1: To what extent is personal knowledge of someone with HIV/AIDS correlated with HIV/AIDS-related stigma in Zimbabweans?

Null Hypothesis 1: There is no significant correlation between personal knowledge of, someone with HIV/AIDS and HIV/AIDS-related stigma.

Alternate Hypothesis 1: Personal knowledge of, someone with HIV/AIDS will be negatively correlated with HIV/AIDS-related stigma.

Pearson Product-Moment correlation was used for hypothesis 1. The dependent variable, stigma (questions 1 to 10 added together), and predictor variable knowledge (question 16), in Appendix C were entered into the bivariate analysis. For knowledge, Yes = 1 and No = 0.

Research Question 2: To what extent are HIV/AIDS-related beliefs about transmission through casual contact correlated with HIV/AIDS-related stigma in Zimbabweans?

Null Hypothesis 2: There is no correlation between the belief that HIV/AIDS can be contracted by casual contact and HIV/AIDS-related stigma.

Alternate Hypothesis 2: The greater the belief that HIV/AIDS can be contracted through casual contact, the greater the level of stigma attributed to people with HIV/AIDS.

Pearson product-moment correlation was used for hypothesis 2. The dependent variable, stigma (see Appendix C: questions 1 to 10 added together), and predictor variable beliefs (questions 11 to15 added together) were entered into the bivariate analysis.

Research Question 3: To what extent are attitudes about the roles of women in society correlated with HIV/AIDS-related stigma in Zimbabweans?

Null Hypothesis 3: There is no correlation between attitudes about roles of women in society and HIV/AIDS-related stigma.

Alternate Hypothesis 3: The more traditional one's attitudes about the roles of women in society, the greater the level of stigma attributed to people with HIV/AIDS.

Pearson product-moment correlation was used for hypothesis 3. The dependent variable, stigma (questions 1 to 10 added together), and predictor variable attitudes towards the roles of women (see Appendix D: questions 1 to 15 added together) were entered into the bivariate analysis.

Research Question 4: To what extent do the three variables (personal knowledge of someone with HIV/AIDS, HIV/AIDS-related beliefs about transmission through casual contact, and attitudes about the roles of women in society) taken together predict HIV/AIDS-related stigma in Zimbabweans over and above the control variables?

Null Hypothesis 4: These variables taken together do not predict HIV/AIDS – related stigma.

Alternate Hypothesis 4: These variables taken together predict HIV/AIDS-related stigma.

Hierarchical stepwise multiple regression was used for hypothesis 4. The control variables gender (male = 0, female = 1), age, education attainment, and length of residency outside Zimbabwe were entered into the prediction equation first, followed by the three predictor variables, knowledge, beliefs, and attitudes towards the roles of women in society.

Descriptive statistics are presented in chapter 4 for all demographic, dependant, and predictor variables.

Protection of Participants

Participants in the study were informed as to the complete anonymity and confidentiality of their identity. They were not required to provide any identifying information in the survey. The study conformed to the Walden University Institutional Review Board (IRB) requirements, and number 03-02-10-0334305 approved the study.

Other than SurveyMonkey, the author is the only person with access to the data, which will be destroyed after 5 years. The data were saved in three places: an external hard drive, flash drive, and on a computer disk. It is kept in a locked cabinet in the researcher's office at home. The researcher is the sole occupant in the house. SurveyMonkey employs a third-party firm to conduct daily audits of its security and utilizes the latest in firewall and intrusion prevention technology to ensure data security. SurveyMonkey also provides an additional option to collect data in a totally encrypted environment for sensitive surveys. The company pledges to ensure anonymity and confidentiality and does not accept any advertising. An e-mail assuring confidentiality was sent out to potential participants in the pilot study (Appendix E). A flyer distributed among some informal Zimbabwean associations is shown in Appendix F. The online survey consent document used in the study is shown in Appendix G.

CHAPTER 4: RESULTS

Introduction

This chapter addresses the research questions that form the basis of the study. Results and analyses of the hypotheses are presented with relevant explanations of the findings. The chapter begins with a description of the design and sample characteristics. Statistical Package for Social Sciences (SPSS) v.18 was used for all the descriptive and inferential analyses.

Research Design

The design for this study was a quantitative cross-sectional survey and responses were collected online using SurveyMonkey. Responses from SurveyMonkey were downloaded onto seven different Excel spreadsheets and cleaned at seven different times to check for accuracy. Cross-referencing to the original responses revealed no variances and the 264 records were retained for analysis.

Sample Characteristics

No identifying information was collected on the survey. According to the SurveyMonkey response summary, 313 people started the survey and 265 people actually completed it (84.7%). The initial response count for ethnicity was 305 people and, most (97.4%) identified as Black Zimbabweans, thus ethnicity was not used as a predictor variable. Only one person had less than a high school education and thus was eliminated. Also, a respondent younger than age18 years was also eliminated. This elimination left 263 respondents, ranging in age from 18 to 61 years, for analysis. Of these 263

respondents, 222 (84.4%) of them personally know someone with HIV/AIDS. This was fairly equal between genders (85.8% men and 83.4% women).

Most respondents resided in Zimbabwe (146, or 55.3%) and North America (67, or 25.4%). The majority of the participants had an undergraduate or graduate degree: 103 (39%) had a college education, 86 (31.7%) had a postgraduate degree, 50 (18.9%) had some college education, 24 (9.1%) were high school graduates, and only one person had less than a high school education. Table 1 shows the frequency of the sample characteristics for the control variables (gender, education, age, and length of residency outside Zimbabwe); the three independent variables (knowledge, beliefs, and attitude), beliefs, and attitude); and the dependent variable stigma *(n* = 263*).* Beliefs were assessed by five questions with five response alternatives and attitude was assessed by 15 questions with four response alternatives (Appendices C and D, respectively).

Table 1

Characteristics of Sample Population in HIV/AIDS Stigma Study

		Number	Percentage	Mean	SD
Control Variables					
Gender:	Male	113	43%		
	Female	150	57%		
Education:	Graduate	86	31.7%		
	College	103	39%		
	Some College	50	18.9%		
	High School	24	9.1%		
Age				33.45	10.635
Length				3.64	5.561
Independent Variables					
Knowledge:	Yes	222	84.4%		
	No	41	15.6%		
Beliefs				4.25	5.093
Attitude				29.92	7.114
Dependent Variable					
Stigma				1.06	.858

Note. SD = Standard deviation

Approximately 84% of the sample knew or had known someone with HIV/AIDS while approximately 16% did not or had not known someone with HIV/AIDS. Consistent with the literature, a mean of 4.25 on beliefs about transmission of HIV/AIDS by casual contact (response alternatives ranged from 'very likely'= 5 to 'impossible' = 1) meant that on average respondents believed that it was likely that one could contract HIV/AIDS through casual contact.

The scale for attitude had four response alternatives ranging from 'strongly agree' to 'strongly disagree' meaning that that highest possible score was a 60 and the lowest possible score was a 15. A high score indicated a profeminist, egalitarian attitude while a low score indicated a traditional, conservative attitude towards the roles of women in society. A mean of 29.92 on attitude meant that on average respondents held attitudes that were in between the two extremes (egalitarian and traditional) toward the roles of women in society. It is possible that because most sample respondents had a graduate or undergraduate degree, which is not representative of the Zimbabwean population, their attitude would tend toward more egalitarian. Here (2002) reported that respondents with less formal education tended to have higher levels of stigma.

Assumption of normality

The dependent variable, stigma, was not normally distributed (skewness = 2.280 and kurtosis = 6.704) which increases the likelihood that the residuals will not be normally distributed, so a natural logarithmic transformation which reduced skewness to .264 and kurtosis to -.898 was used. The natural logarithm of stigma (LnStigma) was, therefore, the dependent variable for this analysis.

Hypothesis Testing and Conclusions

Hypothesis testing was conducted using the retained 263 participants. Three correlation analyses and one regression analysis were run to test the four hypotheses.

Research Question 1: To what extent is personal knowledge of someone with HIV/AIDS correlated with HIV/AIDS-related stigma in Zimbabweans?

Null Hypothesis 1: There is no significant correlation between personal knowledge of, someone with HIV/AIDS and HIV/AIDS-related stigma.

Alternate Hypothesis 1: Personal knowledge of, someone with HIV/AIDS will be negatively correlated with HIV/AIDS-related stigma.

The bivariate analysis revealed a significant inverse relationship between personal knowledge of someone with HIV/AIDS and HIV/AIDS–related stigma. Those who know someone with HIV/AIDS tended to report lower levels of stigma than those who do not ($r = -.236$, $p < .01$). In addition, a t test of the difference between the means of the two groups was significant ($t = -2.788$, $p = .007$). The mean and standard deviation for those who knew someone with HIV/AIDS were 2.960 and 4.231, respectively, and 4.341 and 2.604, respectively, for those who did not know someone with HIV/AIDS. Therefore, the null hypothesis was rejected in favor of the alternate hypothesis for research question 1.

Research Question 2: To what extent are HIV/AIDS-related beliefs about transmission through casual contact correlated with HIV/AIDS-related stigma in Zimbabweans?

Null Hypothesis 2: There is no correlation between the belief that HIV/AIDS can be contracted by casual contact and HIV/AIDS-related stigma.

Alternate Hypothesis 2: The greater the belief that HIV/AIDS can be contracted through casual contact, the greater the level of stigma attributed to people with HIV/AIDS.

The Pearson-product moment correlation showed a significant positive relationship between the belief that HIV/AIDS could be contracted through casual means and HIV/AIDS–related stigma. Those who believed that HIV/AIDS could be contracted through casual means tended to report higher levels of stigma ($r = .200$, $p < .01$). Therefore, I rejected the null hypothesis in favor of the alternative hypothesis for research question 2.

Research Question 3: To what extent do attitudes about the roles of women in society predict HIV/AIDS-related stigma in Zimbabweans?

Null Hypothesis 3: There is no correlation between attitudes about roles of women in society and HIV/AIDS-related stigma.

Alternate Hypothesis 3: The more traditional one's attitudes about the role of women in society, the greater the level of stigma attributed to people with HIV/AIDS.

The bivariate analysis revealed a significant inverse relationship between attitude towards the roles of women in society and HIV/AIDS–related stigma. Participants with a pro-feminist, egalitarian attitude tended to report lower levels of stigma while those with

a traditional, conservative attitude about the roles of women in society reported greater levels of HIV/AIDS–related stigma (r = -.182, p < .01.) Therefore, I rejected the null hypothesis in favor of the alternate hypothesis for research question 3.

Research Question 4: To what extent do the three variables (personal knowledge of someone with HIV/AIDS, HIV/AIDS-related beliefs about transmission through casual contact, and attitudes about the role of women in society) taken together predict HIV/AIDS-related stigma in Zimbabweans after controlling for age, gender, education attainment, and length of stay outside Zimbabwe?

Null Hypothesis 4: These variables taken together do not predict HIV/AIDS-related stigma over and above the control variables.

Alternate Hypothesis 4: These variables taken together predict HIV/AIDS-related stigma over and above the control variables.

A hierarchical stepwise multiple regression was used to test hypothesis 4. The control variables gender (male = 0, female = 1), age (years), education attainment (levels completed), and length of residency outside Zimbabwe (years), were entered into the prediction equation first, followed by the three predictor variables, knowledge, beliefs, and attitudes towards the roles of women in society. Table 2 shows Pearson's product-moment correlation coefficients for the variables entered into the regression.

Table 2

Regression Analysis Correlation Coefficients of Inferential Study Variables

Variables	1	2	3	4	5	6
1. Stigma						
2. Age	-.221***					
3. Education	-.218***	.486***				
4. Knowledge	-.236***	.356***	.376***			
5. Beliefs	-.200***	.172**	.218***	.145*		
6. Attitude	-.182**	.335***	.108*	.024	-.104*	

$n = 264, *p < .05, **p < .01, ***p < .001.$

Two of the four control variables, gender and length of residency outside Zimbabwe, were not significantly correlated to stigma and were subsequently dropped from the equation. Age and education attainment were retained as control variables and were entered into the prediction equation followed by the three predictor variables, knowledge, beliefs, and attitudes towards the roles of women in society. Beliefs came first in the hierarchical stepwise regression, with an R-square change of .071; knowledge came next, with an R-square change of .025. Attitude was eliminated from the final model. When the three predictor variables were entered together in the prediction equation without the control variables, however, attitude was retained in the model, which had an $R = .367$ and $R^2 = .135$ ($F = 13.426$, $p < .001$). Table 3 presents the model summary and Table 4 presents the ANOVA from the regression analysis.

Table 3

Summary of the Regression Analysis Model

Model				Std. Error	Change Statistics				
	R	R^2	Adjusted R^2	of the Estimate	R^2 Change	*F* Change	*df*1	*df*2	Sig. *F* Change
Dimension									
1	.254	.065	.057	.83305	.065	8.989	2	260	.000
2	.367	.135	.125	.80282	.070	20.949	1	259	.000
3	.399	.159	.146	.79301	.024	7.452	1	258	.007

Note. Dimension 1 predictors = (constant), education, age; dimension 2 predictors = (constant), education, age, beliefs; dimension 3 predictors = (constant), education, age, beliefs, knowledge.

Table 4

Analysis of Variation for Model

Model		Sum of Squares	*df*	Mean[2]	*F*	Sig.
1	Regression	12.476	2	6.238	8.989	.000[a]
	Residual	180.434	260	.694		
	Total	192.910	262			
2	Regression	25.978	3	8.659	13.435	.000[b]
	Residual	166.932	259	.645		
	Total	192.910	262			
3	Regression	30.664	4	7.666	12.190	.000[c]
	Residual	162.246	258	.629		
	Total	192.910	262			

Note. Predictors = (constant), education, age; predictors = (constant), education, age, beliefs; predictors = (constant), education, age, beliefs, knowledge; dependent variable = stigma

Age, education attainment, knowledge, and attitude were significantly inversely correlated to stigma. This means as age, level of education, and level of pro-feminist attitude increases, the lower the level of stigma they reported. Personal knowledge of someone with HIV/AIDS was also negatively correlated with low stigma. Beliefs about casual transmission of HIV were the only predictor variable that was positively correlated with stigma. The greater the belief that HIV/AIDS could be contracted through casual means, the greater the levels of stigma attributed to people with HIV/AIDS.

Among the predictor variables, personal knowledge of someone with HIV/AIDS was positively correlated with the belief that HIV/AIDS could be contracted through

casual means; however, the belief that HIV/AIDS could be contracted through casual means was inversely correlated with attitude towards the roles of women in society. The belief that HIV/AIDS could be contracted through casual means increased with personal knowledge of someone with HIV/AIDS. The more traditional and conservative one's attitude was towards the role of women, the greater one's belief that HIV/AIDS could be contracted through casual means. The main predictor variables (knowledge, beliefs, and attitude) were significantly correlated with the outcome variable, HIV/AIDS–related stigma [(r = -.236, p < .001), (r = .200, p < .001), and (r = -.182, p < .01)] respectively.

Table 5 presents results of the regression analysis. These include the unstandardized model coefficients (B) and associated standard error ($SE\ B$), standardized regression coefficients (β), and t statistics and the significant values for the predictor variables at every step in the hierarchical stepwise regression.

Table 5

Hierarchical Stepwise Multiple Regression Results for Stigma Regressed on Independent Predictors

Variable	*B*	*SE B*	β	*t*	*Sig.*
Step 1					
Constant	1.982	.230			
Age	-.012	.006	-.151*	-2.194	.029
Education	-.131	.062	-.144*	-2.106	.036
Step 2					
Constant	2.021	.222			
Age	-.014	.005	-.174**	-2.626	.009
Education	-.174	.060	-.192**	-2.872	.004
Beliefs	.046	.010	.272***	4.577	.000
Step 3					
Constant	2.084	.221			
Age	-.011	.005	-.136*	-2.027	.044
Education	-.134	.062	-.148*	-2.174	.031
Beliefs	-.047	.010	.281***	4.775	.000
Knowledge	-.407	.149	-.172**	-2.730	.007

Note. Sig. = Significance. R^2 = .065 for Step 1: ΔR^2 = .070 for Step 2: ΔR^2 = .024 for Step 3 (*ps* < *.05*). **p < .05, **p < .01, ***p < .001.*

The final model in Table 5 includes all the variables that make a significant contribution to predicting stigma. The *t* statistics reveal that beliefs ($t = 4.775$, $p < .001$)

and knowledge ($t = 2.730$, $p < .01$) make a significant contribution to predicting stigma beyond the control variables of age and education. The standardized beta values (β) reveal the same. The value for beliefs is .281, and for knowledge is .172, indicating that beliefs has slightly more impact in the model. Attitude was excluded in all three steps of the model as its *t* statistics were not significant. The difference between R^2 and the *adjusted* R^2 in the model (.159 - .146 = .013) means that if the model were derived from the population as opposed to the sample it would account for about 1.3% less variance in stigma. The ability of the model to predict stigma was significant ($F = 12.190$, $p < .001$). The final model accounts for 14.6 % of the variance in stigma. This is approximately the size of Cohen's (1988) medium effect size ($R^2 = 13\%$). In addition, beliefs and knowledge add approximately 9% to the explained variance over and above that explained by the two control variables. This is still closer to a medium effect than to a small effect ($R^2 = 2\%$). Whether or not these results are meaningful will be discussed in Chapter 5.

There is sufficient evidence to indicate that the three variables (personal knowledge of someone with HIV/AIDS, HIV/AIDS-related beliefs about transmission through casual contact, and attitudes about the role of women in society) taken together predict HIV/AIDS–related stigma in Zimbabweans over and above the control, although attitude did not have a significant contribution in the final model. The null hypothesis was rejected in favor of the alternate hypothesis for research question 4.

Summary

Chapter 4 described the demographics of the sample, which was predominantly black Zimbabwean (97.4%). Of the 313 people who started the survey, 84.7% completed it and 263 participants (57% female and 43% male) were retained for analysis. Most of the respondents had a degree: 39% of the sample had a college degree and another 31.7% had a post-graduate degree. Of the 263, 84.4% (222) personally knew or had personally known someone with HIV/AIDS. This was fairly equal between genders (85.8% men and 83.4% women) although slightly fewer men compared to women reported not knowing or not having personally known someone with HIV/AIDS (14.2% men and 16.6% women). Chapter 4 also discussed the assumptions reviewed for the correlation and regression analyses and highlighted the limitations of the study. There were significant correlations between HIV/AIDS–related stigma and each of the three main predictors (knowledge p = .000, beliefs p = .001, and attitude p = .003). In a hierarchical stepwise multiple regression, the belief that HIV/AIDS could be contracted through casual means and personal knowledge of someone with HIV/AIDS emerged as the significant predictors of stigma for hypothesis 4. High scores on the belief that HIV/AIDS could be contracted by casual contact were associated with higher levels of HIV/AIDS-related stigma. The null hypotheses were rejected and the alternate hypotheses were accepted for all four hypotheses. Chapter 5 will summarize the research findings in light of the reviewed literature and state the conclusions and recommendations. It will also highlight the implications for positive social change and limitations of the study.

CHAPTER 5:

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This chapter presents a summary discussion of the research findings. It will draw conclusions and make literature comparisons on results of the correlation and regression analyses drawn from the online responses of a sample of 263 Zimbabweans. The purpose of the study was to examine if there was a relationship between the three variables [personal knowledge of someone with HIV/AIDS, the belief that HIV/AIDS could be contracted by casual means, and attitude towards the roles of women in society (pro-feminist, egalitarian or traditional, conservative)] and HIV/AIDS–related stigma. The study also sought to examine if all three variables taken together were significant predictors of HIV/AIDS–related stigma over and above the control variables. The chapter will also discuss recommendations, implications for positive social change, and highlight the limitations of the study, culminating in a concluding statement.

Interpretations of Findings

Studies conducted by Herek et al. in the 1990s in the United States found personal knowledge of someone with HIV/AIDS to be a predictor of lower levels of HIV/AIDS–related stigma. This study sought to find out if this was also the case among Zimbabweans. The relationship between the belief that HIV/AIDS could be contracted by casual means and a tendency to attribute stigma was also examined. Given the fact that HIV transmission in Zimbabwe is predominantly heterosexual, the author believed that

examining the relationship between the attitude towards the roles of women in society and stigma would enrich the study by capturing the patriarchal nature of Zimbabwean society. Correlation analysis was used to test the first three hypotheses, and a hierarchical stepwise regression was used to test the fourth hypothesis.

Research Question 1: To what extent is personal knowledge of someone with HIV/AIDS correlated to HIV/AIDS-related stigma in Zimbabweans?

According to the contact hypothesis, sustained knowledge-giving contact between the majority and minority groups led to less prejudice (Allport, 1954). In a study examining HIV-related stigma trends and knowledge in the United States, Herek et al. (2002) found an inverse relationship between the number of people with AIDS known and AIDS stigma (r = -.18, p < 001). Hutchinson and Mahlalela (2006) found that personal knowledge of someone with HIV increased the likelihood of being tested for HIV by approximately 4%. In a more recent Zimbabwe national population-based survey, Sambisa et al. (2010) examined AIDS stigma as an obstacle to uptake of HIV testing through three different pathways: voluntary testing, testing when offered, and testing when required. They found that those who knew someone with HIV and had observed enacted stigma were more likely to test through all pathways while those who knew someone with HIV but had not observed enacted stigma were more likely to test voluntarily. Findings from the current study indicated that the null hypothesis was to be rejected. The bivariate analysis revealed a significant inverse relationship between personal knowledge of someone with HIV/AIDS and HIV/AIDS –related stigma. Those who knew or had known someone with HIV/AIDS reported significantly lower levels of

stigma (r = -.236, p < .001*).* Those who did not know or had not known someone with HIV/AIDS tended to display higher levels of stigma. This inverse relationship alludes to the contact hypothesis adopted as the theoretical framework for this study. The hypothesis posits that many forms of prejudice can be reduced by equal-status contact between majority and minority groups (Allport, 1954); in this case those without an HIV/AIDS diagnosis and those with an HIV/AIDS diagnosis. The findings were consistent with those reported in the literature (Herek, 2002). Although personal knowledge of someone with HIV/AIDS was a predictor of lower levels of stigma in this study and in the United States (Herek, 2002), the same author stated that in areas where seroprevalence was high and those with HIV are perceived to be like oneself (Black Zimbabweans in a country where heterosexual behavior is the predominant mode of transmission) there might be increased pressure to prove one's own seronegativity by rejecting people living with HIV/AIDS thus perpetuating stigma. Bearing in mind that the majority of the respondents identified as Black Zimbabweans, the high percentage of respondents who knew or had known someone with HIV/AIDS (84.4%) should not minimize the need for stigma prevention interventions.

Research Question 2: To what extent are HIV/AIDS-related beliefs about transmission through casual contact correlated to HIV/AIDS-related stigma in Zimbabweans?

A common theme running through studies of stigma is fear that the stigmatized threaten society; underlying this fear is ignorance about disease transmission (Boer & Emons, 2004; Quian et al., 2007). A poorly understood contagious disease unleashes fear

among a population. Inaccurate beliefs and misconceptions about HIV transmission enhance HIV/AIDS-related stigma (Herek, 2002; Nyblade, 2004). In describing why AIDS was stigmatized, Herek (2002) highlighted the fact that greater stigma was associated with a condition when it is perceived to pose a threat to others. In his studies, there was a significant correlation between inaccurate beliefs about the transmission of HIV through casual contact and HIV/AIDS–related stigma in the United States ($r = .39$, $p < .001$). Boer and Emons (2004) assessed beliefs about HIV transmission, emotional reactions to people living with HIV/AIDS, stigmatizing attitudes, and motivation to protect oneself from HIV infection. Inaccurate beliefs about HIV transmission were associated with more fear of and irritation towards infected people and vulnerable groups. Respondents who held inaccurate transmission beliefs perceived a significantly higher risk of drinking from a glass used by a homosexual ($F = 4.3$, $p < .05$) and shaking hands with a commercial sex worker ($F = 7.1$, $p < .01$). The effect of inaccurate beliefs and misconceptions was further confirmed by Quian et al. (2007). Their study assessed knowledge about HIV transmission based on routes of transmission, namely sexual contact, blood transfusion, sharing needles, and mother-to-child transmission in the surveyed population of 524 randomly selected adult residents from 12 rural Chinese communities where HIV infection among plasma donors had been reported. Inaccurate beliefs were measured on items entailing casual contact such as shaking hands, sharing meals, swimming, and mosquito bites. There was evidence of inaccurate beliefs about the transmission of HIV: 70% of the sample believed that mosquito bites could transmit HIV, 41.8% believed that HIV could be acquired by swimming with infected people, 26.5% believed that HIV could be acquired by sharing meals with infected people, 24.6%

believed that it could be acquired by shaking hands with infected people, and 24% believed HIV could be acquired by speaking face-to-face with infected individuals.

In the present study, bivariate analysis revealed a significant positive relationship between the belief that HIV/AIDS could be contracted through casual means and HIV/AIDS–related stigma ($r = .200$, $p < .01$). This finding indicated that the null hypothesis should be rejected and the finding was consistent with the literature (Boer & Emons, 2004; Quian et al., 2007). The transmission of HIV was ill understood as the respondents believed that HIV/AIDS was likely to be contracted through casual means. Aspects of stigmatized conditions include the belief that the stigmatized are to blame for the condition, the condition is progressive and incurable, the condition is ill understood in the general population, and symptoms are evident (Goffman, 1963). Inaccurate beliefs about HIV transmission can cause fear, irritation, and anger, which lead to stigmatization (Boer & Emons, 2004). Two of Boer and Emmons's findings were particularly significant for my study as they highlighted the negative impact of inaccurate beliefs in perpetuating HIV/AIDS stigma: (a) they found that accurate beliefs about HIV transmission did not seem to eradicate inaccurate beliefs about transmission of HIV by casual contact and (b) those who held inaccurate beliefs felt that AIDS was less severe, felt less vulnerable to HIV infection, and reported a lower intention to use a condom. A mean score of 4.25 on beliefs about HIV/AIDS transmission by casual contact among Zimbabweans therefore underscores the need for aggressive education campaigns on inaccurate beliefs among Zimbabweans.

Research Question 3: To what extent are attitudes about the roles of women in society correlated to HIV/AIDS-related stigma in Zimbabweans?

The relevant literature is replete with examples of further stigmatization of already marginalized groups, particularly as pertains to women (Herek et al., 2002; Kalipeni et al., 2007; Mawar et al., 2005; Mbonu et al., 2009; Mill & Anarfi, 2002; Ostrom et al., 2006). This is despite the fact that married women's greatest risk of contracting HIV is from their husbands (Parikh, 2007; Phinney, 2008). Homosexuals and intravenous drug users are the main marginalized groups described in HIV stigma studies in Western cultures (Herek, 2002). Women are the equivalent in collectivist cultures (Duffy, 2005; Yeboah, 2007). The basis of this further stigmatization is the power differential in society. Mbonu et al. (2009) stated that stigmatization was part of a conservative reassertion of, among other things, power relations resting on the ability to control sexuality. A traditional, conservative attitude towards the role of women in society would favor this power assertion.

The bivariate analysis in the present study revealed a significant inverse relationship between attitude towards the roles of women in society and HIV/AIDS – related stigma. Participants with a pro-feminist, egalitarian attitude tended to report lower levels of stigma while those with a traditional, conservative attitude about the role of women in society reported greater levels of HIV/AIDS–related stigma (r = -.182, $p < .01$). This finding indicated that the null hypothesis should be rejected and was consistent with reports in the literature.

Research Question 4: To what extent do the three variables (personal knowledge of someone with HIV/AIDS, HIV/AIDS-related beliefs about transmission through casual contact, and attitudes about the role of women in society) taken together predict HIV/AIDS-related stigma in Zimbabweans over and above the control variables?

Efforts to combat stigma have not adequately caught up with the magnitude and apparent universality of the problem of stigma as a barrier to HIV prevention (Ogden & Nyblade, 2005) and neither have they kept up with biomedical advances in the field (Rintamaki et al., 2007). This is explained by the complex nature of stigma. Link and Phelan (2006) acknowledged this complexity and conceptualized stigma as an interrelationship of five components: identification and labeling of human differences, stereotyping (linking the labeled with undesirable characteristics), the separation between the "them" and "us," the stigmatized experiencing discrimination and loss of self-esteem/status, and power. Weiss and Ramakrishna (2006) recommended an all-encompassing approach to HIV-related stigma research, which would include cultural epidemiological features incorporating local dimensions of stigma. Tylor (2009) defined culture as "that complex whole which includes knowledge, belief, art, law, morals, custom, and any other capabilities and habits acquired by man as a member of society" (p. 1). Allport (1954) simply referred to it as "that which gives ready-made answers to the problems of life" (p. 285). Bivariate analysis alone would not, therefore, shed light on the complexity of HIV/AIDS–related stigma. Therefore, a hierarchical stepwise multiple regression with variables gender, age, education attainment, length of residency outside Zimbabwe (control variables); personal knowledge of someone with HIV/AIDS, the

belief that HIV/AIDS could be contracted through casual means, and attitude towards the roles of women in society (predictor variables); and HIV/AIDS – related stigma as the outcome variable was conducted.

Herek (2002) found that inaccurate beliefs about casual contact and negative attitudes toward gay men were equally correlated to stigma ($r = .039$, $ps < .001$). In the present study the final model of the regression included only those variables that made a significant contribution to predicting stigma. The *t* statistics revealed that beliefs about casual transmission ($t = 4.775$, $p < .001$) and knowledge of someone with HIV/AIDS ($t = 2.730$, $p < .01$) each made a significant contribution to predicting stigma. The standardized beta values (β) revealed the same. The value for beliefs was .281. The β value for knowledge was -.172. Attitude was excluded in all three steps of the model as its beta values and *t* statistics were not significant. This finding indicated that the null hypothesis should be rejected and, again, was consistent with reports in the literature for knowledge (Herek & Capitanio, 1997; Herek, 2002) and beliefs (Boer & Emons, 2004; Quian et al., 2007). Although attitude was eliminated from the final model, its' pertinent role toward an identifiable group in the study of HIV/AIDS stigma, especially, with regard to the layering of stigma discussed in the literature review section was demonstrated by Lau and Tsui (2007). They conducted an anonymous cross-sectional survey in which they interviewed 604 Chinese adults aged 18 to 50 years. They compared the degree of discrimination toward people with mental illness (PMI) and people living with HIV/AIDS. Using a paired *t*-test, they found that the level of discriminatory attitudes and negative perceptions toward PLWHA were much more intense than those toward PMI

with approximately 60% of the respondents stating that they would rather make social contact with PMI than with PLWHA. The layering of stigma or co-stigmas is not limited to the general public. Chan and Reidpath (2007) sought to understand the extent to which stigmatizing attitudes toward HIV/AIDS were products of two attitudes towards two potentially stigmatized co-characteristics (injection drug [(IDU) use and commercial sex (CS).] They examined the relative degree of stigmatization between AIDS and the layering of HIV/AIDS stigma and the two co-stigmatized characteristics of IDU and CS among a sample of trainees and qualified nurses from Bangkok College in Thailand. They found a synergistic effect between AIDS and the two co-stigmatized characteristics. In countries where the mode of HIV transmission is heterosexual, women are a group already lacking in power (Herek, 2002; Yeboah, 2007). It follows that any indication of a traditional attitude toward the role of women in society among Zimbabweans needs to be monitored very closely for evidence HIV stigma toward this group. Attitude falls into what Herek (2002) described as symbolic stigma reflecting the values and norms of a society. Participants who held a more egalitarian attitude towards the role of women (according to Yeboah, 2007 women are a marginalized group in sub-Saharan Africa) in society tended to show lower levels of stigma in the bivariate correlation analysis but attitude did not predict stigma in the final model. All the literature reviewed on knowledge and beliefs was consistent with the findings. This, however, was not the case for attitude as the findings were not consistent with the literature reviewed.

Recommendations for Action

The conclusions from the four hypotheses would be to no avail if they are not translated into recommendations for action. Two variables, the belief that HIV/AIDS could be contracted through casual means and personal knowledge of someone with HIV/AIDS, emerged as the significant predictors of HIV/AIDS–related stigma. The results of this study need to be disseminated to Zimbabweans and health care personnel involved with HIV/AIDS prevention and treatment across the globe. It is hoped that the findings would be of value in communities where Zimbabweans reside.

The belief that HIV/AIDS could be contracted by casual means was a significant predictor of stigma was a disappointing finding given the level of literacy in the sample (39% college graduates, 31.7% post graduates). Education attainment was positively correlated with the belief that HIV/AIDS could be contracted by casual means ($r = .218$, $p < .001$). A possible explanation might be that HIV education campaigns neglect the educated on the assumption that they are already informed about the realities of HIV transmission. On a positive note, this finding relates to what Herek (2002) described as 'instrumental' stigma arising from one's interest for protection against an incurable disease and can be addressed by providing factual information about HIV/AIDS. Kotler and Roberto posited that although a campaign targeting an amorphous general public was a high priority in changing stigma, it had limitations in that it worked for social products that corresponded with personal goals but did not change attitudes and/or behaviors (Kirkwood & Stamm, 2006). This observation, however, should not be a deterrent in targeting this predictor among Zimbabweans. Information campaigns should educate on

the actual routes of HIV/AIDS transmission: unprotected penetrative sex with someone who is infected, injection or transfusion of contaminated blood or blood products, artificial insemination and skin grafts or organ donations from infected individuals, mother-to-child transmission at birth or during breastfeeding, and sharing unsterilized injection equipment that has been used by an infected person. But it is just as important that they also educate on how HIV/AIDS is NOT transmitted: by giving blood at a blood bank; through everyday contact with infected people at school, work, home, or anywhere else; by using a toilet, shaking hands, or sharing utensils, phones, or clothing; through sweat, tears, sneezes, coughs, or urine; through "dry" kissing (slight risk from deep French kissing especially if there are cuts or sores in the mouth); by mosquitoes, bed bugs, lice, flies, or other insects (http://www.stophiv.com/facts_myths/transmission.html). These campaigns should become part of everyday conversations, and factual knowledge should not be assumed.

Personal knowledge of someone with HIV/AIDS was also a significant predictor of lower levels of stigma in the final model of this study. Previous research has shown its role in predicting lower levels of stigma (Herek et al., 2002) and in increasing uptake of voluntary testing for HIV/AIDS (Hutchinson & Mahlalela; Sambisa et al., 2010). Anti-stigma interventions should seek a communication strategy with the goal to reduce stigma so that people can come forward for HIV testing, disclose their status, get treatment where needed, and reduce transmission of the disease. To this end, the communication positions the social change in the audience's mind (Siegel & Doner, 1998). Increasing meaningful contact between PLWHAs and the general population would be beneficial,

particularly if it included PLWHAs who are leading productive lives. This kind of contact would align with future directions for intergroup contact theory as proposed by Pettigrew (2008). He suggested a more encompassing use of the contact theory at both the longitudinal and social levels. This would be pursued in the hope of encouraging early testing and adoption of secondary prevention.

Although a traditional, conservative attitude towards the role of women in society was not a significant predictor of HIV/AIDS–related stigma in the final model, the bivariate analysis revealed a significant correlation between the two variables. Therefore, recommendations will also address this variable. Unfortunately, attitudes fall under what Herek (2002) described as symbolic stigma, based on the social meanings attached to HIV/AIDS and PLWHA. Changing attitudes is a challenging task because as they are bred into people through the social norms and values of a society. The task would require culturally sensitive, creative approaches. There is evidence from literature of increased online activity among Zimbabweans (Bloch, 2005). Creating online forums that discuss the pros and cons of Zimbabwean traditions and culture would be a good start. HIV/AIDS-related stigma as a barrier in HIV/AIDS prevention efforts stems mainly from cultural norms and beliefs about HIV/AIDS transmission as was evidenced by findings from this study. It is hoped that these sessions would elucidate the foundation of what Mbonu et al. (2009) described as conservative reassertion of power relations to control sexuality. Findings from this study revealed that females tended to have a more pro-feminist, egalitarian attitude towards the role of women in society and that more women reported having been outside Zimbabwe longer than their male counterparts. These

changing demographics present challenges and opportunities. Anecdotal evidence suggests that men feel that their positions are threatened by Western values and seek ways to reassert their position (Personal communication, David Moyo, April 8, 2010). Information campaigns could target women and educate them on how to handle their newfound independence whilst maintaining harmony in the home. It is proposed that online sessions be viewed in safe physical discussion spaces (Nyblade, 2004) or in the homes where partners can casually discuss HIV/AIDS. The same author posited that it was imperative to create sensitization programs to address the gap between people's good intentions not to stigmatize and their stigmatizing attitudes and actions.

In the National Institute of Health-funded studies by Parikh (2007) and Phinney (2008) in Uganda and Vietnam, respectively, patriarchal norms were evident. Of note in the Ugandan study were responses that required men to describe their relationship with their wives. With no evidence of discussing the matter with their wives, men responded that they felt that having extramarital partners was a sign of respect for their wives (not bothering them for intercourse) during pregnancy, breastfeeding, illness, or menstruation. The Vietnam equivalent was the response to a question about shared topics of conversation in their marriages: they only discussed family/ household issues, children's education, and extended family members; romance, sexuality, and their relationship were typically not discussed.

While these recommendations might sound too simplistic for such a complex issue as stigma, it is the researcher's belief that they can form a formidable foundation for continued open discussions on the topic of HIV/AIDS aimed at combating stigma. It is

also hoped that the conversations will help to gradually weed out dysfunctional norms while retaining functional aspects of the culture. The aim is to start open and free conversations on HIV/AIDS, especially between partners, with the ultimate goals of knowing each other's serostatus and seeking early treatment if required. This can guarantee extended life expectancies and allow for provision for children's future.

Recommendations for Further Studies

Future studies should consider a more representative sample to allow for generalization of findings to other settings. It is acknowledged that this quantitative study, by merely asking participants to rank their feelings, behavior in given situations, beliefs, and attitude might have missed some valuable information underlying these responses. It is recommended that further studies should incorporate a qualitative element that would allow for a deeper probing into the issues of stigma. Poundstone et al. (2004) stated that a mixed-approach method is particularly suited for investigation of the often hidden and stigmatizing behavioral and social factors underlying HIV epidemics. Theories such as the theory of planned behavior by Ajzen and Fishbein (1975) could be used to explore HIV/AIDS-related stigma. These authors argued that intentions precede behavior. Their theory can be used to frame research questions that seek to probe deeper to examine intentions that lead to stigmatizing behavior. In describing the social epidemiology of HIV/AIDS, Poundstone et al. (2004) described social level factors of importance to HIV/AIDS epidemiology: cultural contexts, social networks, neighborhood effects, and social capital. Future research could explore HIV/AIDS–related stigma at all these levels. Future studies could also probe deeper into the reasons

behind the inverse relationships between personal knowledge of someone with HIV/AIDS and HIV/AIDS - related stigma and attitude towards the role of women in society and HIV/AIDS-related stigma. While a negative attitude towards a marginalized groups (women were chosen as the marginalized group for this study) has been associated with higher levels of stigma (e.g. homosexuals, injection drug users, and commercial sex workers), a traditional attitude towards the role of women did not predict stigma in this study. This should be explored further in future studies using a more representative sample of a population. Literature is rife with examples of HIV/AIDS-related stigma and future studies should seek to examine ways of actually eradicating stigma

Implications for Positive Social Change

Findings from this study and the subsequent recommendations could create environments that enable discussion of issues pertaining to HIV/AIDS. Because stigma is socially constructed, the same structures within which it was constructed can be used to de-construct it. The recommended actions could certainly create positive social change at all the levels described by Poundstone et al. (2004) previously. Open discussions would challenge dysfunctional norms (*cultural context*), social influence and access to information resources (*social networks*), online inter-country communication (*neighborhood effects*), and anticipated level of trust (*social support*). It is hoped that education campaigns on the transmission of HIV/AIDS (both how it is transmitted and how it is NOT transmitted) and sustained meaningful contact between people with HIV/AIDS and those without will effect positive social change.

The conversations between men and women recommended in this study, if sustained, should also result in positive social change: an environment where the tensions between disclosing or not disclosing serostatus are reduced. The conversations would sensitize people to unintentional stigmatizing attitudes. This positive effect would impact stakeholders (PLWHAs, families and friends of PLWHA, healthcare providers, and policy makers) differently. A key benefit for the PLWHA is increased social support and extended bonding with families and friends. For health care providers, the benefits could include reduced fear of casual transmission and courtesy stigma from a knowledgeable public. Health care workers caring for Zimbabweans in any part of the globe would be informed on the beliefs and attitudes about HIV/AIDS among Zimbabweans. The benefit of a well informed public would also include more time efficiency for health care workers when obtaining patient history and facilitation of conveying prevention messages. From the point of view of policy makers, the benefits would include a healthy community that presents a positive model.

Limitations

The first limitation of the study was that the sample, although designed to have adequate power, was not representative of the Zimbabwean population at large. It did not take into account people without Internet access. It also did not include the majority of the illiterate population. In the regression model, ideally R^2 should be equal to the adjusted R^2; in this study the difference was .159 –.146, that is, .013 or 1.3%. This means that if the model were derived from the population rather than the sample, it would account for approximately 1.3% less variance in stigma, which is an additional limitation.

The online nature of the study was another limitation in that the author could not calculate the response rate or ensure that there were no multiple entries. Also, despite the fact that the study was totally anonymous, it is possible that some participants gave socially desirable responses, especially for questions on feelings about people with HIV/AIDS. This would introduce social desirability bias.

The online form of data collection, however, had a wider geographic reach than paper and pencil would have. Countries of residency in the responses included North America, Europe, Australia, Namibia, Botswana, and South Africa. The limitations were counterbalanced by the ability to reach larger numbers of Zimbabweans around the world and by the anonymous data collection methods.

Conclusion

The benefits of eradicating HIV/AIDS-related stigma are an important element in combating this deadly disease. The universality and complex nature of stigma as a barrier to HIV/AIDS prevention calls for innovative and multifaceted approaches that combat stigma at every level. Stigma was individually significantly correlated with most of the predictor variables, although in the final model beliefs and attitude emerged as the most powerful predictors. The identified relationships between the predictor variables and stigma could be further explored in an effort to effectively frame antistigma interventions. Public health educators as well as HIV/AIDS program designers and implementers could target inaccurate beliefs about HIV/AIDS transmission and cultural factors represented by attitudes about the roles of women in society. The positive social

change impact among Zimbabweans could be open discussions on the topic of HIV/AIDS, resulting in early testing for HIV, disclosure of serostatus, and treatment (if required). The benefits to providers of HIV/AIDS care could be cultural competency in dealing with Zimbabweans living with HIV/AIDS across the globe. The findings on inaccurate beliefs about HIV/AIDS transmission and attitudes towards the roles of women in society could be shared with antistigma program designers, particularly those in settings with minorities from collectivist cultures. Ultimately, if Zimbabweans and their communities understand how HIV/AIDS is NOT transmitted, the benefits will include lower levels of stigma, more voluntary counseling and testing center seeking activities, and early treatment for HIV infection if required.

REFERENCES

Abel, E. (2007). Women with HIV and stigma. *Family & Community Health, 30*(1), S104- S114.

Allport, G. (1954). *The nature of prejudice*. New York: Addison Wesley.

Amichai-Hamburger, Y., & McKenna, K. Y. A. (2006). The contact hypothesis reconsidered: Interacting via the Internet. *Journal of Computer Mediated Communication, 11*(3). Retrieved from http://jcmc.indiana.edu/vol11/issue3/amichai-hamburger.html.

Babbie, E. (2007). *The practice of social research* (11th ed.). Belmont, CA: Thomson Wadsworth.

Ball, A. (Producer). (2001-2005). *Six feet under*.[Television series]. Los Angeles: HBO

Bhugra, D., & Becker, M. A. (2005, February). Migration, cultural bereavement and cultural identity. *World Psychiatry, 4*(1), 18-24. Retrieved from www.ncbi.nlm.nih.gov/pubmed/16633496

Bloch, A. (2005). IOM report: The development potential of Zimbabweans in the diaspora: International organization for migration. Retrieved from http://www.queensu.ca/samp/migrationresources/Documents/Bloch_development.pdf

Boer, H., & Emons, P. A. A. (2007). Accurate and inaccurate HIV transmission beliefs: Stigmatizing and HIV protection motivation in northern Thailand. *AIDS Care, 16*(2), 167-172.

Brimlow, D. L., Cook, J. S., & Seaton, R. (2003). *Stigma and HIV/AIDS: A review of literature.* Retrieved from http://www.ask.hrsa.gov/detail_materials.cfm?ProdID=3031

Brown, L., Trujillo, L., & MacIntyre, K. (2001). *Interventions to reduce HIV/AIDS stigma: What have we learned?* Retrieved from http://www.popcouncil.org/pdfs/horizons/litrvwstigdisc.pdf

Caldwell, J., & Caldwell, P. (1996). The African AIDS epidemic. *Scientific American, 274*(3), 62-68.

Chan, K. Y., & Reidpath, D. D. (2007). Stigmatization of patients with AIDS: Understanding the interrelationships between Thai nurses' attitudes toward HIV/AIDS, drug use, and commercial sex. *AIDS Patient Care and STDs, 21*(10), 763-775.

Chimbiri, A. M. (2007). The condom is an 'intruder' in marriage: Evidence from rural Malawi. *Social Science & Medicine, 64*(5)*,* 1102-1115.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed). Hillsdale, NJ: Lawrence Erlbaum.

Collins, D., Williams, M., & Metzler, D. (Producers). (2003). *Queer eye for the straight guy*. [Television series]. New York: Bravo.

Corrigan, P., & Gelb, B. (2006). Three programs that use mass approaches to challenge the stigma of mental illness. *Psychiatry Services, 57* (3), 393-398.

Daftary, A., Padayatchi, N., & Padilla, M. (2007). HIV testing and disclosure: A qualitative analysis of TB patients in South Africa. *AIDS Care, 19*(4), 572-577.

Daugherty, C. G., & Dambrot, F. H. (1986). Reliability of the attitudes toward women Scale. *Educational and Psychological Measurement, 46*, 449-453. doi: 10.1177/001316448604600221.

Derlega, V. J., Winstead, B. A., Gamble, K. A., Kelkar, K., & Khuanghlawn, P. (2010). Inmates with HIV, stigma, and disclosure decision-making. *Journal of Health Psychology, 15,* 258-268. doi: 10177/1359105309348806

Deutskens, E., De Jong, A., De Ruyster, K., & Wetzels, M. (2006). Comparing the generalizability of online and mail surveys in cross-national service quality research. *Marketing Letters, 17,*119-136. doi: 10.1007/S11002-006-4950-8

Dlamini, P. S., Kobi, T. W., Uys, L. R., Phetlhu, R. D., Chirwa, M. L., Naidoo, J. R., . . . Makoae, L. N. (2007). Verbal and physical abuse and neglect as manifestations of HIV/AIDS stigma in five African countries. *Public Health Nursing, 24*(5), 389-399.

Dommeyer, C. J., Baum, P., Hanna, R. W., & Chapman, K. S. (2004). Gathering faculty teaching evaluations by in-class and online surveys: Their effects on response rate and evaluations. *Assessment & Evaluation in Higher Education, 29*(5), 611-623. doi: 10.1080/02602930410001689171

Duffy, L. (2005). Culture and context of HIV prevention in rural Zimbabwe: The influence of gender inequality. *Journal of Transcultural Nursing. 16*(1)*,* 23-30.

Foley, E. E. (2005). HIV/AIDS and African immigrant women in Philadelphia: Structural and cultural barriers to care. *AIDS Care, 17*(8), 1030-1043.

Goffman, E. (1963) *Stigma notes on the management of spoiled identity.* New York: Simon & Schuster.

Herek, G. M. (2002). Thinking about AIDS stigma: A psychologist's perspective. *Journal of Law, Medicine & Ethics, 30*(4), 594-607.

Herek, G. M., & Captianio, J. P. (1993). A second decade of stigma: Public reactions to AIDS in the United States, 1990-91. *American Journal of Public Health, 83*(4)*,* 574-577.

Herek, G. M., & Captianio, 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.

Herek, G. M., Capitanio, J. P., & Widaman, K. F. (2002). HIV-related stigma and knowledge in the United States: Prevalence and trends, 1991-1999. *American Journal of Public Health, 92*(3), 371-377.

Herek, G. M., Capitanio, J. P., & Widaman, K. F. (2003). Stigma, social risk, and health policy: Public attitudes toward HIV surveillance policies and the social construction of illness, *Health Psychology, 22*(5)*,* 533-40.

Horizons or toolkit on HIV/AIDS (n.d.). Retrieved on July 7, 2009 from http://www.popcouncil.org.

Hunter, M. (2005). Cultural politics and masculinities: Multiple-partners in historical perspective in KwaZulu-Natal. *Culture, Health & Sexuality, 7*(4), 389-403. doi: 10.1080/13691050412331293458

Hutchinson, P. L., & Mahlalela, X. (2006). Utilization of voluntary counseling and testing services in the Eastern Cape, South Africa. *AIDS Care, 18*(5)*,* 446-55.

International Center for Research on Women (ICRW)(2006). *Finding solutions to strengthen HIV/AIDS programs.* Retrieved from http://reliefweb.int/rw/lib.nsf/db900sid/JBRN-6XSESD/$file/ICRW%20Aug2006pdf.pdf?openelement

Izzard, E. (Producer). (2002). *Dress to kill*. [DVD]. New York: Warner

Jewkes, R. (2006). Beyond stigma: Social responses to HIV in South Africa. *Lancet,368*(9538), 430-431. doi:10.1016/S0140-6736(06)69130-7

Jewkes, R. K., Levin, J. B., & Penn-Kekana, L. A. (2003). Gender inequalities, intimate partner violence and HIV preventative practices: Findings of a South African cross-sectional study. *Social Science & Medicine, 56*(1)*,* 125-134.

Kalipeni, E., Oppong, J., & Zerai, A. (2007). HIV/AIDS, gender, agency and empowerment issues in Africa. *Social Science & Medicine, 64*(5), 1015-1018.

Kambarami, M. (2006). Femininity, sexuality and culture: Patriarchy and female subordination in Zimbabwe. Africa Regional Sexuality Resource Center (ARSRC). Retrieved from http://www.arsrc.org/downloads/uhsss/kmabarami.pdf

Kang, E., Rapkin, B. D., & DeAlmeida, C. (2006). Are psychological consequences of stigma enduring or transitory? A longitudinal study of HIV stigma and distress among Asian and Pacific Islanders living with HIV illness. *AIDS Patient Care & STDs, 20*(10)*,* 712-723.

Kerani, R. P., Kent, J. B., Sides, T., Dennis, G., Ibrahim, A. R., Cross, H., Golden, M. R. (2008). HIV among African-born persons in the United States: A hidden epidemic? *Journal of Acquired Immune Deficiency Syndrome, 49*(1), 102-106.

Kirkwood, A. D., & Stamm, B. H. (2006). A social marketing approach to challenging stigma. *Professional Psychology Research and Practice, 37*(5*),* .472-476.

Klein, S. J., Karchner, W. D., & O'Connell, D. A. (2002). Interventions to prevent HIV-related stigma and discrimination: Findings and recommendations for public health practice. *Journal of Public Health Management Practice, 8*(6)*,* 44-53.

Klitzman, R., & Bayer, R. (2003). Tell it slant. *Studies in Gender and Sexuality, 4*(3)*,* 227-262.

Körner, H. (2007). Negotiating cultures: Disclosure of HIV-positive status among people from minority ethnic communities in Sydney. *Culture, Health & Sexuality, 9*(2), 137-152.

Lau, J. T. F., Choi, K. C., Tsui, H. Y., & Su, X. (2007). Associations between stigmatization toward HIV-related vulnerable groups and similar attitudes toward people living with HIV/AIDS: Branches of the same tree? *AIDS Care 19*(10), 1230-1240.

Lau, J. T. F., & Tsui, H. Y. (2007). Comparing the magnitude of discriminatory attitudes toward people living with HIV/AIDS and toward people with mental illness in Hong Kong general population. *Health Education Research, 22*(1), 139-152.

Li, L., Wu, Z., Wu, S., Zhaoc, Y., Jia, M., & Yan, Z. (2007). HIV-related stigma in health care settings: A survey of service providers in China. *AIDS Patient Care and STDs, 21*(10), 753-762.

Link, B. G., & Phelan, J. C. (2006). Stigma and its public health implications. *Lancet, 367*(9509)*,* 528-529. doi:10.1016/S0140-6736(06)68184-1

Mawar, N., Sahay, S., Pandit, A., & Mahajan, U. (2005). The third phase of HIV pandemic: Social consequences of HIV/AIDS stigma & discrimination & future needs. *Indian Journal of Medical Research, 122*(6)*,* 471-484.

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*. doi: 10/1155/2009/145891

Mill, J. E., & Anarfi, J. K. (2002). HIV risk environment for Ghanaian women: Challenges to prevention. *Social Science & Medicine, 54*(3), 325-337. doi:10.1016/S0277-9536(01)00031-4

Mishra, V., Assche, S. B., Greener, R., Vaessen, M., Hong, R., Ghys, P. D., . . . Rutstein, S. (2007). HIV infection does not disproportionately affect the poorer in sub-Saharan Africa. *AIDS, 21*(Suppl.7), S17-28.

Morrison, K. (2006). USAID. Breaking the cycle: Stigma, discrimination, internal stigma, and HIV. (2006). Retrieved from http://www.policyproject.com/pubs/generalreport/Breaking_the_Cycle.pdf

Munro, B. H. (2005). Statistical methods for health care research. (5th ed.). Philadelphia, PA: Lippincott Williams & Wilkins.

Muula, A. S., & Mfutso-Bengo, J. M. (2005) When is public disclosure of HIV seropositivity acceptable? *Nursing Ethics, 12*(3), 288-295.

Necessary sample size. Retrieved on July 29, 2007 from http://fsweb.berry.edu/academic/education/vbissonnette/tables/sampsize.pdf

Nunnally, J. (1978). *Psychometric theory.* New York: McGraw-Hill

Nyblade, L. (2004). *Disentangling stigma to find entry points for intervention.* Sexual Health Exchange 2004-2. Retrieved from http://www.kit.nl/exchange/html/2004-2_disentangling_stigma.asp

Ogden, J., & Nyblade, L. (2005). *Common at its core: HIV-related stigma across contexts.* International Center for Research on Women (ICRW). Retrieved from http://www.icrw.org/files/publications/Common-at-its-Core-HIV-Related-Stigma-Across-Contexts.pdf.

O'Leary, A., Kennedy, M., Pappas-DeLuca, K. A., Nkete, M., Beck, V., & Galavotti, C. (2007). Association between exposure to an HIV story line in *The Bold and the Beautiful* and HIV-related stigma in Botswana. *AIDS Education and Prevention, 19*(3), 209-217.

Ostrom, R. A., Serovich, J. M., Lim, J. Y., & Mason, T. L. (2006). The role of stigma in

reasons for HIV disclosure and nondisclosure to children. *AIDS Care, 18*(1), 60-65. doi: 10.1080/09540120500161769

Parikh, S.A. (2007). The political economy of marriage and HIV: The ABC approach, "safe" infidelity, and managing moral risk in Uganda. *American Journal of Public Health, 97*(7)*,* 1198-1208. doi: 10.2105/AJPH.2006.088682

Parker, R., Aggleton, P., Attawell, K., Pulerwitz, J., & Brown, L. (2002). *HIV/AIDS-related stigma and discrimination: A conceptual framework and an agenda for action.* Retrieved from http://www.popcouncil.org/pdfs/horizons/sdcncptlfrmwrk.pdf

Pequegnat, W., Rosser, B. R. S., Bowen, A. M., Bull, S. S., DiClemente, R. J., Bockting, W. O., . . . Zimmerman, R. (2007). Conducting Internet-based HIV/STD prevention survey research: Considerations in design and evaluation. *AIDS Behavior*, *11 (94)*, 505-521. doi: 10.1007/s10461-006-9172-9

Pettigrew, T. F. (2008). Future directions for intergroup contact theory and research. *International Journal of International Relations, 32*(3)*,* 187-199. doi: 10.1016/j.ijintrel.2007.12.002

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology, 90*(5), 751-783. doi: 10.1037/0022-3514.90.5.751

Phinney, H. M. (2008). "Rice is essential but tiresome; you should get some noodles": Doi moi and the politically economy of men's extramarital sexual relations and marital HIV risk in Hanoi, Vietnam. *American Journal of Public Health, 98*, 650-. 660. doi: 10.2105/AJPH.2007.111534

Pitt, R. N. (2006). De/stigmatizing bisexuality through pitying and pejorative discourses in media. *Journal of Men's Studies, 14*(2), 254-258.

Poindexter, C. C. (2005). The lion at the gate: An HIV-affected caregiver resists stigma. *Health & Social Work, 30*(1), 64-74.

Poundstone, K. E., Strathdee, S. A., & Celentano, D. D. (2004). The social epidemiology of Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome. *Epidemiologic Reviews, 26,* 22-35. doi: 10.1093/empire/mxhoo5

Qian, H. Z., Wang, N., Dong, S., Chen, H., Zhang, Y., Chamot, E., . . . Shao, Y. (2007). Association of misconceptions about HIV transmission and discriminatory

attitudes in rural China, *AIDS Care, 19*(10), 1283-1287. doi: 10.1080/09540120701402814

Riggle, E. D. B., Rostosky, S. S., & Reedy, C. S. (2005). Online surveys for BGLT research: Issues and techniques. *Journal of Homosexuality, 49*(2), *1-21.* doi: 10.1300/j082v49n02_01

Rintamaki, L. S., Davis, T. C., Skripkauskas, S., Bennett, C. L., & Wolf, M. S. (2006). Social stigma concerns and HIV medication adherence. *AIDS Patient Care & STDs, 20*(5), 359-68. doi: 10.1089/apc.2006.20.359

Rintamaki, L. S., Scott, A. M., Kosenko, K. A., & Jensen, R. E. (2007). Male patient perceptions of HIV stigma in health care contexts. *AIDS Patient Care, 21*(12), 956-969. doi: 10.1089/apc.2006.0154

Rosenthal, L., Scott, D. P., Kelleta, Z., Zikarge, A., Momoh, M., Lahai-Momoh, J., . . . Baker, A. (2003). Assessing the HIV/AIDS health services needs of African immigrants to Houston. *AIDS Education and Prevention, 15*(6), 570-580. doi: 10.1521/aeap.15.7.570.24047

Ross, M. W., Tikkanen, R., & Mansson, S. (2000). Differences between Internet samples and conventional samples of men who have sex with men: Implications for research and HIV interventions. *Social Science & Medicine, 51*, 749-758. doi: 10.1016/S0277-9536(99)00493-1

Sambisa, W., Curtis, S. & Mishra, V. (2010). AIDS stigma as an obstacle to uptake of HIV testing: evidence from a Zimbabwean national population-based survey. *AIDS Care,22,* 170-186. doi:10.1080/09540120903038374

Sax, L. J., Gilmartin, S., & Bryant, A. N. (2003). Assessing response rates and nonresponse bias in Web and paper surveys. *Research in Higher Education, 44*(4), 409-432. doi: 10.1023/A:1024232915870

Schiappa, E., Gregg, P. B., & Hewes, D. E. (2005). The parasocial contact hypothesis. *Communication Monographs, 72*(1), 92-115. doi: 10.1080/0363775052000342544

Siegel, M., & Doner, L. (1998). *Marketing public health. Strategies to promote social change.* Gaithersburg, MD: Aspen Publishers.

Simbayi, L. C., Kalichman, S., Strebel, A., Cloete, A., Henda, N., & Mqeketo, A. (2007). Internalized stigma, discrimination, and depression among men and women living with HIV/AIDS in Cape Town, South Africa. *Social Science & Medicine, 64*(9)*,* 1823-1831. doi: 10.1016/j.socscimed.2007.01.006

Simoni, J. M., & Pantalone, M. S. (2004). Secrets and safety in the age of AIDS: Does HIV disclosure leads to safer sex? *International AIDS Society-USA, 12*(4)*,* 109-118.

Singleton, R. A., & Straits, B. C. (2005) *Approaches to social research* (4th ed.). New York: Oxford University.

Steward, W. T., Herek, G. M., Ramakrishna, J., Bharat, S., Chandy, S., Wrubel, J., & Ekstrand, M. L. (2008). HIV-related stigma: Adapting a theoretical framework for use in India. *Social Science & Medicine, 67*(8)*,* 1225-1235. doi: 10.1016/j.socscimed.2008.05.032

Tables to calculate necessary size. Retrieved from PUBH 9000, Walden Administrator, May 27, 2010

Tylor, E. B. (2009). *Primitive culture: Researches into the development of mythology, philosophy, religion, language, art, and custom* (Vol. 1). London, United Kingdom: Kessinger.

UNAIDS (2008). Joint United Nations Programme for HIV/AIDS (UNAIDS) and World Health Organization (WHO). *AIDS epidemic update*. Retrieved from www.unaids.org

Understanding Test Quality-Concepts of Reliability and Validity. Retrieved on August 22. 2010 from http://www.hr-guide.com/data/G362.htm.

USAID (2008). *Zimbabwe HIV/AIDS health profile*. Retrieved from http://www.usaid.gov/our_work/global_health/aids/Countries/africa/zimbabwe_profile.pdf

Valdiserri, R. O. (2002). HIV/AIDS: An impediment to public health. *American Journal of Public Health, 92*(3)*,* 341-342.

Van de Wijgert, J. H. H. M., Khumalo-Sakutukwa, G. N., Coggins, C., Dube, S. E., Nyamapfeni, P., Mwale, M., . . . Padian, N. S. (1999). Men's attitudes toward vaginal microbicides and microbicide trials in Zimbabwe. *International Family Planning Perspectives, 25*(1), 15-20. Retrieved from http://www.guttmacher.org/pubs/journals/2501599.pdf

Van Selm, M., & Jankowski, N. W. (2006). Conducting online surveys. *Quality & Quantity, 40,* 435-456. doi: 10.1007/s11135-005-8081-8

Ware, N. C., Wyatt, M. A., & Tugenberg, T. (2006). Social relationships, stigma and adherence to antiretroviral therapy for HIV/AIDS. *AIDS Care, 18*, 904-910. doi: 10.1080/09540120500330554

Weiss, M.G. & Ramakrishna, J.(2006). Stigma interventions and research for international health. Lancet, 367**,** 536-538.

Without identity. (2004). The HIV and AIDS epidemic in Zimbabwe. Retrieved from http://www.sarpn.org.za/documents/d0000989/P1107-PNADA504.pdf

Wolfe, W. R., Weiser, S. D., Bangberg, D. R., Thior, I., Makhema, J. M., Dickinson, D. B., . . . Marlink, R.G. (2006). Effects of HIV-related stigma among an early sample of patients receiving antiretroviral therapy in Botswana. *AIDS Care, 18*(8), 931-933. doi: 10.1080/09540120500333558

Wysocki, D. K. (1998). Let your fingers do the talking: Sex on an adult chat-line. *Sexualities, 1*(4), 425-452. doi: 10.1177/136346098001004003

Yeboah, I. E. A. (2007). HIV/AIDS and the construction of sub-Saharan Africa: Heuristic lessons from the social sciences for policy. *Social Sciences & Medicine, 64*(5)*,* 1128-1150. doi: 10.1016/j.socscimed.2006.10.003

Yoder, J. D., Rice, R. W., Adams, J., Priest, R. F., & Prince, H. T. (1982). Reliability of the attitudes towards women scale (AWS) and the personal attributes questionnaire. *Sex Roles, 8*(6), 651-657. doi: 10.1007/BF00289898

Yoshioka, M. R., & Schustack, A. (2001). Disclosure of HIV status: Cultural issues of Asian patients. *AIDS Patient Care & STDs, 15*(2), 77-82. doi: 10.1089/108729101300003672

Zimbabwean. Retrieved on December 16, 2009 from http://wordnetweb.princeton.edu/perl/webwn?s=zimbabwean

Zimbabwe demographics profile 2007. Retrieved on February 1, 2008 from http://www.indexmundi.com/zimbzbwe/demographics_profile.html

Zimbabwe National Behavioral Change Strategy for Prevention of Sexual Transmission of HIV 2006-2010. Zimbabwe National AIDS Council (2007). Retrieved from http://www.safaids.net/files/Zimbabwe%20National%20Behaviour%20Change%20Strategy%202006-2010.pdf

Zimbabwe National HIV and AIDS strategic plan (ZNASP). (2006-2010). Retrieved from http://www.safaids.net/files/ZNASP%202006-2010.pdf

ZimNet Radio. Available at http://www.fmradiostationz.com/zw/zimnet-radio.html

APPENDIX A:

E-MAIL TO DJ WITH SOLICITATION SCRIPT

Dear Gamu (DJ Dynamite),

I am conducting research to assess the effect direct contact on public attitudes towards people living with the human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) in Zimbabwean culture as part fulfillment of my doctoral degree.
As one of the popular D Js on ZimNET radio I would really appreciate it if you could invite your listeners to visit my Web site: www.mavismash.com and complete a survey which will take about 10 to 15 minutes.

I strongly recommend that you do not discuss stigma on the air to avoid listener bias. The announcement should go as follows: "A fellow Zimbabwean is conducting a health-related survey among Zimbabweans worldwide. Those interested should click on the SurveyMonkey link provided on the Web site or e-mail the researcher at mavismash@yahoo.com. The researcher would greatly appreciate your help in the form of completing the questionnaire."

I will also paste the link on this e-mail and ask you to feel free to send to all Zimbabweans you can contact. Click on the link below to start the survey:

https://www.surveymonkey.com/s/WRJ22HH

Thank you for your help.

Sincerely,

Mavis Mashingaidze

PhD Candidate

Walden University

E-mail: mavismash@yahoo.com or

mavis.mashingaidze@waldenu.edu

APPENDIX B:

CONFIDENTIAL PERSONAL INFORMATION SHEET

1. Date of this survey (MM/DD/YY): __/__/__

2. Gender

(a) Male
(b) Female

3. Age _____

4. Occupation

(a) Employed
(b) Unemployed

5. What is your ethnicity?
(a) Black Zimbabwean
(b) Caucasian Zimbabwean
(c) Asian Zimbabwean
(d) Other (specify) _____

6. Where do you currently reside?
(a) Zimbabwe
(b) North America
(c) Europe
(d) Asia
(e) Other (specify) _____

7. If outside Zimbabwe, how long (in years) have you resided outside Zimbabwe?
_____

8. What is your highest level of education?
(a) Less than high school
(b) High school graduate
(c) Some college education
(d) College graduate
(e) Post graduate
(f) Other (specify) _____

APPENDIX C:

ATTITUDES AND BELIEFS ABOUT HIV/AIDS

Read each item carefully. Using the scale shown below, please select the number that best describes YOU. Please respond to <u>all</u> of the items.

People have different feelings when they think about people who have HIV/AIDS. Please read the next three questions and state how you personally feel.

1. When I think of people with HIV/AIDS I feel.....
   (a) Very angry
   (b) Somewhat angry
   (c) A little angry
   (d) Not at all angry

2. When I think of people with HIV/AIDS I feel.....
   (a) Very afraid
   (b) Somewhat afraid
   (c) A little afraid
   (d) Not at all afraid

3. When I think of people with HIV/AIDS I feel.....
   (a) Very disgusted
   (b) Somewhat disgusted
   (c) A little disgusted
   (d) Not at all disgusted

The following are statements that people have made about people with HIV/AIDS. Please indicate how much you agree or disagree.

4. People with HIV/AIDS should be legally separated from others to protect the public health.

   Would you say you:

   (a) Agree strongly
   (b) Agree somewhat
   (c) Disagree somewhat, or
   (d) Disagree strongly

5. The names of people with HIV/AIDS should be made public so others can avoid them.

   Would you say you:

   (a) Agree strongly
   (b) Agree somewhat
   (c) Disagree somewhat
   (d) Disagree strongly

6. People who got HIV/AIDS through sex or drug use have gotten what they deserve. Would you say you:

   (a) Agree strongly
   (b) Agree somewhat
   (c) Disagree somewhat
   (d) Disagree strongly

7. Suppose you had a close friend or relative who developed HIV/AIDS.

   (a) Would you be willing to take care of him/her, or
   (b) Is that something you will not be willing to do?

   IF (b): Is that because

   (c) You would not want to take care of someone with HIV/AIDS, or
   (d) For some other reason

8. Suppose you had a young child who was attending school where one of the students was known to have HIV/AIDS. What would you do? Would you:

   (a) Send your child to another school, or
   (b) Leave your child in the same school?

   IF (b): Would you

   (c) Encourage your child to be especially nice to the student with HIV/AIDS,
   (d) Discourage your child from contact with him/her, or
   (e) Encourage your child to treat him/her the same as always?

9. Suppose you had an office job where one of the men/women working with you developed HIV/AIDS. Would you

   (a) Still be willing to work with him/her,
   (b) Ask he/she be assigned someplace else
   (c) Ask to be assigned with someone else.

   IF (a): Would you

   (d) Go out of your way to help him?
   (e) Try to avoid contact with him?
   (f) Treat him the same as always?

10. Suppose that you found out that the owner of a small neighborhood grocery store where you like to shop had HIV/AIDS. Would you:

    (a) Continue to shop there.
    (b) Probably go someplace else to shop?

    IF (a): Do you think you would shop there

    (c) More often or
    (d) Less often than you did before you found out the owner had HIV/AIDS, or
    (e) Would you continue to shop there as much as you did before you found out?

These next questions are about the different ways some people think HIV/AIDS might be spread. Please indicate how likely you think it is that a person could get HIV/AIDS infection in that way.

		Very likely	Somewhat likely	Somewhat unlikely	Very unlikely	Impossible
11	Kissing someone on the cheek who has the HIV/AIDS virus	1	2	3	4	5
12	Sharing a drink out of the same glass with someone who has HIV/AIDS	1	2	3	4	5
13	Using public toilets	1	2	3	4	5
14	From being coughed on or sneezed on by someone who has the HIV/AIDS virus	1	2	3	4	5
15	From mosquito or other insect bites	1	2	3	4	5

16. Do you personally know or have you known anyone who has HIV/AIDS?

    (a) Yes
    (b) No

APPENDIX D:

ATTITUDES TOWARD WOMEN SCALE

(Spence & Helmreich, 1978)

Instructions:

The statements listed below describe attitudes toward the roles of women in society which different people have. There are no right or wrong answers. You are asked to express your feeling about each statement by indicating whether you (a) agree strongly, (b) agree mildly, (c) disagree mildly, or (d) disagree strongly.

1. Swearing and obscenity are more repulsive in the speech of a woman than a man.

(a) Agree strongly
(b) Agree mildly
(c) Disagree mildly
(d) Disagree strongly

2. *Under modern economic conditions with women being active outside the home, men should share in household tasks such as washing dishes and doing laundry.

(a) Agree strongly
(b) Agree mildly
(c) Disagree mildly
(d) Disagree strongly

3. *It is insulting to women to have the “obey” clause remain in the marriage service.

(a) Agree strongly
(b) Agree mildly
(c) Disagree mildly
(d) Disagree strongly

4. *A woman should be free as a man to propose marriage.

(a) Agree strongly
(b) Agree mildly
(c) Disagree mildly
(d) Disagree strongly

5. Women should worry less about their rights and more about becoming good wives and mothers.

(a) Agree strongly
(b) Agree mildly
(c) Disagree mildly
(d) Disagree strongly

6. *Women should assume their rightful place in business and all professions along with men.

(a) Agree strongly
(b) Agree mildly
(c) Disagree mildly
(d) Disagree strongly

7. A woman should not expect to go exactly the same places or to have quite the same freedom of action as a man.

(a) Agree strongly
(b) Agree mildly
(c) Disagree mildly
(d) Disagree strongly

8. It is ridiculous for a woman to run a locomotive and for a man to darn socks.

(a) Agree strongly
(b) Agree mildly
(c) Disagree mildly
(d) Disagree strongly

9. The intellectual leadership of a community should be largely in the hands of men.

(a) Agree strongly
(b) Agree mildly
(c) Disagree mildly
(d) Disagree strongly

10.* Women should be given equal opportunity with men for apprenticeship in various trades.

(a) Agree strongly
(b) Agree mildly
(c) Disagree mildly
(d) Disagree strongly

11. Women earning as much as their dates should bear equally the expense when they go out together.

(a) Agree strongly
(b) Agree mildly
(c) Disagree mildly
(d) Disagree strongly

12. Sons in a family should be given more encouragement to go to college than daughters.

(a) Agree strongly
(b) Agree mildly
(c) Disagree mildly
(d) Disagree mildly

13. In general, the father should have greater authority than the mother in bringing up children.

(a) Agree strongly
(b) Agree mildly
(c) Disagree mildly
(d) Disagree strongly

14. *Economic and social freedom is worth far more to women than the acceptance of the ideal of femininity which has been set up by men.

(a) Agree strongly
(b) Agree mildly
(c) Disagree mildly
(d) Disagree strongly

15. There are many jobs in which men should be given preference over women in being hired or promoted.

(a) Agree strongly
(b) Agree mildly
(c) Disagree mildly
(d) Disagree strongly

APPENDIX E:

E-MAIL FOR PILOT STUDY

Dear (name),

I am conducting a health-related survey as part fulfillment of my doctoral degree and wanted to find out if you would be interested in taking a 10 to 15 minutes survey at two different points in time. Your responses will be kept confidential and you will only be identified by a number.

If you are interested please e-mail the researcher at mavismash@yahoo.com. I would greatly appreciate your help.

Sincerely,

Mavis Mashingaidze

PhD Candidate

Walden University

E-mail: mavismash@yahoo.com or

mavis.mashingaidze@waldenu.edu

APPENDIX F:

INVITATION FLYER

Volunteers needed for a health-related study among Zimbabweans.

As a participant in this survey you will be asked to complete an anonymous computer-based survey. Your participation would involve answering some demographic and multiple choice questions which should take about 10-15 minutes.

For more information about this study, or to volunteer for this study, please contact:

Mavis Mashingaidze

Walden University

at

mavis.mashingaidze@waldenu.edu or

mavismash@yahoo.com

APPENDIX G:

INFORMED CONSENT

Welcome to the HIV/AIDS-related stigma survey

Mavis Mashingaidze, a graduate student of Walden University, School of Health Sciences invites you to be part in a health-related research study among Zimbabweans.

If you agree to be part of this study, you will be asked to complete an online survey giving your attitudes and beliefs about HIV/AIDS. I expect this survey to take 10 to 15 minutes to complete.

While you may not receive any direct benefit for participating, I hope that this study will highlight areas that need attention in public health efforts to curb the spread of HIV/AIDS and improve the quality of life for those living with HIV/AIDS.

Your responses to this survey are anonymous, meaning that the researcher will not be able to link your survey response to you. The survey software does not collect identifying information about you and your computer. I plan to publish the results of this study, but will not include any information that would identify you.

Participating in this study is completely voluntary and by clicking on the link below, you are consenting to participate in this research survey:

https://www.surveymonkey.com/s/WRJ22HH

For further information on the study, you can contact:

Mavis Mashingaidze

Walden University

at

mavis.mashingaidze@waldenu.edu or

mavismash@yahoo.com

CURRICULUM VITAE

Mavis Sesedzai Mashingaidze, BBS, ACIS, MBA, RRT, MsPH

E-mail: mavismash@yahoo.com

ACADEMIC EXPERIENCE

2006 – Present	Candidate for Doctor of Philosophy- Public Health: Epidemiology Specialization, ***Walden University, Minneapolis, Minnesota***
2006 – 2008	Master of Science in Public Health - ***Walden University, Minneapolis, Minnesota***
2002 – 2005	Associate Degree- Respiratory Therapy, ***Collin County Community College,*** McKinney, TX
1998 – 2001	Masters of Business Administration, ***Nottingham Trent University***
1988 –1991	Chartered Secretary ***Institute of Chartered Secretaries and Administrators - Private Studies***
1982 –1984	Bachelor of Business Studies Honors Degree, ***University of Zimbabwe***

PROFESSIONAL EXPERIENCE

2004 – Present ***Respiratory Care Practitioner***

Parkland Health and Hospital System

Work as part of a team of physicians, nurses and other health care professionals in the medicine intensive care unit (MICU) to manage patients with breathing disorders. Assume primary responsibility for all respiratory care modalities, including the setting up mechanical ventilators for varying disease conditions such as pneumonia, adult respiratory distress syndrome, chronic

obstructive pulmonary disease (COPD), and asthma; managing the artificial airway, and providing cardiopulmonary resuscitation. Assist and demonstrate respiratory care procedures to trainees and other health care personnel.

2009 – Present ***Respiratory Care Practitioner***

Baylor Regional Hospital, Plano

Work as part of a team of physicians, nurses and other health care professionals in the medicine intensive care unit (MICU) to manage patients with breathing disorders, monitor patient's physiological responses to respiratory therapy, such as vital signs and arterial blood gases, assume primary responsibility for all respiratory care modalities. Assist and demonstrate respiratory care procedures to trainees and other health care personnel

2004 – 2005 ***Respiratory Care Intern and Practitioner***

Children's' Medical Center of Dallas

Assumed primary responsibility for all respiratory care modalities for children with asthma, cystic fibrosis, neuromuscular disorders, congenital cardiac defects, and respiratory **syncytial virus (RSV**)*; educated patients and their families about asthma and taught appropriate disease management techniques, such as breathing exercises and the use of medications and respiratory equipment.*

2000 – 2002 ***Divisional Management Accountant***

National Foods, Harare, Zimbabwe

Responsible for producing divisional management accounts, inventory control, budgeting, and managing accounts staff.

1998 – 2000 ***Divisional Financial Accountant***

PG Glass, Harare, Zimbabwe

Responsible for producing divisional financial accounts, cash flow management, and managing accounts staff. Part of the Strategic Management team which held a seminar to map out future strategy for PG Industries coming up with the vision, mission statement and corporate values.

1992 –1998 **National Credit Manager**

Gestetner Private Limited, Harare, Zimbabwe

Responsible for national accounts receivables, supervising stock takes, liaising with company lawyers, credit evaluations, and managing receivables staff. Sat on the committee which spearheaded and coordinated switching of the accounts ledger from tetra-plan to a new system called Commonsense Business System. This greatly improved the overall business control. During this time, I was also a moderator for the Business Administration examination for the Institute of Chartered Secretaries and Administrators (CIS).

1989 –1992 **Senior Administrator**

Institute of Personnel Management, Harare, Zimbabwe

Responsible for processing student application, preparing student calendars and timetables, arranging examination venues for short courses, administering and processing results; exercising financial control; preparing council agenda, attending council meetings and taking minutes.

1985 – 1989 **Internal Auditor**

Cairns Foods Management Services, Harare, Zimbabwe

Responsible for reviewing of internal control procedures, organizing branch audit trips, payables and receivables audits, salary and wage audits, inventory control, and import and exports audits.

LICENSURE AND CERTIFICATION

Licensed Registered Respiratory Therapist, TX

Received 2006

License Number: Available upon request

American Heart Association (AHA) accredited Basic Life Support (BLS) Instructor

PROFESSIONAL MEMBERSHIP

American Association for Respiratory Care (AARC)

American Public Health Association (APHA)

Society for the Scientific Study of Sexuality (SSSS)

Texas Society for Respiratory Care

Texas Public Health Association

Phi Theta Kappa

PROFESSIONAL IN-HOUSE COURSES AND CONVENTIONS

2010: American Public Health Association (APHA) Convention

2010: Society for the Scientific Study of Sexuality (SSSS)

2009: American Public Health Association (APHA) Convention

2008: Asthma Educator Preparatory Course

2007: American Association for Respiratory Care (AARC) Convention

2004: American Association for Respiratory Care (AARC) Convention

2005: Disaster Preparedness

2001: Change Management (Who Moved my Cheese)

1997: In pursuit of WOW! (Tom Peters)

1993: Portuguese Beginners

1992: Improved skills in collecting receivables (Jim Bannister)

1991: Institute of Personnel Management Annual Convention

1989: Internal Controls, Electronic Data Processing Controls, and Stock Control

RESEARCH INTERESTS

HIV/AIDS, infectious disease epidemiology, social epidemiology, human sexuality, women's issues.

PROFESSIONAL PRESENTATIONS

2010 Poster presentation at the Society for the Scientific Study of Sexuality (SSSS). HIV/AIDS–related stigma in Zimbabweans

2010 Assisted presentation at the American Public Health Association (APHA)

Incidence, cost and sources of treatment of Malaria episodes across life stages in a population of internally displaced peoples in the Eastern Kasai Province.