

THESIS





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Measuring Associational Stigma Among HIV/AIDS Workers

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David William Lounsbury

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# MEASURING ASSOCIATIONAL STIGMA AMONG HIV/AIDS WORKERS

By

David William Lounsbury

# A THESIS

Submitted to Michigan State University in partial fulfillment of the requirements for the degree of

# MASTER OF ARTS

Department of Psychology

#### ABSTRACT

# MEASURING ASSOCIATIONAL STIGMA AMONG HIV/AIDS WORKERS By

David William Lounsbury

The present study developed a quantitative measure of the degree to which HIV/AIDS workers (N=319) perceive an associational stigma as a result of their close social proximity to persons who have HIV/AIDS. The measure was comprised of two macro-dimensions: depravity (perceiving oneself to be viewed by others as morally bad, corrupt, infectious and perverted because one attends to the needs of persons who have HIV/AIDS) and disempathy (perceiving oneself to be viewed by others as misunderstood, unadmired, and not worthy of compassion because one attends to the needs of persons who have HIV/AIDS). Perceived associational stigma (PAS) tended to be higher when persons who were less familiar to the worker were considered ( $\eta_{\text{Depravity}} = .61$ ;  $\eta_{\text{Disempathy}} =$ .49). Depravity was linked to perceptions of being physically avoided by others (r = .55). Disempathy was linked to perceptions of depravity (r = .19) and to perceived social support from HIV/AIDS workers (r = -.12). Workers who reported stronger PAS were less likely to exhibit HIV/AIDS-related communication behavior [i.e., informal conversation with others about their HIV/AIDS work] ( $r_{\text{Depravity}} = -.29$ ;  $r_{\text{Disempathy}} = -.09$ ).

To all those whose efforts have pushed the world closer to the end of its epidemics of fear, hate, and intolerance.

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iv

# **TABLE OF CONTENTS**

LIST OF TABLESviii
LIST OF FIGURES xi
INTRODUCTION
Current Epidemiology of HIV/AIDS1
Responding to the HIV/AIDS Epidemic
Perceptions of Them
Searching for a Social Cure
Goffman's Conceptual Work on Social Stigma
CHAPTER 1
PREVIOUS RESEARCH ON HIV/AIDS STIGMA
Associational Stigma
Studies that Measure Perceptions that Others have of Associates
Studies that Measure Perceptions that Associates Have of Others
Dimensions of HIV/AIDS Stigma
Judgments of Moral Wrong-doing18
Judgments of Responsibility/Controllability
Fear of Contagion20
Lack of Compassion21
Assessment of Dependency/Disability
Fear of Death
Other Research on HIV/AIDS Stigma
CHAPTER 2
DEVELOPING AND TESTING A MEASURE OF ASSOCIATIONAL HIV/AIDS
STIGMA32
Present Study's Research Questions
Hypotheses
CHAPTER 3
METHOD
Procedure
Measures43
Section A. HIV/AIDS Work Background44

Section B. Perceptions of Others' Beliefs	44
Section C. Perceptions of Others' Negative Behaviors	45
Section D. Communication with Others	46
Section E. Unexpected Reactions of Others	46
Section F. Personal Background	47

# **CHAPTER 4**

RESULTS	48
Use of Confidence Intervals, Inference Probabilities, and Odds Ratios	50
Significance Testing and Confidence Intervals	50
Correcting for Attenuation	51
Inference Probabilities and Odds Ratios for Correlations	52
Description of Study Sample	54
Response Rates	54
Respondent Demographics	55
Types of HIV/AIDS Organizations	56
How Respondents Worked with Persons with HIV/AIDS	56
Groups Served by HIV/AIDS Workers	59
Dimensionality of Percieved Associational Stigma (Hypotheses 1 - 2)	62
Exploratory Factory Analysis	63
First Order Confirmatory Factor Analysis	60
Second Order Confirmatory Factory Analysis	68
Pychometrics for Perceived Associational Stigma Scales	
Bivariate Correlational Findings	74
Scale Composition and Psychometrics	7
Correlates of Perceived Associational Stigma (Hypotheses 3 - 10)	78
Correlates of Perceived Social Distance (Hypotheses 11 - 19)	88
Correlates of HIV/AIDS-related Communication Behavior	
(Hypotheses 20 - 29)	94
Supplemental Analyses	99
Exploratory Cluster Analysis of Study Respondents	99
Exploratory Path Analysis of Major Constructs	104

DISCUSSION	
Differentiating Depravity from Disempathy	
Strength of Association	114
Strength of Belief	
HIV/AIDS Worker Profiles	117
Talking is Preventing	
Conclusion	120
APPENDIX A - Participating Organizations	121
APPENDIX B - UCRHIS Approval	123

APPENDIX C - HIV/AIDS Work Experience Survey with Variable Names
APPENDIX D - Cover letter to participants
APPENDIX E - Informed Consent Sheet
APPENDIX F - Study Results Request Form
APPENDIX G - Variable Descriptives
APPENDIX H- Value Labels for Categorical Variables148
APPENDIX I - Variable Compute Statements (SPSS for Windows Syntax)161
APPENDIX J - Respondent Demographics
APPENDIX K - Hunter and Hamilton's Path Analysis Output
REFERENCES

# LIST OF TABLES

Table 1 -	Interpretation of Inference Probabilities and Odds Ratios for Correlations53
Table 2 -	Respondents' City of and County of Residence by Regional HIV Prevention Planning Group (RPPG)
Table 3 -	Cumulative Incidence of AIDS by Regional HIV Prevention Planning Group (RPPG)
Table 4 -	How Respondents Worked with Persons with HIV/AIDS
Table 5 -	Groups Served by HIV/AIDS Workers61
Table 6 -	Hypotheses for Research Question 1
Table 7 -	Factor Loadings and Uniqueness for Exploratory Factor Analyses of Dimensions of Perceived Associational Stigma
Table 8 -	Percentage of Variance Explained for Exploratory Factor Analyses of Dimensions of Perceived Associational Stigma
Table 9 -	First Order Correlation Matrix and Item-Factor Loadings for Confirmatory Factor Model of Perceived Associational Stigma
Table10 -	Second Order Correlation Matrix and Item-Factor Loadings for Confirmatory Factor Model of Perceived Associational Stigma
Table 11 -	Standard Score Coefficient Alpha and Average Correlation for Perceived Associational Stigma Scales
Table 12 -	Univariate Repeated Measures Analysis for Perceived Associational Dimensions of Perceived Associational Stigma
Table 13 -	Summary of Results for Research Question 174
Table 14 -	First Order Correlation Matrix and Item-Factor Loadings for Confirmatory Factor Model of Five Multi-Item Scales

Table 15 -	Standard Score Coefficient Alpha and Average Correlation for Multi-item Scales
Table 16 -	Hypotheses for Research Question 2
Table 17 -	Correlational Analysis for Perceived Associational Stigma and Satisfaction with Work Experience
Table 18 -	Correlational Analysis for Perceived Associational Stigma and Basis of HIV/AIDS Work (Volunteer vs. Paid)
Table 19 -	Correlational Analysis for Perceived Associational Stigma and the Number of Otherwise Stigmatized Groups of PWAs with whom Respondents Work82
Table 20 -	Correlational Analysis for Perceived Associational Stigma and Frequency of Face-to-face Contact with PWAs
Table 21 -	Correlational Analysis for Perceived Associational Stigma and Duration of Work Experience
Table 22 -	Correlational Analysis for Perceived Associational Stigma and Perceived Social Support from Peer HIV/AIDS Workers
Table 23 -	Correlational Analysis for Perceived Associational Stigma and Perceived Risk of HIV Infection
Table 24 -	Correlational Analysis for Perceived Associational Stigma and the Proportion of Persons who know about Respondent's HIV/AIDS Work86
Table 25 -	Summary of Results for Research Question 2
Table 26 -	Hypotheses for Research Question 3
Table 27 -	Correlational Analysis for Perceived Associational Stigma and Perceived Social Distance
Table 28 -	Correlational Analysis for Perceived Social Distance and Selected Variables
Table 29 -	Summary of Results for Research Question 3
Table 30 -	Hypotheses for Research Question 494

Table 31 - Correlational Analysis for HIV/AIDS-related Communication Behavior and Perceived Associational Stigma.	96
Table 32 - Correlational Analysis for HIV/AIDS-related Communication Behavior   and Selected Variables	96
Table 33 - Summary of Results for Research Question 4	99
Table 34 - Validation of Group Membership by Selected External Criteria	102
Table 35 - Nonlinear Correlational Analysis for Selected External Criteria and Respondent Group	104
Table 36 - List of Results Tables for Path Analytic Model's Direct Links	107

# **LIST OF FIGURES**

Figure 1 - Types of HIV/AIDS Organizations	57
Figure 2 - Types of HIV/AIDS Work	58
Figure 3 - Confirmatory Factor Model for Perceived Associational Stigma	71
Figure 4 - Standardized Respondent Group Centers	101
Figure 5 - Respondent Group Profiles	103
Figure 6 - Path Analysis of the Effect of Perceived Associational Stigma on HIV/AIDS-related Communication Behavior	106

#### INTRODUCTION

#### **Current Epidemiology of HIV/AIDS**

Sixteen years have now passed since the Centers for Disease Control and Prevention (CDC) reported the unsettling news of five deaths in Los Angeles from *Pneumocystis carinii* pneumonia (PCP) (CDC, 1981; U.S. Public Health Service, 1986), an opportunistic infection now commonly associated with Acquired Immunodeficiency Syndrome (AIDS). Since then the United States has seen more than 548,102 cases of AIDS, approximately 63% of which have already ended in death (Michigan Department of Community Health [MDCH], 1996). By 1993 AIDS was, and continues to be, the number one cause of death among American men between the ages of 25 and 44 (CDC, 1993; CDC, 1995a). In the United States alone at least 1,000,000 people are currently infected with Human Immunodeficiency Virus (HIV), the virus that causes AIDS (CDC, 1995a). Moreover, up to 80,000 new cases of HIV-infection are expected to be reported in the United States alone each year (CDC, 1995a).

Recent reports indicate that the prevalence of AIDS in the United States and other western industrialized countries will stabilize gradually over the next few years (CDC, 1995a). Although somewhat encouraging, health officials consider the number of cases at which the epidemic appears to be leveling off to be unacceptably high. Other parts of the world, Asia in particular, are experiencing rapidly worsening rates of HIV infection and more virulent forms of HIV (World Health Organization [WHO], 1995). WHO reported that more than 18 million adults and 1.5 million children have been infected with HIV worldwide, which has already resulted in approximately 4.5 million cases of AIDS in 178 countries.

These epidemiological data show how the HIV/AIDS epidemic continues directly to affect the health and general well-being of people throughout the globe. Assessment of the larger social impact of HIV/AIDS, however, is a far more complex task. In an attempt to communicate the character of the social impact that HIV/AIDS has had in the United States in just one decade, Cadwell (1991) wrote:

AIDS has threatened the social order of [this country]. Norms about expectable life spans have contracted by 50% for some groups. Stereotypes have cracked. Macho movie idols topple as their disease reveals them as 'faggots.' The fundamental taboos of sex and death have reared in full public view spread across newspaper headlines and on the nightly television news. Different groups have heralded the demise of their more crucial social values. For spokespersons of Middle America, the family is at stake. For some gay liberationists, freedom of sexual expression is in jeopardy. Formerly disguised prejudice is exposed in the lack of funding for education and prevention of AIDS. Gays [among other groups] already stigmatized as deviant are further stigmatized as lethally contagious (p. 236).

In short, HIV/AIDS presents society with a complex array of social problems that

simultaneously challenge our technology, knowledge, and values.

# **Responding to the HIV/AIDS Epidemic**

Society's response to the problem of HIV/AIDS may be best characterized as unwieldy and polarized. Some have used HIV/AIDS to justify draconian policies that they claim will stamp out moral decay and promiscuity in society (Buchanan, 1987; Cohen, 1987). Others have used it to justify the need for innovative and progressive initiatives in medicine, law, public policy, and social science (Stryker et al., 1995). For instance, the fight against HIV/AIDS has led to the discovery of new treatments for a number of other diseases and health problems (Lemp, Payne, Neal, Temelso, & Rutherford, 1990); has forced revision of legal code so that potentially life-sustaining drugs are made more available (Hansen, Ranelli, & Ried, 1995); has produced an empowered advocacy for the promotion of nationwide health-enhancement programs (Kelly, Murphy, Sikkema, & Kalichman, 1993); and has assembled an enlightened new literature on human sexuality&including homosexuality and adolescent/teenage sexuality&and drug-using behaviors (Adib & Ostrow, 1991).

Also out of the problem of HIV/AIDS has emerged a proliferation of communitybased HIV/AIDS organizations, which can be found in cities, towns, and rural areas alike (U.S. Conference of Mayors, 1990). Most of these organizations are set up expressly to serve persons with HIV/AIDS, but many have expanded to provide other services such as HIV-antibody testing, prevention education, and community-based advocacy and referrals. Volunteers typically comprise most of the personnel in these organizations<sup>&</sup> so much so that the phenomenon of community-based HIV/AIDS service development has come to be referred to as *AIDS Volunteerism* (Omoto & Crain, 1995a; Omoto & Synder,1995).

Although medicine, law, public policy, social science, and grassroots initiatives have each made an undeniable contribution to the fight against HIV/AIDS, these gains can be more directly credited to the efforts of a select (i.e., particularly affected) segment of the population (Omoto & Snyder, 1995; Williams, 1988). Although some research shows a gradual increase in attention to issues related to HIV/AIDS and compassion for persons who have HIV/AIDS (Weiner, 1988), the general public appears to have remained relatively aloof (Maticka-Tyndale, 1996).

#### Perceptions of Them

Gilmore and Somerville (1994) note that a threat to a person's well-being, such as HIV/AIDS, instigates an arguably adaptive human proclivity to divide ourselves quickly into self-serving categories of *us* and *them*. This differentiation may account for much of the indifference found among the general public regarding persons with HIV/AIDS. They further write that:

When people, as individuals, a group, or society, are confronted with a frightening or intolerable situation, their response can be to attempt to flee or escape from it; to control it by activating or destroying it, or its cause; to deny it; or to displace the fear it engenders such that its impact is eliminated or minimized (p. 1339).

Aspects of this general phenomenon have often been observed during previous epidemics of disease, in particular those of Black Plague, cholera, polio, and syphilis (e.g.,Brandt, 1988; Risse, 1988; Rosenberg, 1987).

With respect to HIV/AIDS in the United States, American society was quick to label exactly who comprised *them*. Analysis of media reporting about HIV/AIDS during the first half of the 1980s underscored, often with high melodrama, that the disease affected particular "high risk groups" and that it was "lethal," "exotic," and "mysterious" (Kinsella, 1988). These early characterizations of the disease established a basis upon which social perceptions of persons with HIV/AIDS would be formed.

First known here as "the gay cancer," Gay Related Immune Disorder (GRID), or "the gay plague," HIV/AIDS has always been considered a disease that affects men who have sex with men (e.g., Adib & Ostrow, 1991). Besides men who have sex with men, it was also associated with hemophiliacs, Haitians, and heroin-users. HIV/AIDS, in fact, came to be known to many people as the disease of the 'four Hs.' Indeed, these groups

comprised approximately 94% of all AIDS cases in the United States by the summer of 1983. Male-to-male sex accounted for 63% of all cases, followed by intravenous (IV) drug use (25%), Haitian (5%), contaminated blood products (1%), and undetermined (6%) (Foege, 1983).

Although the statistics are organized somewhat differently now, the current proportions of AIDS cases remain similar. Male-to-male sex accounts for 50% of all AIDS cases, followed by IV drug use (25%), male-to-male sex and IV drug use (6%), contaminated blood products (2%), heterosexual sex (8%), perinatal infection (1%), and undetermined (7%) (MDCH, 1996).

The fact that HIV/AIDS continues to disproportionately afflict gay men and IV drug users, however, can be presumed to maintain the public's perception that this disease is not a great threat to members of mainstream society. Yet the face of the epidemic is changing. Since the early 1980s, the incidence of HIV/AIDS has been increasing in persons who are neither gay nor IV drug users (Choi & Coates, 1994; Lindhorst & Mancoske, 1993). Through October 1995, 51% of reported cases of AIDS were among blacks and Hispanics, even though these populations represent an estimated 13% and 10%, respectively, of the United States population (CDC, 1995a).

Current statistics show that African-Americans now account for the highest prevalence of AIDS (646.9 per 100,000 people) among all racial groups in the United States (MDCH, 1996). This reality is explained by some researchers as a result of social problems such as higher drug abuse and worsening economic opportunity for the majority of the black community (Fullilove, Fullilove, Haynes & Gross, 1990). Links to worsening economic opportunity were also underscored by Haverkos and Edelman (1988), who

concluded that persons who are unemployed or under-employed were more likely to test HIV-positive. Regardless of why or why not HIV/AIDS continues to spread in this country, epidemiologists agree that national data continue to show a yearly increase in the proportion of AIDS cases that are due to heterosexual transmission (CDC, 1995a).

### Searching for a Social Cure

Because prospects for a biomedical cure for AIDS or a vaccine for HIV remain limited, primary prevention initiatives continue to be an essential component of any strategy that would bring about an end to the epidemic (Lifson, 1994; Kelly, et al., 1993; Mascola, McNeil, & Burke, 1994). Although never 100% guaranteed, HIV/AIDS prevention programs have had measurable positive impact (Cates & Hinman, 1992; Maticka-Tyndale, 1996). A number of such initiatives in the United States have demonstrated remarkable success, most notably within communities of gay men (Adib & Ostrow, 1991; Dilley, 1994; Kelly, et al., 1993).

Success, however, has come on too small a scale. There is an urgent need to implement prevention programs that have a community-wide scope and that strengthen collaboration between community-based advocates, social scientists, and public health agents (Choi & Coates, 1994; Kelly et al., 1993). Although the most concrete explanations for not yet meeting this need are budgetary crises and poorly designed mechanisms for program dissemination (Choi and Coates, 1994; Philipson, Posner, & Wright, 1994), the effect of a pervasive social stigma that continues to surround the disease and those persons who are seen as somehow linked to it may be more at fault (Batchelor, 1988; Herek & Capitanio, 1993). Even if a biomedical cure were discovered in the near future, the blame, discrimination, and denial that characterize the social

dynamics of this epidemic would be likely to remain.

Although there is broad consensus that the quality of life for persons with HIV/AIDS is often decreased because they are often highly stigmatized (e.g.,Herek and Capitanio, 1993; Herek & Glunt, 1988), community interventions tend not to directly address this problem (Bean, Keller, Newburg, & Brown, 1989). Prevention strategies must begin to take a more active role in destigmatizing the epidemic. To the degree that this can be accomplished, suffering of persons with HIV/AIDS can be reduced, community-wide awareness and involvement can be increased, and more effective social policy can be enacted.

# **Goffman's Conceptual Work on Social Stigma**

Much of the research on the topic of stigma and associational stigma has been motivated by the work of sociologist Erving Goffman. Goffman (1963) defined stigma as *the situation of the individual who is disqualified from full social acceptance*. By his definition, the state of being stigmatized is understood to arise out of interactions between two types of persons, *those who are normal* [i.e., Goffman's reference to a person who does not "depart negatively from the particular expectations at issue" (Goffman, 1963, p. 5)], and *those who possess a stigma*. Stigmatization, therefore, is a situation-specific event that generates an awareness of an individual's possession of an unappreciated or devalued state of difference. In other words, one's possession of this sort of *differentness* (or at minimum an observer's assumption of another's differentness) is necessary, but not sufficient, for one to be stigmatized.

Sometimes the social situation is such that the disqualifying mark possessed by an individual is not noticeable. In such cases persons typically employ some method of

information management (i.e., Goffman's notion of "passing"), which keeps the individual merely discredit*able*. The state of being discredit*ed* is one in which the situation has not allowed the disqualifying mark to remain concealed. Here some manner of tension management is often employed (i.e., Goffman's notion of "covering") in order to diminish the social harm that stigmatized persons might otherwise be forced to endure.

Goffman's (1963) concept of a *courtesy stigma*, recoined here as *associational stigma*, refers to a state of being 'indirectly' devalued solely because of one's close social proximity to others who are perceived to be 'directly' stigmatized (i.e., to actually own, or possess, the disqualifying mark) by their social situation. According to Goffman, "associates" most often derive from one or more sets of potentially supportive persons: (1) those who "own" the same stigma (i.e., Goffman's reference to a person who has a particular stigma in common; such as a person who is also HIV-positive), (2) those who are "wise" (i.e., Goffman's reference to a *normal* who is privy to the perspective of a stigmatized group, such as a person who has experience as a caregiver to persons with HIV/AIDS), and (3) those who are related by social structure (i.e., family members, such as a sibling, parent, or spouse of a person with HIV/AIDS).

For the purposes of this study an *associate* will be any person who works with persons who have HIV/AIDS. A review of the literature about HIV/AIDS stigma follows in the next chapter.

## Chapter 1

## **PREVIOUS RESEARCH ON HIV/AIDS STIGMA**

#### Associational Stigma

The concept of associational stigma has most often been used to explain particular kinds of coping strategies within the context of the family. It has also been used to study less compulsory relationships, such as relationships among roommates or among casual friends. Most studies of associational stigma have based their results on qualitative data from relatively small sample sizes. In a number of studies, associational stigma has been applied to the topic of HIV/AIDS, typically highlighting how it affects family members of someone who is discovered to be HIV-positive. In general, research about associational stigma may be sorted into the following two broad approaches: (1) studies that measure perceptions that potential stigmatizers (i.e., persons who become aware of the respondent's relationship with a person or group that is known to be stigmatized) have of associates and (2) studies that measure perceptions that associates have of potential stigmatizers.

### Studies that Measure Perceptions that Others have of Associates

Five studies measured perceptions that potential stigmatizers have of associates. One of them is directly applied to persons who work with persons who have HIV/AIDS. The first of these studies, by Weyand (1984), asked 90 male students to evaluate attitudes toward descriptions of sons of fathers who were either alcoholic, mentally ill, or

non-stigmatized, and who were from either upper middle class or working class backgrounds. Content analysis of voice recordings of messages the subjects believed would be played for the target sons was also conducted. Results supported the existence of an associational stigma. The sons of such fathers were perceived to be generally acceptable persons, but were rated as likely to have a large number of problems in family situations, especially those that involved the father. In addition, a father's alcoholism, relative to the mental illness, was found to elicit particularly stigmatizing reactions for sons from a working class background.

Signall and Landy (1973) demonstrated that the male partner of an attractive woman was viewed more positively than the male partner of an unattractive woman. The study randomly assigned subjects (28 males and 28 females from an undergraduate psychology course) to observe one of four experimental conditions. Observations were of the male partner with either (1) an associated, attractive female (i.e., a girlfriend); (2) an associated, unattractive female; (3) an unassociated, attractive female; or (4) an unassociated, unattractive female. Perceptions of the stimulus male were lowest when he was associated with an unattractive female, highest when he was associated with an attractive female.

Sigelman, Howell, Cornell, Cutright, and Dewey (1991) asked 120 men to evaluate four scenarios about two male roommates who shared a university dormitory room. In the scenarios, one of the males was identified as gay and the other was not. Respondents were then told that the non-gay roommate was either voluntarily or involuntarily living in the dorm room with the gay-identified male. Results supported that although involuntary association was not enough to register stigmatization of the non-gay-identified male,

voluntary association was, albeit only by those respondents with more intolerant attitudes toward gays.

Sack, Seidler, and Thomas (1976) asked persons who were presumed to be stigmatized by others how they believed their stigma affected members of their social networks. The study analyzed qualitative data from 31 imprisoned parents who reported on the degree to which they perceived their children and spouses to suffer stigmatization and other social trauma as a result of their incarceration. The authors found that the imprisoned persons perceived that their children and spouses experienced decreased levels of social support and higher levels of harassment from the peers in their community.

The fifth of these studies measured perceptions of potential volunteers and examined whether others devalued persons who volunteered to work with persons who have HIV/AIDS (Omoto & Synder, 1995b). To explore this possibility, evaluations of target AIDS volunteers were compared to evaluations of non-AIDS volunteers. It was hypothesized that target AIDS volunteers might be evaluated negatively because they were viewed as either (1) closely associated with a highly stigmatized group, (2) willing to be altruistic (i.e., "too perfect"), or (3) guilt-arousing (i.e., subjects feel guilty because they do not have the composure to do such work). Results showed that subjects in this study viewed AIDS volunteerism in a positive way. Volunteerism that assisted the poor (M=7.55) or persons with HIV/AIDS (M=7.49) was rated more favorably than volunteerism that assisted the Communist Party (M=5.85; F(2,122)=14.25, p<.05). Moreover, there was no support for either the hypothesis that HIV/AIDS volunteers were "too perfect" or that they were guilt-arousing.

12

#### Studies that Measure Perceptions that Associates Have of Others

Eleven studies measure perceptions that associates have of potential stigmatizers. Half of them are directly applicable to persons who work with persons who have HIV/AIDS. In the first of these studies, Bennett, Kelaher, and Ross (1994) developed a 24-item scale that measured AIDS impact on health care professionals. Data from 84 respondents generated an exploratory factor analysis solution with five factors. Results showed that items that loaded highly on a factor entitled *Discrimination and Stigma Due* to Work with AIDS accounted for more variance than any other factor ( $R^2 = .13$ ; scale reliability ( $\alpha$ ) = .72). Relating these results to other aspects of their study, the authors noted that HIV/AIDS workers may be more selective about whom they seek out for social support than other health care workers who do not work with persons who have HIV/AIDS.

Three years of qualitative observations and data from a series of in-depth interviews with nine intimate partners of persons who succumbed to AIDS revealed that persons who lost their partners to AIDS suffered stigmatization—which was sometimes blatant, sometimes subtle—from the medical community, friends, family, and religious organizations (Geis, Fuller & Rush, 1986). Their impressions of the difficult circumstance of participants in their small, non-random sample compelled them to generalize that "the degree of stress [surviving intimate partners] experience as a stigmatized and isolated group cannot be overestimated by anyone involved in counseling with these men" ( p. 43).

In another study of caregiving partners of men with AIDS, Folkman, Chesney, and Richards (1994) found that caregivers often faced stigmatization from fear of contagion.

They were typically assumed to be HIV-positive because they were known to be the intimate partner of a person with AIDS. Respondents were 86 HIV-positive men, plus 167 HIV-negative men in the caregiving group, and an additional 61 HIV-positive men in the comparison group. In general, stress among caregivers was greater than among non-caregivers, especially among those who were HIV-positive. In addition, caregivers reported longer durations and higher levels of negative moods, particularly anger and guilt. Anger was most often directed at either the disease itself, their AIDS-stricken partner, or the health care system. Guilt often resulted from either hostility towards their dying partner, inability to stop their partner's pain and suffering, or from self-perceived betrayal when difficult decisions needed to be made concerning their dying partner's fate.

Calling attention to both the public and the private ways in which AIDS elicits fears of contagion, disability, death, and moral judgment, Powell-Cope and Brown (1992) explore how family caregivers are affected by HIV/AIDS. Their qualitative study content analyzed interview data from 53 family caregivers to explore the process of *going public* about a family member's AIDS diagnosis. They classified caregivers into two broad groups: (1) those who became assertive advocates for persons with HIV/AIDS and (2) those who did not. The first group of caregivers found that their advocacy on behalf of persons with HIV/AIDS helped them cope with the pervasive social stigma that is linked to HIV/AIDS. In contrast, the second group of caregivers feared social rejection as a result of telling someone about a family member with AIDS. This "uncertainty" about whether or not to tell others was frequently cited as the reason that many caregivers maintained a situation of relative isolation and secrecy. Data analyses also revealed a particular emphasis on the phenomenon of *guilt by association*. The authors observed that

because of caregivers' close relationship to a person with AIDS, they were "obligated to share the stigma of AIDS and were likewise discredited" (p. 571), but that the majority of caregivers who participated in the study lived with neither complete openness nor complete secrecy.

Powell-Cope and Brown (1992) suggest that these kinds of interpersonal pressures appear to affect communication about HIV/AIDS-related topics. Not communicating openly about HIV/AIDS issues may be an important barrier to overcome for communitybased prevention programs. By transferring the first-hand knowledge that HIV/AIDS workers are naturally accumulating to persons in their social network, like friends and family members, they would be functioning as HIV/AIDS preventionists.

In a case study of a 30-year-old gay man, McDonnell, Abell, and Miller (1991) assessed family members' willingness to care for a person with AIDS. They deduced that although the family network is a logical source of support, many families of HIV-positive gay men are reluctant, if not unwilling, to care for them. Their reluctance is typically linked to stigmatizing attitudes aimed directly at the HIV-positive family member as well as fear of an associational stigma from friends and co-workers. The authors suggested ways that social workers can help diminish such attitudes and facilitate effective family support for persons with HIV/AIDS.

The sixth and final HIV/AIDS-related study on associational stigma, which focused specifically on AIDS volunteerism, researched the degree to which people tend to devalue HIV/AIDS-volunteers relative to other types of volunteers (Omoto & Crain, 1995b). Subjects were asked to imagine volunteering to care for one of three different persons: (1) a man living with AIDS, (2) a boy living with AIDS, or (3) a man living with

Alzheimer's. Subjects were then asked to rate how they thought different members of their social network would respond to their volunteer work. Members of their social network included family members, close friends and co-workers. Omoto and Crain (1995b) reported that subjects believed that AIDS volunteerism is stigmatizing, although in different ways among different members of their social network. Co-workers were viewed as the most stigmatizing (M=4.13), followed next by close friends (M=3.63), and then family members (M=3.09). The authors also noted that subjects who imagined working with the man with AIDS did not expect support from others.

Outside of the context of HIV/AIDS, a study by Gochros (1985) found that wives of men who declared their bisexuality perceived themselves to be stigmatized by others. Through interviews with 103 women whose husbands had revealed their bisexuality to them, the consequences of disclosure and the factors that influenced them were explored by the author. At the time of the study, approximately two-thirds of the marriages had dissolved. Findings suggest that wives struggled less with their husbands' bisexuality than with problems of isolation, stigma, and loss. Similarly, in a book about adjusting to a variety of types of social deviance, Pfuhl and Henry (1986) noted that parents of gay and lesbian children often encountered social rejection when members of their social network heard that their son or daughter was not heterosexual.

Birenbaum (1970, 1992) and Levinson and Starling (1981) both found higher levels of social exclusion and strained rapport among parents who care for mentally retarded children. Birenbaum's (1970) qualitative study focused on techniques that parents used to manage information (or to manage tension, as it were) in such a way that decreased stigmatization for both themselves and for their child. The author searched for patterns of

adaptation among the 103 mothers of mentally retarded children in the sample. Focusing on these mothers' relationships with other family members, friends, and parents of other retarded children, the author noted that parents tended to either "embrace the stigmatized or seek to dissociate [herself/]himself from [her/]his affiliation" (p. 197). It was further observed that those parents who limited their participation with organizations that served families with mentally retarded children were generally more successful at maintaining mainstream community membership.

In Levinson and Starling's (1981) study, data from 319 mothers of severely retarded children was used to explore the following three hypotheses: (1) Level of associational stigma is positively related to social status, (2) associational stigma is greater among parents of males than females, and (3) associational stigma is inversely related to the visibility of the child's disability. The first and second hypotheses were not supported. However, Analysis of Variance (ANOVA) showed that lower-class parents reported greater stigma when the child's disability was more visible than when it was not, whereas middle-class parents reported lower stigma scores that did not appear related to visibility.

In an ethnographic study of associational stigma among family caregivers, Blum (1991) studied 34 primary caregivers to spouses who had been diagnosed with Alzheimer's disease for three years. She documented techniques by which caregivers learned to cover up embarrassing social circumstances that could increase stigmatizing attitudes or behaviors towards the afflicted person and his or her family. She explained that such efforts may be understood as attempts to maintain both the diseased person's and the caregiver's dignity.

Blum (1991) also deduced that stigma management may be viewed in terms of two phases that follow the degenerative nature of the disease process. The first phase of stigma management involves development of a simple relationship of collusion between the stigmatized individual and the caregiver, which is possible as long as the Alzheimer's patient is in control of his or her faculties. Awareness of stigmatization is, at this point, often a primary concern of the person who directly bears the stigma and a secondary concern of the caregiver. Practices such as "covering" and "passing" when the two are in public situations is found to be common. The second phase of stigma management begins when the severity of the disease leaves the work of stigma management wholly to the caregiver. Here, increasing responsibility for the patient as well as more pronounced symptoms of the disease call for strategies of stigma management that were found to involve a broader circle of family members and other "wise" associates.

To summarize, the literature on associational stigma suggests that people who are situationally connected to a stigmatized person typically shoulder some degree of stigmatization. The degree to which they are stigmatized (or perceive themselves to be stigmatized) appears to be a function of a third person's perception, or awareness, of (1) the associate's relationship to the directly stigmatized person and (2) the perceived severity of this person's stigma. Moreover, associates, like their directly stigmatized counterparts, are likely to employ particular strategies to keep themselves from being discredited. With respect to degenerative diseases such as HIV/AIDS, managing information to minimize associational stigma is likely to become increasingly difficult and of greater concern to caregivers as the disease progresses.

#### **Dimensions of HIV/AIDS Stigma**

In order to understand how an associate of a person with HIV/AIDS is potentially stigmatized, it is important first to understand how persons who have HIV/AIDS are potentially stigmatized. Although the source of an associate's stigma is, by definition, the same as that of the directly stigmatized other's, it may or may not follow that the associate will be stigmatized in the same way or to the same degree. However, understanding how persons with HIV/AIDS are stigmatized provides a logical point of departure against which an associational stigma may be measured.

Previous researchers have conceptualized HIV/AIDS stigma as being comprised of a variety of dimensions. The present review considers six such dimensions that are measured in various combinations among 20 articles that purportedly measured HIV/AIDS stigma. Ranking the frequency with which each of these dimensions were measured, from most common to least common, are the following: (1) judgment of moral wrong-doing, (2) judgment of responsibility/controllability, (3) fear of contagion, (4) lack of compassion, (5) assessment of dependency/disability, and (6) fear of death. The following sections provide an overview of the meaning of these dimensions as they were presented in these studies.

#### Judgments of Moral Wrong-doing

Among the articles reviewed, judgments of immorality or moral wrong-doing were found to be the most frequently reported dimension of HIV/AIDS stigma. Sixteen of the 20 articles (80%) found some degree of moral judgment toward persons with HIV/AIDS (Bean et al., 1989; Bishop, Alva, Cantu, & Rittiman, 1991; Crandall, 1991; Dooley, 1995; Herek & Capitanio, 1993; LePoire, 1994; Lewis & Range, 1992; Peters, Boer, Kok,

& Schaalma, 1994; Range & Starling, 1991; St. Lawrence, Husfeldt, Kelly, Hood, & Smith, 1990:1; St. Lawrence, Kelly, Owen, Hogan & Wilson, 1990:2; Strasser & Damrosch, 1992; Trezza, 1994; Young, Gallaher, Belasco, Barr, & Webber, 1991; Young, Gallaher, Marriott, & Kelly, 1993).

In these studies, moral judgments arose from strong identification with particular religious and cultural systems of belief. According to some religions, homosexuals, IV drug users, and commercial sex workers who become HIV-positive are thought to be in receipt of their due—properly punished by God and condemned to suffering—with the infection serving as a mark of their immorality. According to more general Western cultural beliefs, which tend to *desexualize* human interaction, the fact that the most common mode of HIV infection is by unprotected sexual intercourse is enough to elicit stigmatizing reactions to persons who have HIV/AIDS. The saliency of this dimension can be generally attributed to the historical fact that the topic of sex and debates about morality and social ethics in Western society are virtually inextricable (Foucault, 1980).

#### Judgments of Responsibility/Controllability

Judgments of responsibility/controllability were the second most frequently reported dimension of HIV/AIDS stigma among the articles reviewed. Twelve (26%) studies reported stigmatization as a result of perceived controllability of an individual's HIV infection (Bean et al., 1989; Crandall, 1991; Dooley, 1995; Herek & Capitanio, 1993; LePoire, 1994; Lewis & Range, 1992; Peters et al., 1994; Range & Starling, 1991; St. Lawrence, Husfeldt, et al., 1990:1; St. Lawrence, Kelly, et al., 1990:2, Strasser & Damrosch, 1992; Trezza, 1994). Weiner's (1980) *Attributional Model of Helping Behavior* appears to have provided the theoretical framework from which measures of responsibility/controllability were developed and used to predict specific affective reactions (e.g., pity and anger) and helping judgments (Crandall, 1991; Dooley, 1995; Strasser & Damrosch, 1992).

As with judgments of moral wrong-doing, sex and IV drug use were again implicated as the source of judgments of personal responsibility/controllability, but with a somewhat different rationale. Given that HIV may be contracted through unprotected sex or unclean needle-sharing with someone who is infected, this dimension of stigma views HIV/AIDS as a disease of the promiscuous and of the addicted (e.g., Bolten, 1992; Dooley, 1995; Herek & Glunt, 1988; Weiner, Perry, & Magnussan, 1988). Hence, persons with HIV/AIDS are stigmatized because they failed to refrain from particular behaviors that put them at risk. Although they may stop short of blaming AIDS victims on moral grounds, the stigmatizers chide persons with HIV/AIDS on the grounds that they are poor self-regulators.

## Fear of Contagion

The belief that HIV is contagious was the third most frequently reported dimension of HIV/AIDS stigma among the articles reviewed. Eight studies reported some evidence of fear of contagion (Bean et al., 1989; Bishop et al., 1991; Herek & Capitanio, 1993; Herek & Capitanio, 1994; Meisenhelder & La Charite, 1989; Trezza, 1994; Young et al., 1991; Young et al., 1993).

AIDS is contagious only via particular body fluids, namely blood, semen, vaginal fluids, and breast milk (Singer, Rogers, & Corcoran, 1987). Nonetheless, this research reveals that people are still inclined to avoid persons with HIV/AIDS for fear of being infected by casual contact.

### Lack of Compassion

Lack of compassion, was the fourth most frequently reported dimension among the articles reviewed. Five studies found evidence that persons with HIV/AIDS are often the objects of compassion, pity, or empathy (Bean et al., 1994; Dooley, 1995; Herek & Capitanio, 1994; Peters et al., 1994; Strasser & Damrosch, 1992).

Compassion, although not inherently a negative reaction, is similar to its counterparts of HIV/AIDS stigma in that it is indicative of an individual's or group's deficiency. Sympathetic actions of others are, therefore, potentially stigmatizing behaviors. Research on pro-social behavior towards others has also noted that where issues of personal morality are raised, sympathy and understanding are decreased, often creating an attitude of ambivalence on the part of the potential sympathizer (Bean et al., 1989; Herek & Glunt, 1988; Katz & Glass, 1979). Although Herek & Glunt (1991) and Bean et al. (1989) found that ambivalence is a common reaction to persons who have HIV/AIDS, they do not elaborate on the meaning of these results.

### Assessment of Dependency/Disability

This dimension of HIV/AIDS stigma was measured in 3 of the 20 studies that were reviewed (Lang, 1991; Walkey, Taylor, & Green, 1990; Westbrook, Legge, & Pennay, 1993). It arises from the notion that a person with HIV/AIDS is often expected to be someone who is, or who will be at some point in the near future, overwhelmingly needy. It is generally understood that the disease process of AIDS is often unpredictable, and that persons with HIV/AIDS are known to cycle through numerous periods of sickness and relative health. Knowledge of this process could compel others, many of whom may have limited time or personal resources to begin with, to keep away from a person with
HIV/AIDS. In addition, persons with AIDS lose their physical attractiveness toward the end of the disease process, and in approximately one third of all cases some degree of dementia will set in ("HIV-related conditions,"1994). For these reasons, dependency/ disability is a plausible dimension of HIV/AIDS stigma.

#### Fear of Death

Somewhat surprisingly, this was the least common dimension of HIV/AIDS stigma reported among the studies that were reviewed. Although it was expressly discussed as a potential source of stigmatization in a number of articles (e.g., Herek & Glunt, 1988; Meisenhelder et al., 1989), it is measured in only one quantitative study (Bean et al., 1989). In this study, fear of death reactions fall under the rubric of thanatophobia, which was measured using a single item, "I fear anything associated with death" (p. 197).

Considering the fact that ultimately AIDS takes away life, fear of death appears to be an under-explored dimension of stigma among quantitative studies. Recent research indicates that although some persons with HIV/AIDS are living longer, nearly all cases (99%) will go on to develop full-blown AIDS within 10 to 15 years of being infected with HIV (Pinner et al., 1996). Herek and Glunt (1988) comment that AIDS forces a feeling of vulnerability for many people: "When people interact with a [person with AIDS], hear AIDS discussed, or simply read about it in a newspaper, they are reminded of their own mortality; their day-to-day sense of reality is challenged in a profoundly disturbing way" (p. 887). For these reasons, fear of death and dying are likely to be associated with HIV/AIDS stigma and warrant more careful consideration in future research.

#### Other Research on HIV/AIDS Stigma

Having identified the dimensions of HIV/AIDS stigma that have been addressed in the literature, the following article summaries are used as examples of how previous research has conceptualized and explained the problem of AIDS stigma. In general, researchers of topics related to HIV/AIDS stigma have tended to limit their studies to one or two dimensions of stigma that were of particular relevance to their study. A variety of research questions about HIV/AIDS stigma are considered, most of them about HIV/AIDS-related knowledge and attitudes.

One study investigated whether the presence of more than one source of stigma generated an *additive* or a *multiplicative* stigma-effect on an individual (Crandall, 1991). The author assessed this impact by presenting 16 different descriptions of a man who varied on two situational variables to 393 undergraduates enrolled in an introductory psychology course. Descriptions varied in how the target male was exposed to HIV either through sexual contact with another man, through sharing needles during IV drug use, through an accidental exposure during surgery that the doctor-subject was performing, or through a contaminated blood product received as treatment for hemophilia—and whether or not he had AIDS, infectious hepatitis, paraplegia, or the flu. Results showed that the most social distance (i.e., stigma) was recorded when the person described was an IV drug user, followed by when he was a homosexual, a surgeon, and a hemophiliac, respectively. Independent of mode of transmission, the most social distance was recorded when the person described had AIDS, followed by when he had hepatitis, the flu, or was wheelchair-bound. There was no interaction between mode of transmission and any of the four afflictions, suggesting that multiple stigmas are additive as opposed to

multiplicative. In general, the author concludes that AIDS is stigmatizing to any infected person, and that stigmatization of persons with AIDS occurs regardless of whether it is cognitively linked to homosexuality and/or IV drug use.

Range and Starling (1991) tested the hypothesis that more knowledge about AIDSrisk behaviors would correlate negatively with AIDS stigma. Their study varied gender of the victim, sexual orientation of the victim, and gender of the respondent. Respondents were 247 undergraduates, each of whom was asked to complete an AIDS-risk knowledge test, read a one sentence description about the victim, and then fill out a scale that measured prejudicial evaluation. Overall, these students showed a moderately high level of knowledge about HIV contagion and transmission and a moderately low level of stigma. ANOVA indicated that male respondents with lower AIDS-risk knowledge gave the highest levels of stigma to the victim, particularly when the victim was male. With respect to sexual orientation, the study found the highest stigmatization among those respondents who had low AIDS-risk knowledge and who were told the victim was a gay male. Along this same theme, the study found the lowest levels of stigmatization among those respondents who had high AIDS-risk knowledge and who were told the victim was a lesbian.

A study by St. Lawrence et al. (1990) asked 300 undergraduates to read a vignette about an ill person who was described as either afflicted with AIDS or leukemia and as either homosexual or heterosexual, and then to complete a set of measures sensitive to interpersonal evaluation, prejudicial attitudes, and willingness to interact casually with an ill person. In contrast to the previous study, results showed that these students held highly stigmatizing attitudes toward both AIDS patients and gay men, and that gay men with

AIDS were the most stigmatized persons.

Primarily focusing on issues of personal controllability, Peters et al. (1994) applied Weiner's (1988) attributional theory to study stigmatization and discrimination toward persons with AIDS. In a field experiment, 172 respondents in The Netherlands responded to vignettes describing patients with AIDS, syphilis, lung cancer, or tuberculosis. The onset of disease was described as either personally controllable or uncontrollable. Results indicated that AIDS and syphilis were both perceived to be controllable whether or not information reinforcing this was given. Accordingly, stigmatization and discrimination toward persons with AIDS or syphilis were found to be higher. This finding underscores the stigma attached to sexual behavior, especially between men. The authors also indicate that although disease controllability accounted for a significant amount of variance in helping behavior and stigmatization toward persons with AIDS, information about incurability of the disease, risk of infection, and homosexual identity appeared to be more useful in explaining reactions to persons with AIDS.

Similarly, Strasser and Damrosch (1992) focused on how patient diagnosis and patient sexual orientation affect graduate nursing students' reactions to persons with AIDS. They first asked 180 registered nurses enrolled in a master's nursing program to each read one of six versions of a vignette about a male patient who was described as being either diagnosed with AIDS of unspecified origin, AIDS of a contaminated blood product given for the treatment of hemophilia, or leukemia, and who was also described as either homosexual or heterosexual. Respondents were then asked to evaluate the patient on two scales, one involving judgments of patients and the other concerning willingness to interact socially with them.

As was hypothesized, the hemophiliac with AIDS and the leukemia patient were judged significantly less responsible for as well as less deserving of their illness than was the patient with AIDS of unspecified origin, indicating that particular assumptions about the reason for the more ambiguously-described patient's disease led to a more blameful attitude. However, all three diagnostic categories were considered equally deserving of the best possible care, which may be taken as an indicator of showing compassion towards persons who are afflicted with disease.

Both categories of AIDS patients were stigmatized in terms of certain social interactions. For instance, the AIDS diagnosed hemophiliac was especially stigmatized when respondents were asked if they would renew a lease for him. This result may reflect how specific knowledge can affect AIDS stigma. Presumably the respondents, who were studying nursing, thought that being both HIV-positive and a "bleeder" would make for an especially risky tenant.

Lewis and Range (1992) note that much of the research they reviewed about AIDS stigma explains stigmatization as a function of both the disease and the individual's sexual orientation. They hypothesized that stigma and degree of social interaction with a person with AIDS would be explained by information about mode of HIV transmission (i.e., sexual contact, IV drug use, or blood transfusion). Results based on the responses of 619 undergraduate students indicated that more knowledge of HIV/AIDS is associated with greater willingness to interact with a person with AIDS, and that mode of HIV transmission affects both the level of stigmatization and degree of social interaction. Both males and females indicated that they would interact less willingly with a person who

contracted HIV from a blood transfusion. Although this study indicates who is more likely to be blamed for contracting AIDS, it fails to explain whether variance in stigmatization and social interaction is more a function of judgments of immorality or of judgments of irresponsibility. Moreover, the design of this study does not exclude the possibility that knowledge of mode of HIV transmission may serve as a cue to the infected individual's sexual orientation.

Bishop et al. (1991) sought to test the notion that responses to persons with AIDS are a result of the disease's association with male homosexual behavior more than its perceived contagion. In an experimental design that manipulated contagion, sexual orientation, sex of stimulus person, and sex of respondent, the authors asked 160 undergraduates to rate the seriousness of the disease, how responsible the person was for their illness, and how willing they would be to interact with them. Results showed that willingness to interact with a diseased person was strongly related to the contagiousness of the disease, but only weakly related to its association with homosexuality. Their findings argue that avoidance of persons with AIDS and other diseases are primarily related to concerns over contracting the disease.

In another study focusing on contagion, Laschinger and Goldenberg (1993) used Ajzen and Fishbein's (1980) *Theory of Reasoned Action* to test the degree to which 141 nurses' attitudes and subjective norms predicted their intention to provide care for persons with HIV/AIDS. Consistent with the theory, intention to provide care was predicted ( $R^2 = 0.27$ ) by the interaction of personal beliefs with normative beliefs. Nurses who were less inclined to provide care were more likely to believe that they would be shunned by family and friends, but not by co-workers.

Three studies in particular focused on dependency/disability as a dimension of HIV/AIDS stigma. In Walkey et al. (1990), a study of 312 first-year New Zealand university students compared ratings of *an AIDS patient* to *others* on semantic differential bipolar scales. Cluster analysis revealed that persons with AIDS could be distinguished from persons with heart disease on the basis of a higher degree of negative moral judgment. In comparison, persons afflicted with cancer or coronary heart disease were more likely to be distinguished from AIDS patients on the basis of relative dependence.

Using a combination of ethnographic and quantitative methods, Lang (1991) explored the process of "adoption of new social roles and resocialization of the individual into new forms of stigma and dependency" (p. 66). Their study evaluated 64 gay men on their levels of depression, sexual satisfaction, quality of peer relations, quality of family relations, and levels of self-esteem. The author hypothesizes that these variables mediate gay men's responses to AIDS. For purposes of comparison, each respondent was classified as either being HIV-negative ("worried well"), being HIV-positive, having AIDS Related Complex (ARC), or having AIDS. Analysis of the data showed that AIDS, as a cultural phenomenon, has affected the lives of many gay men in significant ways. AIDS has changed perceptions of self as well as of others. Very often, AIDS has brought gay men, ". . . into new forms of dependency—physically, emotionally, and cognitively" (p. 71).

Although not exclusively concerned with AIDS stigma, a study by Westbrook et al. (1993) showed that AIDS stigmatizes because it is disabling. The authors assessed 665 health practitioners living in Australia from the Chinese, Italian, German, Greek, Arabic, and Anglo-Australian communities on their community's attitudes toward 20 disability

groups. Significant differences were found across communities for 19 of these disabilities. Of all the communities surveyed, the German community expressed greatest acceptance of people with disabilities, followed by the English, Italian, Chinese, Greek, and Arabic communities. In all communities people with asthma, diabetes, heart disease, and arthritis were the most accepted despite their disability. However, persons with AIDS were the least accepted of these groups. The Arabic community, followed by the Chinese, the Italian, and the Greek communities were the most stigmatizing of persons with AIDS. The German community was the least stigmatizing of person with AIDS.

The last two articles reviewed here address the stigma of HIV/AIDS at the community level. The first of these, by Lindhorst and Mancoske (1993), considered the particular problem of associational stigma as it relates to groups of people and communities not originally associated with the epidemic. They posed the following question:

How do AIDS service organizations, the majority of which grew out of the experiences and resources of the white gay male community, nurture involvement of members of other communities (particularly people of color and women)? (p.185)

These authors observed that many of the older HIV/AIDS organizations that are now starting to serve a more diverse population have only a superficial understanding of the prejudice and discrimination that is elicited by race, class, and gender. They believe that this reality inhibits effective delivery of services because newly affected communities that do not wish to be associated with particular *other* communities (because the former sees the latter as immoral or unworthy) will be unlikely to join forces in a straightforward manner, even if their stated goals are the same. Lindhorst and Mancoske see a need for

the creation of new models of service delivery that affirm a more inclusive, diversitysensitive approach to fighting HIV/AIDS.

Lastly, in a conceptual paper on motivations of volunteers who work with persons who have HIV/AIDS, Omoto and Snyder (1990) noted that:

... in the specific case of [HIV/]AIDS, volunteers may be punished for their good deeds. That is, they may be *judged by the company they keep* and stigmatized because of the stereotyped beliefs and prejudicial attitudes associated with AIDS and persons with [HIV/]AIDS (p. 153).

Here the stigma that surrounds the HIV/AIDS epidemic is suggested to be a detractor from progressive social action. Not only is much needed volunteer assistance potentially curtailed, there may also be some degree of reluctance to seek out health services or even to have conversations about topics concerning HIV prevention.

To summarize, the topic of HIV/AIDS stigma and its impact on persons who have HIV/AIDS as well as their partners, friends, and family members has not been neglected. A review of research that measured HIV/AIDS stigma indicates that it is comprised of six dimensions, namely: (1) judgment of moral wrong-doing, (2) judgment of responsibility/controllability, (3) fear of contagion, (4) lack of compassion, (5) assessment of dependency/disability, and (6) fear of death. The saliency of a particular dimension in a particular study appears to be a function of both context and subject population, which provides general reinforcement for the notion that stigmatization is situationally determined. Regardless of the particular dynamics of these alluded-to situations of associational stigma, the degree to which it does exist ought to be measurable among persons who work with persons who have HIV/AIDS.

Using the findings and insights of the literature reviewed in this chapter, Chapter 2

will now present a conceptual basis for the development and testing of a measure of associational HIV/AIDS stigma.

# **CHAPTER 2**

# DEVELOPING AND TESTING A MEASURE OF ASSOCIATIONAL HIV/AIDS STIGMA

Accepting that the impact of HIV/AIDS stigma adversely affects persons with

HIV/AIDS (e.g., Bor, Miller & Goldman, 1993; Douglas, Kalman & Kalman, 1985;

Herek, 1988; Herek & Glunt, 1988; Peloquin, 1990), the concept of associational stigma

suggests that associates of persons who have HIV/AIDS will also be adversely affected.

The present study developed a quantitative measure of the degree to which HIV/AIDS

workers, such as nurses, doctors, volunteer 'buddies,' case mangers, and HIV/AIDS

educators, perceive an associational stigma as a result of their close social proximity to

persons who actually have HIV/AIDS.

# **Present Study's Research Questions**

Four research questions were posed, as follows:

- Which dimensions of HIV/AIDS stigma comprise perceived associational stigma and in which contexts are they most salient?
- Given that perceived associational stigma exists, what characteristics of the HIV/AIDS worker, and what experiences with persons who have HIV/AIDS, are related to stronger perceptions of associational stigma?
- Given that perceived associational stigma exists, how is it related to perceived social distance (i.e., physical avoidance by others as a result of being identified as an HIV/AIDS worker)?
- Lastly, given that perceived associational stigma exists, does it affect the degree to which HIV/AIDS workers talk to others about HIV/AIDS-related topics?

Answers to these questions will help generate a model of the dimensions of associational stigma and of the context(s) in which it would exist(s).

# Hypotheses

A total of 29 hypotheses were generated.

# • Research Question 1—Which dimensions of HIV/AIDS stigma comprise perceived associational stigma and in which contexts are they most salient?

Two hypotheses were constructed for the first question. Hypothesis 1 predicts that perceived associational stigma is a multi-dimensional construct, that is, that it is comprised of two or more dimensions. Hypothesis 2 predicts that the strength of perceptions of associational stigma, should it exist, will vary depending on the social context in which HIV/AIDS workers find themselves. Recall that contexts have been operationalized as 'friends,' 'family,' 'non-HIV/AIDS co-workers,' 'neighbors,' and the 'general public.'

- Hypothesis 1 Perceived associational stigma among persons who work with persons who have HIV/AIDS is a multi-dimensional construct.
  - Six plausible dimensions that have been identified in the literature about HIV/AIDS-related stigma: (1) judgment of moral wrong-doing, (2) fear of contagion, (3) lack of admiration, (4) fear of death, (5) misunderstanding (6) lack of compassion [see Powell-Cope and Brown (1992)].
  - AIDS stigma has been reported to have more than one component [see Crandall (1991)].
- Hypothesis 2 Perceived associational stigma increases as persons of a particular context (e.g., friends) become less familiar.
  - Persons who have lost their partners to AIDS were reported to perceive themselves stigmatized by friends, family, the medical community, and religious organizations [see Geis, Fuller & Rush (1986); McDonnell, Abell & Miller (1991)].
  - Volunteers viewed non-HIV/AIDS co-workers as highest source of stigma, then close friends, then family members [see Omoto

& Crain (1995b)].

- In contrast, nurses who were less inclined to provide care to someone with HIV/AIDS were more likely to believe that they would be shunned by family and friends, but not by co-workers [see Laschinger & Goldenberg (1993)].
- Comparing different 'sources of stigma' is an approach that models a study that compared different 'sources of social support' gay men at risk of HIV infection received from different groups of persons in their social network [see Schwarzer, Dunkel-Schetter & Kemeny (1994)].

# • Research Question 2—Given that perceived associational stigma exists, what types of work experiences and individual characteristics are related to stronger perceptions of associational stigma?

Recalling Goffman's (1963) concept of stigma as a situation-specific event that

generates an awareness of an individual's possession of an unappreciated or devalued

state of difference, particular characteristics and/or experiences may predispose

HIV/AIDS workers to either stronger or weaker perceptions of associational stigma. Eight

hypotheses were constructed to address Research Question 2, each one addressing either a

characteristic of the HIV/AIDS worker or the amount of a particular type of experience

that they have had as a person who works with persons who have HIV/AIDS.

- Hypothesis 3 Perceived associational stigma and satisfaction with HIV/AIDS work experience are negatively correlated.
  - Perceptions of stigmatization have been correlated with caregivers' attitudes of dissatisfaction with health care systems [see Folkman et al. (1994)].
- Hypothesis 4 Perceived associational stigma and basis of current work (volunteer = 1; paid staff = 2) are negatively correlated.
  - 'Voluntary' as opposed to 'involuntary' association with a stigmatized group (such as gay men) has been linked to stigmatizing attitudes [see Sigelman et al. (1991)].
  - In general, people may view volunteers as 'special' people: volunteers may be viewed as 'too altruistic,' which may bring

negative judgment upon them [see Omoto & Synder (1995b)].

- In contrast, professionals are 'just doing there job,' therefore they may be more likely to be 'forgiven' for their ties to groups that are perceived to be stigmatized.
- Hypothesis 5 Perceived associational stigma and work with persons who are likely to be held more accountable for their HIV-infection (e.g., IV drug users vs. children) are positively correlated.
  - Personal controllability has been shown to play a large role in how persons with HIV/AIDS are viewed. Gay men who are HIV-positive are viewed as 'getting their due' for their immoral, promiscuous behavior [see Peters et al. (1994); Weiner (1988), Strasser & Damrosch (1992)].
- Hypothesis 6 Perceived associational stigma and frequency of contact with persons who have HIV/AIDS are positively correlated.
  - A fear of contagion, which is a potential dimension of associational stigma, may cause others to avoid HIV/AIDS workers because of their frequent face-to-face interactions with persons who have HIV/AIDS [see Lewis & Range (1992); Bishop et al. (1992)].
  - The more face-to-face contact one has with members of a stigmatized group, the more difficult it is to 'pass,' and therefore the more likely that one will be stigmatized by association [see Blum (1991)].
- Hypothesis 7 Perceived associational stigma and duration of HIV/AIDS work experience are positively correlated.
  - Like Hypothesis 6, a fear of contagion, which is a potential dimension of associational stigma, may be stronger if others are aware of an HIV/AIDS worker's longer duration of interactions with persons who have HIV/AIDS [see Lewis & Range (1992); Bishop et al. (1992)].
  - The longer one works with a potentially stigmatized group, the more difficult it is to 'pass,' hence the more likely that others will avoid them [see Blum (1991)].
- Hypothesis 8 Perceived associational stigma and perceived social support from peer HIV/AIDS workers are positively related.
  - Due to the stigma of HIV/AIDS, traditional sources of support,

such as the family, are not always available for persons living with HIV/AIDS [see McDonnell, Abell & Miller (1991)].

- When asked to imagine how caregivers of a man with HIV/AIDS would be treated by 'others,' respondents wrote that he would not generally find support [see Omoto & Crain, (1995b)].
- Researchers noted that HIV/AIDS workers may be more selective about whom they seek out for social support [see Bennett et al. (1994); Powell-Cope & Brown (1992)].
- Social support is delivered in different amounts and in different ways depending on who (among someone's social network) does the giving [see Schwarzer et al. (1994)].
- Hypothesis 9 Perceived associational stigma and percieved risk of HIV infection are positively correlated.
  - Persons who perceive themselves at high risk of HIV infection may feel more empathy for those they are serving.
  - Risk of infection, along with information about the incurability of the disease and a homosexual identity, have all been found to predict stigmatizing attitudes towards persons with HIV/AIDS [see Peters et al. (1994); Range & Starling (1991)].
- Hypothesis 10 Perceived associational stigma and the proportion of others who know about the respondents' HIV/AIDS work are positively correlated.
  - For some, there may be an initial perception that friends, family, and others will be supportive of working with persons with HIV/AIDS – as more people learn about the worker's role, the likelihood of encountering negative attitudes becomes higher [see Blum (1991)].
- Research Question 3—Given that perceived associational stigma exists, how is it related to perceived social distance (i.e., physical avoidance by others as a result of being identified as an HIV/AIDS worker)?

Nine hypotheses were constructed, the first of these (Hypothesis 11) considering the

relationship between perceived social distance (i.e., the perception that others physically

avoid them because the are known to be HIV/AIDS workers) and perceived associational

stigma. The eight remaining hypotheses consider the relationship between perceived

social distance and those individual characteristics and/or experiences of HIV/AIDS

workers that were tested for Research Question 2. Note that the rationale provided for

these hypotheses parallels, in large part, the rationale provided for the corresponding

hypotheses for Research Question 2. It may very well be that perceived social distance

and perceived associational stigma are, in essence, the same measure.

- Hypothesis 11 Perceived social distance and perceived associational stigma are positively correlated.
  - Parents of gay and lesbian children were found to experience social rejection when members of their social network heard that their son or daughter was a homosexual (i.e., shouldered a stigma) [see Pfuhl & Henry (1986)].
  - Higher levels of social exclusion and strained rapport was found among parents who cared for mentally retarded children (i.e., shouldered a stigma) [see Birenhaum (1992)].
- Hypothesis 12 Perceived social distance and satisfaction with HIV/AIDS work experience are negatively correlated.
  - Perceptions of stigmatization have been correlated with caregivers' attitudes of dissatisfaction with health care systems [see Folkman et al. (1994)].
- Hypothesis 13 Perceived social distance and the basis of current work (volunteer = 1; paid staff = 2) are negatively correlated.
  - 'Voluntary' as opposed to 'involuntary' association with a stigmatized group (such as gay men) has been linked to stigmatizing behaviors [see Sigelman et al. (1991)].
  - In general, people may view volunteers as 'special' people: Volunteers may be viewed as 'too altruistic,' which may cause others to avoid them [see Omoto & Synder (1995b)].
  - In contrast, professionals are 'just doing there job,' therefore they may be more likely to be 'forgiven' for their ties to groups that are perceived to be stigmatized.
- Hypothesis 14 Perceived social distance and work with persons who are likely to be held more accountable for their HIV-infection (e.g. IV drug users vs. children) are positively correlated.

- Highest social distance was recorded when a person with HIV/AIDS was described as an IV drug user, followed by when he was a homosexual, a surgeon, and a hemophiliac [see Crandall, 1991].
- Hypothesis 15 Perceived social distance and frequency of face-to-face contact with persons who have HIV/AIDS are positively correlated.
  - A fear of contagion may be stronger when an HIV/AIDS worker has more face-to-face interaction with persons who have HIV/AIDS [see Lewis & Range (1992); Bishop et al. (1992)].
  - The more face-to-face contact one has with members of a stigmatized group, the more difficult it is to 'pass,' and therefore the more likely that one will be avoided [see Blum (1991)].
- Hypothesis 16 Perceived social distance and duration of work experience are positively correlated.
  - Like Hypothesis 6, a fear of contagion may be stronger if others are aware of an HIV/AIDS worker's longer duration of interactions with persons who have HIV/AIDS [see Lewis & Range (1992); Bishop et al. (1992)].
  - The longer one works with a potentially stigmatized group, the more difficult it is to 'pass,' hence the more likely that others will avoid them [see Blum (1991)].
- Hypothesis 17 Perceived social distance and perceived social support from peer HIV/AIDS workers are positively correlated.
  - Due to the stigma of HIV/AIDS, traditional sources of support, such as the family, are not always available for persons living with HIV/AIDS [see McDonnell, Abell & Miller (1991)].
  - When asked to imagine how caregivers of a man with HIV/AIDS would be treated by 'others,' respondents wrote that he would not generally find support [see Omoto & Crain, (1995b)].
  - Researchers noted that HIV/AIDS workers may be more selective about whom they seek out for social support [see Bennett et al. (1994)].
  - Social support is delivered in different amounts and in different ways depending on who (among someone's social network) does the giving [see Schwarzer et al. (1994)].

positively correlated.

- Persons who perceive themselves at high risk of HIV infection may feel more empathy for those they are serving.
- Risk of infection, along with information about the incurability of the disease and a homosexual identity, have all been found to predict stigmatizing attitudes towards persons with HIV/AIDS [see Peters et al. (1994); Range & Starling (1991)].
- Hypothesis 19 Perceived social distance and the proportion of others who know about respondents' HIV/AIDS work are positively correlated.
  - For some, there may be an initial perception that friends, family, and others will be supportive of working with persons with HIV/AIDS – as more people learn about the worker's role, the likelihood of encountering negative attitudes becomes higher [see Blum (1991)].

# • Research Question 4—Given that perceived associational stigma exists, does it affect the degree to which HIV/AIDS workers talk to others about HIV/AIDS-related topics?

Communication behavior about HIV/AIDS-related behavior is considered to be an

important information dissemination mechanism for community-level prevention programs (CDC, 1995a). There is broad consensus that individuals acquire information, form attitudes, and develop beliefs from member of their social network(s). Nine hypotheses were constructed to address Research Question 4. The first hypothesis considers the relationship between communication behavior about HIV/AIDS-related topics and perceived associational stigma. The next seven consider the relationship between communication behavior and the same set of characteristics and experiences of an HIV/AIDS worker that were examined for Research Question 2 and 3. The last hypothesis considers the relationship between communication behavior and perceived social distance.

Hypothesis 20 Communication behavior about HIV/AIDS-related topics and

40

perceived associational stigma are negatively correlated.

- Parents of mentally retarded children tended to dissociate (i.e., communicate less) from parents of 'normals' [see Birenbaum, (1992)].
- In order to preserve one's dignity, caregivers learn to cover up embarrassing social circumstances that could increase stigmatizing attitudes or behaviors towards stigmatized individuals or their associates [see Blum, (1991)].
- In general, workers will be less inclined to talk about HIV/AIDS or their contact with persons with HIV/AIDS if they believe others will be uncomfortable with such topics [see Powell-Cope & Brown (1992)].
- Hypothesis 21 Communication behavior and satisfaction with HIV/AIDS work experience are positively correlated.
  - The more one likes something, the more one will tell others about it.
- Hypothesis 22 Communication behavior and basis of current work (volunteer = 1; paid staff = 2) are positively correlated.
  - Paid HIV/AIDS workers are more likely to have more experience and better training, hence more skills for broaching the subject of HIV/AIDS with others.
- Hypothesis 23 Communication behavior work with persons who are likely to be held more accountable for their HIV-infection (e.g. IV drug users vs. children) are negatively correlated.
  - Personal controllability has been shown to play a large role in how persons with HIV/AIDS are viewed. Gay men who are HIV-positive are viewed as 'getting their due' for their immoral, promiscuous behavior [see Peters et al. (1994); Weiner (1988), Strasser & Damrosch (1992)].
  - Talking about helping children is 'safer' than talking about helping IV drug users.
- Hypothesis 24 Communication behavior and frequency of face-to-face contact with persons who have HIV/AIDS are positively correlated.
  - The more time someone spends with persons with HIV/AIDS, the more likely it is that topics related to HIV/AIDS will be discussed with others.

- Hypothesis 25 Communication behavior and duration of work experience are positively correlated.
  - The more time someone spends with persons with HIV/AIDS, the more likely it is that topics related to HIV/AIDS will be discussed with others.
- Hypothesis 26 Communication behavior and social support from peer HIV/AIDS workers are positively correlated.
  - Feeling supported by peers may motivate caregivers to communicate their experiences and impressions to others [see Schwarzer et al. (1994)].
- Hypothesis 27 Communication behavior and perceived risk of HIV infection are negatively correlated.
  - For this group, communicating about HIV/AIDS may bring unwanted attention to the possibility (or reality) that they may also be (or already are) living with HIV/AIDS [see Powell-Cope & Brown (1992)].
- Hypothesis 28 Communication behavior and the proportion of others who know about respondents' HIV/AIDS work are positively correlated.
  - If it is assumed that others know about oneself because one tells them about oneself, then this pair of variables must produce a relatively strong, positive correlation.
- Hypothesis 29 Communication behavior and perceived social distance are negatively correlated.
  - The more HIV/AIDS workers perceive avoidance behavior, the less inclined they will be to bring up HIV/AIDS-relted topics.

Results are presented in Chapter 4. Chapter 3 reviews the method by which the present

study was carried out.

### Chapter 3

#### METHOD

The present study is based upon self-reports about perceptions that respondents (i.e., HIV/AIDS workers) have of their friends, family members, non-HIV/AIDS co-workers, neighbors, and the general public. In particular, self-reports attempted to capture information about how respondents believe others view them as *persons who work with persons with HIV/AIDS*. For the purposes of this study, 'friends,' 'family,' 'non-HIV/AIDS co-workers,' 'neighbors,' and 'the general public' are operationalized as different *contexts*.

HIV/AIDS workers from various caregiving organizations located throughout all eight of Michigan's Regional Prevention Planning Groups [RPPG] (see Appendix A) were invited to participate in the study. (Note: Michigan's RPPG were established by the CDC and the State health authorities to facilitate more effective primary, secondary, and tertiary HIV/AIDS prevention). Potential respondents were defined as anyone who worked, either as a volunteer or as a paid staff member, for an HIV/AIDS caregiving organization in Michigan. Persons who were less than 18 years of age were not allowed to participate.

# Procedure

After receiving approval by Michigan State University's Committee on Research Involving Human Subjects (see Appendix B), 802 study packages were mailed or handed out among volunteers and paid staff persons of participating organizations. How study packages were delivered to potential respondents was a decision of the executive director of each organization. Study packages included the following: (1) a copy of the *HIV/AIDS Work Experience Survey* (see Appendix C) (2) a cover letter explaining how they have come to be asked to participate (see Appendix D), (3) an informed consent sheet that underscores the anonymous nature of the study (see Appendix E), (4) a form to request a personal copy of the study's findings (*i.e., Study Results Request Form*; see Appendix F), and (5) a small "red remembrance ribbon" decal as a token of appreciation.

In addition, two pre-paid, pre-addressed business reply envelopes were provided, one for return of the completed survey, and one for return of the *Study Results Request Form*. Use of separate envelopes ensured that a respondent's survey and the whatever contact address was provided on the *Study Results Request Form* could not be associated, thereby maintaining the respondent's anonymity.

#### Measures

The HIV/AIDS Work Experience Survey measured various aspects of the respondent's role as a person who works with persons with HIV/AIDS. Each section measures information about a particular domain, namely the respondent's: (1) HIV/AIDS work experience, (2) perceptions of others' beliefs about HIV/AIDS workers, (3) perceptions of others' behavior towards HIV/AIDS workers, (4) communication behavior about HIV/AIDS-related topics, (5) memory of an unexpected reaction from another person related to their HIV/AIDS work, and (6) personal background (e.g., age, sex).

Appendices C, G, H, and I have been prepared to help answer technical questions regarding the study's electronic data set (Note: data is stored in a single SPSS for

Windows computer file). Appendix C is a copy of the HIV/AIDS Work Experience Survey that has been annotated with each item's name as it appears in the computer file. Appendix G lists each variable (i.e., raw, computed, or secondarily sourced) along with its (1) position in the computer file, (2) data type, (3) range of possible values, (4) 'Not Applicable' and 'Missing' codes, (5) sample size, (6) actual minimum and maximum values, mean, standard deviation, and (7) variable label. Appendix H lists value labels for categorical variables. Lastly, Appendix I lists SPSS for Windows compute statements for multi-item or conditionally generated variables. The following paragraphs provide an overview of what was measured in each section of the survey.

#### Section A. HIV/AIDS Work Background

This section asked respondents about their work experience with persons who have HIV/AIDS. It asked on what basis the respondent currently works (either volunteer or paid), which groups describe the persons who have HIV/AIDS with whom they work, which HIV/AIDS organization or agency they work for, what type of work they do, the duration and frequency of their work experience, their overall impression of their experience to date, and the degree to which they look to peer HIV/AIDS workers as opposed to non-peers for social support. Items for the social support scale were adapted from a 6-item scale developed for another study by Sarason, Levine, Basham and Sarason (1983).

#### Section B. Perceptions of Others' Beliefs

It is in this section that self-reports about how respondents believe others view them as *persons who work with persons with HIV/AIDS* are obtained. The design of this section is modeled after an instrument used in a recent study by Schwarzer, Dunkel-Schetter, and

Kemeny (1994) which measured social support for gay men who are at risk for HIV infection. Their study compared four sources of support (friends, relatives, partner, and organizations) and three dimensions of support (amount, satisfaction, and reciprocity).

The present study's measure is comprised of five parts, each part tapping into the respondent's perception of different social groups, or contexts, that make up an HIV/AIDS worker's social network (friends, family members, non-HIV/AIDS co-workers, neighbors, and the general public in their community). The first item of each item for each part asked respondents about how many people from a particular group know that they work with persons who have HIV/AIDS. The next six items ask the respondent to rate the strength of their beliefs about the same group on selected dimensions of associational stigma, namely: (1) judgment of moral wrong-doing, (2) fear of contagion, (3) lack of admiration, (4) fear of death, (5) misunderstanding, (6) lack of compassion.

Three of these six items were presented using positive, or pro-social, language (e.g., "I believe that my friends admire me because I work with persons who have HIV/AIDS"); These items were recoded so that all items provide a measure of associational stigma on an 11-point Likert scale from 0 = "Do not believe at all [that I am stigmatized in this context]" to 10 = "Believe without any doubt [that I am stigmatized in this context]." Where necessary, items were recoded so that lower responses indicated lower levels of perceived associational HIV/AIDS stigma.

#### Section C. Perceptions of Others' Negative Behaviors

Items in this section were used to develop a measure of perceived social distance. This section is adapted from Bishop's et al. (1991) measure of a person's willingness to

interact with a person with AIDS. It asked respondents about the degree to which their work with persons who have HIV/AIDS appears to cause others (i.e., non-HIV/AIDS workers) to avoid the respondent. For example, "Once people know that you work with persons who have HIV/AIDS, do you sense that they are less willing to strike up conversation with you?" All items were measured on an 11-point Likert scale from 0= "Never sense this" to 10= "Always sense this." No items required recoding.

#### Section D. Communication with Others

This section asked respondents about how they communicate with others (i.e., non-HIV/AIDS workers) about their work with persons who have HIV/AIDS (e.g., "Telling people that I work with persons who have HIV/AIDS gives me a sense of pride and satisfaction"). All 12 of the items were designed by the author and placed on an 11-point Likert scale from 0="Not at all like me" to 10="Completely like me." Where necessary, items were recoded so that a lower responses indicated lower levels of communication behavior.

#### Section E. Unexpected Reactions of Others

This section asked respondents to recall a situation in which someone's awareness of their HIV/AIDS work elicited a particular unexpected behavior. It is wholly qualitative in design. Four open-ended questions probe the situation (i.e., "What was the person's behavior?", "How was their behavior unexpected?", "How did this person's behavior make you feel?", and "How did you respond to this person?"

Based on the responses provided, information about the situation was coded into five principal variables that described the reported incident. These five variables classified (1) how the situation was thought to be unexpected, (2) whether or not the situation was

constructive (positive), neutral, or destructive (negative), (3) to what the other's behavior in this situation might be attributed, (4) how the respondent felt about the situation, and (5) how the respondent reacted to the situation. In addition, other variables were created to code the apparent strength or severity the situation that was reported.

#### Section F. Personal Background

The final section of the survey asked about the respondents' personal background, including sensitive information about their sexual orientation, current HIV status, and perceived risk for HIV infection. General information about the respondents' race and ethnicity, age, education, and income was also included.

Because of the sensitive nature of some of the items (i.e., "Are you HIV-positive?"), text at the beginning of the section informed respondents that their answers to these items were completely optional. Some items, such as the respondent's race/ethnicity, sexual orientation, current marital/partnership status, HIV serological status, and perceived risk for HIV were recoded for the purposes of correlational data analyses.

## **Chapter 4**

#### RESULTS

This chapter reports the findings of the present study. Findings have been organized in four parts, as follows:

- Description of Study Sample
- Dimensionality of Perceived Associational Stigma
- Bivariate Correlational Findings
- Supplemental Analyses.

Description of Study Sample will review information regarding (1) who responded to the survey, (2) what types of HIV/AIDS-related organizations they are affiliated with, and (3) what types of services they provided to persons living with HIV/AIDS. For all of these data, a comparison of two binomial proportions (male HIV/AIDS workers to female HIV/AIDS workers) is presented.

Dimensionality of Perceived Assocational Stigma presents the study's cornerstone: a measure of 'perceived associational stigma.' Findings for Research Question 1 will be presented here. In particular, this part will consider whether or not perceived associational stigma is uni-dimensional or multi-dimensional. Details of the process by which the measure was developed will be provided in three sections, as follows:

• An exploratory factor analysis of six plausible dimensions of HIV/AIDS perceived associational stigma (i.e., moral-wrongdoing, fear of contagion, lack of admiration, fear of death, misunderstanding, lack of compassion) for five contexts (i.e., as

mentioned previously, friends, family, non-HIV/AIDS co-workers, neighbors, and the general public);

- A first order confirmatory factor analysis (CFA) based upon the results of the exploratory analysis of a measurement model that identifies the dimensionality of perceived associational stigma for each of the five contexts under consideration; and
- A second order CFA based upon the results of the first order CFA of a measurement model that identifies the 'macro,' or 'context-transcendent,' dimensionality of PAS.

Final reliability measures for all perceived associational stigma scales derived from the first and second order CFA will also be presented, followed by a comparison of perceived associational stigma across the five measured contexts.

Bivariate Correlational Findings reports results for Research Questions 2 through 4,

which part be divided into four sections, as follows:

- Scale Composition and Psychometrics
- Correlates of Perceived Associational Stigma
- Correlates of Perceived Social Distance, and
- Correlates of HIV/AIDS-Related Communication Behavior.

This part begins with an overview of the set of ten variables that are hypothesized to be correlates of percieved associational stigma. Half of these are single item variables; half are multi-item variables. The scale composition and psychometrics for the five, multiitem variables are presented in a first order comfirmatory factor analysis. Reliabilities for the multi-item variables will also be reported. Following introduction to the ten hypothesized correlates, results for the three sets of bivariate correlations will be presented. Note that all sample correlations reported in the present study have been corrected for attenuation. Confidence intervals, inference probabilities, and odds ratios are used to analyze the strength (magnitude) and direction (positive or negative) of the theoretical population value (see *Use of Confidence Intervals, Inference Probabilities, and Odds Ratios* below for further explanation of analyses and interpretation of correlational output).

The final part of this chapter, Supplemental Analyses, will present the results of two explorations of the data:

- a respondent clustering procedure that grouped respondents based upon levels of perceived associational stigma, and
- a path analysis that proposes specific causal relationships among key variables measured in this study.

These analyses were used to help integrate and summarize the results of the bivariate correlational findings.

# Use of Confidence Intervals, Inference Probabilities, and Odds Ratios

Confidence intervals, inference probabilities, and odds ratios have been calculated – when useful and appropriate – for this study's sample statistics. In addition, all bivariate correlation coefficients reported here have been corrected for attentuation. The following paragraphs define these innovations and show how they were used to interpret findings.

### Significance Testing and Confidence Intervals

In place of the traditional significance test, confidence intervals will be built about each bivariate sample correlation, binomial proportion, arithmetic mean, or other statistical parameter that is presented in this study. Confidence intervals have been chosen over the significance test because (1) they are correctly centered about the observed value rather than about the hypothetical value of the null hypothesis (i.e.  $\rho = 0$ ) and (2) they give a complete picture of the extent of uncertainty due to less than optimal small sample sizes (Hunter & Schmidt, 1990).

As all hypotheses in the present study made a directional statement, a one-way statistical analysis is allowed. For the present study, a 90% two-sided confidence interval (i.e., a 95% one-sided confidence interval) has been selected. In terms of the traditional significance test, this means that where zero is found to lie between the limits of the confidence interval, r is said to be 'not statistically significant' (i.e.,  $p \ge .10$ ). Likewise, where zero is found to lie above the upper limit of the interval or below the lower limit of the interval, r is said be 'statistically significant' (i.e., p < .10). For the purposes of the present study, 'ns' denotes 'not statistically significent' and 'sig' denotes 'statistically significant.' Note that this interpretation will always return the same result as the traditional significance test.

The confidence interval is a probability statement. For example, it may be written as:

- Pr(.07 ≤ π<sub>2</sub> π<sub>1</sub> ≤ .22) = .95, for the difference between two binomial proportions (π<sub>2</sub> π<sub>1</sub>), which may be read "the probability that the difference between two independent sample proportions will lie between 6.9% and 22.1% is exactly 95%."
- Pr(.07 ≤ ρ ≤ .22) = .95, for the Pearson population correlation value (ρ), which may be read "the probability that population correlation value is lies between .069 and .221 is exactly 95%,"
- $Pr(.07 \le \eta \le .22) = .95$ , for the nonlinear population correlation coefficient ( $\eta$ ), which may be read "the probability that eta lies between .069 and .221 is exactly 95%."

#### **Correcting for Attenuation**

Hunter and Schmidt (1990) note that correctable artifacts other than sampling error

are systemic rather than unsystemic in their impact on bivariate sample correlations.

Measurement error in either variable causes the correlation to be lower than it would have

been with no measurement error. If the amount of measurement error is known, sample

correlations may be 'corrected for attenuation' using an algebraic formula. In the present study, all sample correlations have been corrected for attenuation using the following formula:

$$r_{corrected} = \frac{r_{xy}}{\sqrt{r_{xx}}\sqrt{r_{yy}}}$$

where  $\sqrt{r_{xx}}$  and  $\sqrt{r_{yy}}$  are the square root of the reliability ( $\alpha$ ) for variable x and variable y, respectively.

Correcting for attenuation will not affect interpretation of whether a given population value is statistically significant or not as long as the lower and upper limits are corrected using the same reliabilies for variable x and variable y. The following formula was used:

$$Limit_{corrected} = \frac{Limit}{\sqrt{r_{xx}}\sqrt{r_{yy}}}$$

where 'Limit' is either the uncorrected upper bound or the uncorrected lower bound of a given confidence interval.

# **Inference Probabilities and Odds Ratios for Correlations**

When a given sample correlation (r) is small in magnitude and/or is not determined to be statistically significant, additional information about the sign of the population correlation can be obtained from inference probabilities and odds ratios. The inference probability (*P1*) is an estimation of the likelihood that the population value ( $\rho$ ) is positive. Where a positive association is predicted, the odds ratio is defined as *the probability that*  $\rho$  *is positive* divided by *the probability that*  $\rho$  *is negative* (odds = PI<sub>pos</sub>/PI<sub>neg</sub>). Where a negative association is predicted, the odds ratio is defined as *the probability that*  $\rho$  *is negative* (odds = PI<sub>pos</sub>/PI<sub>neg</sub>). Table 1 is provided as a guide to interpretation of inference probabilities and odds ratios for correlations. Note that an inference probability of greater than .67 affirms that the sign of  $\rho$  is positive, and that an inference probability of less than .33 affirms that the sign of  $\rho$  is negative. Likewise, an odds ratio greater than 2 to 1 affirms that the sign of  $\rho$  is positive (or negative, as the case may be).

Inference Probabity (PI)	1 - Pi	Od	ld <b>s</b>	Sign of Population Value
.98	.02	49	to 1	positive
.96	.04	24	to 1	positive
.93	.07	13	to 1	positive
.90	.10	9	to 1	positive
.75	.25	3	to 1	positive
.68	.34	2	to 1	positive
.67	.33	1.99	to 1	inconclusive
.50	.50	1	to 1	inconclusive
.33		1.99	101	inconclusive
.34	.68	2	to 1	negative
.25	.75	3	to 1	negative
.10	.90	9	to 1	negative
.07	.93	13	to 1	negative
.04	.96	24	to 1	negative
.02	.98	49	to 1	negative

 Table 1 - Interpretation of Inference Probabilities and
 Odds Ratios for Correlations

# **Description of Study Sample**

#### **Response Rates**

Of the 802 study packages mailed or handed out to persons who work with persons with HIV/AIDS, 40% (N=319) were completed and returned. Survey distribution successfully reached all but one of Michigan's eight regional HIV Prevention Planning Groups (RPPGs) (see Table 2).

The region that was not reached was Kalamazoo (Region 3). Kalamazoo declined full participation in the study because of a recent bad experience with another community researcher. Nonetheless, it completed and returned the two sample packages that they had been mailed. Excluding Kalamazoo, Ypsilanti generated the lowest rate of return (15%). Note that 27 surveys were returned without a proper U.S. Mail postmark, and therefore could not be classified by region.

Lansing/East Lansing produced the highest rate of return (47%), followed by

RPPG	City	County	Surveys Distri- buted	Surveys Returned	% of RPPG Returned	% of Total Returned
1	Detroit/Royal Oak	Wayne/Oakland	300	127	42	40
2	Ypsilanti	Washtenaw	75	11	15	3
3	Kalamazoo	Kalamazoo	2	2	100	1
4	Lansing/E. Lansing	Ingham	99	47	47	15
5	Grand Rapids	Kent	100	37	37	12
6	Flint/Bay City	Genesee/Bay	95	33	35	10
7	Traverse City	Grand Traverse	71	24	34	8
8	Negaunee	Marquette	60	11	18	3
-	Unknown	Unknown	-	27	-	
Total			802	319	40%	100%

 Table 2 - Respondents' City and County of Residence by Regional HIV Prevention

 Planning Group (RPPG)

Note: The Kalamazoo-based organization declined full participation in the study.

Detroit/Royal Oak (42%). Note, however, that respondents from Detroit/Royal Oak accounted for the greatest percentage of surveys used in the present study (40% overall; n=127). A higher allocation of surveys to be distributed in Region 1 was justified by the substanially higher impact of HIV/AIDS in the Detriot area. Table 3 shows that the cumulative incidence of HIV/AIDS among its population is more than twice that of any other region in the State.

RPPG	Population <sup>*</sup>	Population density per square mile <sup>a</sup>	Total cases of AIDS <sup>b</sup>	Cum incidence of AIDS per 100,000 <sup>b</sup>
1	4,191,886	1,323.4	5,662	135.1
2	639,814	233.9	339	53.0
3	936,599	156.3	469	50.1
4	431,836	187.2	241	55.8
5	1,057,755	158.8	561	53.0
6	1,104,694	191.9	400	36.2
7	537,798	42.0	97	18.0
8	313,915	17.8	45	14.3

 Table 3 - Cumulative Incidence of AIDS in Michigan by Regional HIV Prevention

 Planning Group (RPPG)

\*1990 U.S. Census.

<sup>b</sup>January 1981 to October 1996 (Michigan Department of Community Health, Fall 1996).

#### **Respondent Demographics**

Study respondents tended to be white (i.e., caucasian) (83.8%), English-speaking (98.4%), college-educated (69.4%), and come from households with yearly incomes in greater than \$30,000 (67.5%). In addition, respondents tended to be single (53.9%) and politically liberal (63.2%). Their average age was 39.5 (*SD*=11.6).

Three statistically significant differences in demographics were found when female HIV/AIDS workers were compared to male HIV/AIDS workers. First, male HIV/AIDS workers were more likely to self-identify as homosexual rather than as heterosexual or bisexual [68% of the male workers ( $\pi_2$ ); 14% of the female workers ( $\pi_1$ );  $Pr(.44 \le \pi_2 - \pi_1 \le .64) = .95$ ]. Second, female HIV/AIDS workers were more likely to be partnered by marriage rather than be single or partnered by domestic partnership [21% of the male workers ( $\pi_2$ ); 33% of the female workers ( $\pi_1$ );  $Pr(-.22 \le \pi_2 - \pi_1 \le .02) = .95$ ]. Last, male HIV/AIDS workers were more likely to have tested HIV-positive [18% of the male workers ( $\pi_2$ ); 3% of the female workers ( $\pi_1$ );  $Pr(.07 \le \pi_2 - \pi_1 \le .22) = .95$ ]. See Appendix J for details regarding respondents' race and ethnicity, primary language, highest level of education, yearly household income, current political leanings, and whether or not they current a place of worship.

#### **Types of HIV/AIDS Organizations**

Figure 1 shows the types of organizations or agencies to which respondents were affiliated. The majority of respondents were affiliated with community-based support organizations (72%); followed by prevention planning organizations (16%) or health/medical service organizations (11%). On average, respondents were affiliated with only one organization in the community (M=1.37, SD=.78, N=295), although some respondents reported involvement with up to five different places.

#### How Respondents Worked with Persons with HIV/AIDS

The present study described how respondents worked with persons with HIV/AIDS using three broad categories, as follows: (1) their basis of work (either volunteer or paid staff member), (2) the type of service they provided (either 'direct' services – caregiving/ personal support, advocacy/case management, and counseling for persons with HIV/AIDS and/or 'indirect' services – general community support and/or administrative



or management services for the HIV/AIDS organization in which they worked), and (3) the their frequency of face-to-face contact with persons with HIV/AIDS (everyday, more than once a week, about once a week, about once a month).

The proportion of respondents within each of these types of services is presented in Figure 2. Caregiving and/or personal support accounted for 36% of all respondents, followed by advocacy/case management services (19%). Community support, counseling, and administrative or secretarial work taken together comprised (40%) of respondents. The remaining 5% of respondents provided management or leadership services for an HIV/AIDS-related organization.

Table 4 presents an analysis by sex for basis of work, type of service, and frequency of contact. More than half of all respondents (64%) worked on a mostly voluntary basis. Men, however, were more likely than women to be volunteers [68% of the male workers


( $\pi_2$ ); 53% of the female workers ( $\pi_1$ );  $Pr(.05 \le \pi_2 - \pi_1 \le .27) = .95$ ]. Put another way, women were more likely than men to be paid for their HIV/AIDS work [32% of the male workers ( $\pi_2$ ); 47% of the female workers ( $\pi_1$ );  $Pr(-.27 \le \pi_2 - \pi_1 \le .05) = .95$ ].

When asked how often respondents had face-to-face contact with persons who have HIV/AIDS, 66.9% of this study's sample reported having some interaction at least once a week (see Table 4). This percentage is approximately the same as the 64.0% of respondents who reported providing direct services only. It appears to be that HIV/AIDS workers who participated in the survey have a relatively high level of face-to-face contact with persons with HIV/AIDS. However, note that 11.3% of respondents reported that they had face-to-face contact with a person with HIV/AIDS less than once a month.

### **Groups Served by HIV/AIDS Workers**

Respondents worked with a wide range of groups of persons who have HIV/AIDS. Nearly all respondents provided some sort of assistance or support to gay or bisexual men (91.9%). In contrast, commercial sex workers were the least common group served among this study's respondents (19.7%) (see Table 5).

In general, male HIV/AIDS workers reported working as much as female HIV/AIDS workers with any of the groups served except for women with HIV/AIDS. Here a statistically significant difference was found when the percentage of women who reported working with HIV-positive women was compared to the percentage of men who reported working with HIV-positive women [59% of the male workers ( $\pi_2$ ); 75% of the female workers ( $\pi_1$ );  $Pr(-.27 \le \pi_2 - \pi_1 \le -.05) = .95$ ].

	Sex of H Wo	IV/AIDS tker			95% Tw Confiden	ro-sided ce Interval	
Work Experience	Women	Men	 Difference	SEDW	Lower	Upper	<b>Sig</b> (p<.05)
		Basi	s of Work				
All or mostly volunteer work							
Sample proportion	53%	68%	16%	6%	5%	27%	sig
Number of affirmed cases	94	82					•
Sample size	179	120					
All or mostly paid work							
Sample proportion	47%	32%	-16%	6%	-27%	-5%	sig
Number of affirmed cases	85	38					•
Sample size	179	120					
		Туре	of Service				
Direct service only							
Sample proportion	61%	68%	7%	6%	-4%	18%	ns
Number of affirmed cases	110	82					
Sample size	180	120					
Indirect service only							
Sample proportion	21%	17%	-4%	5%	-13%	5%	ns
Number of affirmed cases	38	20					
Sample size	180	120					
Some direct, some indirect							
Sample proportion	18%	15%	-3%	4%	-11%	6%	ns
Number of affirmed cases	32	18					
Sample size	180	120					
		Frequen	cy of Contact				
Everyday		•	•				
Sample proportion	20%	25%	5%	5%	-5%	14%	ns
Number of affirmed cases	38	31					
Sample size	187	124					
More than once a week							
Sample proportion	28%	30%	1%	5%	-9%	12%	ns
Number of affirmed cases	53	37					
Sample size	187	124					
About once a week							
Sample proportion	16%	15%	-1%	4%	-9%	8%	ns
Number of affirmed cases	30	19					
Sample size	187	124					
About once a month							
Sample proportion	4%	9%	5%	3%	-1%	10%	ns
Number of affirmed cases	8	11	•••				
Sample size	187	124					

### Table 4 - How Respondents Worked with Persons who have HIV/AIDS

### 61

### Table 5 - Groups Served by HIV/AIDS Workers

	Sex of H Wor	IV/AIDS ker	_		<b>95% Tw</b> Confidence	vo-sided ce interval	
Group Served	Women	Men	Difference	SE	Lower	Upper	Sig (p<.05)
Gay men							
Sample proportion	90%	95%	5%	3%	0%	11%	ns
Number of affirmed cases	168	117					
Sample size	187	123					
Women							
Sample proportion	75%	59%	-16%	5%	-27%	-5%	sia
Number of affirmed cases	141	73		• • •	21.10	•.•	
Sample size	187	123					
IV drug users							
Sample proportion	64%	60%	-4%	6%	-15%	7%	ns
Number of affirmed cases	120	74					
Sample size	187	123					
Hemophiliacs							
Sample proportion	31%	36%	5%	5%	-6%	16%	ns
Number of affirmed cases	58	44					
Sample size	187	123					
Children							
Sample proportion	28%	30%	2%	5%	-9%	12%	ns
Number of affirmed cases	53	37					
Sample size	187	123					
Adolescents							
Sample proportion	25%	26%	1%	5%	-9%	11%	ពន
Number of affirmed cases	47	32					
Sample size	187	123					
Commercial sex workers							
Sample proportion	19%	21%	2%	5%	-7%	12%	ns
Number of affirmed cases	35	26					
Sample size	187	123					
Others							
Sample proportion	15%	11%	-4%	4%	-11%	4%	ns
Number of affirmed cases	28	14					
Sample size	187	123					

62

### Dimensionality of Perceived Associational Stigma (Hypotheses 1 - 2)

This part of the chapter begins the review of results for each of the 29 hypotheses listed in Chapter 2. Results of hypothesis tests have been classified in the following way:

• Confirmed

- Disconfirmed (No Relationship)
- Disconfirmed (Reversed Support).

'Confirmed' indicates that support was found for the hypothesis as stated. 'Disconfirmed (No relationship)' indicates that no support was found for any substantial relationship between the constructs under consideration. 'Disconfirmed (Reversed Support)' indicates that if the predicted direction of the relationship under consideration were to have been switched, the hypothesis would have been supported. Recall that the list of hypotheses has been organized around a set of four research questions. The first such research question was:

• Research Question 1—Which dimensions of HIV/AIDS stigma comprise perceived associational stigma and in which contexts are they most salient?

Table 6 restates the two hypotheses and lists their corresponding table references.

Hypo-		35. See 88
thesis	Prediction	Table(a)
1	Perceived associational stigma (PAS) among HIV/AIDS workers is a multidimensional construct.	7 - 11
2	PAS increases as persons in a setting become less familiar.	12

Table 6 - Hypotheses for Research Question 1

Hypothesis 1—Perceived associational stigma among persons who work with persons who have HIV/AIDS is a multi-dimensional construct. It was determined that perceived associational stigma exists among HIV/AIDS workers, and that it is a multi-dimensional construct. A three-step process was used to develop the measure.

### **Exploratory Factor Analysis**

As an initial examination of the data, a series of five, six-item exploratory factor analyses (EFA) were carried out, one for each context measured (i.e., as mentioned previously, friends, family, non-HIV/AIDS co-workers, neighbors, and the general public). For each context, data for six items were collected. For example, consider the context of 'friends':

- Item 1 I believe that my **friends** judge my work to be morally wrong because I work with persons who have HIV/AIDS.
- Item 2 I believe that my **friends** are afraid that I might pass HIV on to them because I work with persons who have HIV/AIDS.
- Item 3 I believe that my **friends** admire me because I work with persons who have HIV/AIDS.
- Item 4 I believe that my **friends** associate thoughts of death and dying with me because I work with persons who have HIV/AIDS.
- Item 5 I believe that my friends understand and value me because I work with persons who have HIV/AIDS.
- Item 6 I believe that my **friends** show compassion for me because I work with persons who have HIV/AIDS.

Note that items 3, 5, and 6 (lack of admiration, misunderstanding, and lack of compassion, respectively) were recoded so that they reflected negative perceptions of

others, as the scores for items 1, 2, and 4 already did.

Using the principal axis method, each EFA extracted two orthogonal factors per context. The first cluster included items 1, 2, and 4 (moral-wrongdoing, fear of contagion, and fear of death, respectively) for all contexts except 'the general public.' For this EFA (the fifth EFA) the procedure attempted to extract two clusters, but terminated because the communality of item 4 (fear of death) exceeded 1.0. The fifth EFA was then rerun without item 4, and this time two clusters were extracted, the only difference being that the first cluster did not include item 4. The second cluster, however, always included items 3, 5, and 6 (lack of admiration, misunderstanding, and lack of compassion, respectively) (see Table 7). Review of the factor loadings indicate that 'fear of death' appears to be the only item with poor quality.

Table 8 shows the amount of variance explained (sum of squared loadings) for each of the unconfirmed clusters. The context of 'neighbors' accounts for the most variance (75.9%); the context of 'friends' accounts for the least variance (55.8%). In general, the outcome of these EFAs are strikingly consistent across contexts. These results suggest that a two-factor solution exists within each context.

64

and item         Factor 1         Factor 2         Uniqueness           Ist EFA (Friends)           Unconfirmed cluster 1         Moral Wrongdoing         .4T         .11         .82           Fear of contagion         .96         .06         .03           Fear of contagion         .96         .06         .03           Fear of contagion         .96         .06         .03           Fear of contagion         .93         .94         .12           Lack of admiration         .03         .94         .12           Lack of compassion         .03         .94         .12           Lack of contagion         .96         .21         .03           Fear of contagion         .96         .21         .03           Fear of contagion         .13         .97         .23           Misunderstanding         .12         .97         .04           Lack of admiration         .13         .97         .23           Misunderstanding         .90         .12         .17           Lack of admiration         .08         .22         .33           Std EFA (Non-HIV/AIDS co-workers)           Unconfirmed cluster 1         .90         .12	linconfirmed elucted	Load	ling	_
Ist EFA (Friends)           Unconfirmed cluster 1         Moral Wrongdoing         .41         .82           Fear of contagion         .96         .06         .03           Fear of death         .33         -10         .88           Unconfirmed cluster 2         Lack of admiration         .03         .91         .35           Misunderstanding         .05         .94         .12         Lack of compassion        03         .74         .3           Unconfirmed cluster 1         Moral Wrongdoing         .65         .94         .12         Lack of compassion        03         .74         .3         .45           Unconfirmed cluster 1         Moral Wrongdoing         .65         .27         .51         .58           Unconfirmed cluster 1         Moral Wrongdoing         .13         .37         .23           Misunderstanding         .12         .97         .04         .26         .33           Inconfirmed cluster 1         Moral Wrongdoing         .77         .19         .36         .26         .33           Inconfirmed cluster 1         Moral Wrongdoing         .90         .12         .17         .23           Misunderstanding         .03         .86         .27	and item	Factor 1	Factor 2	Uniqueness
Unconfirmed cluster 1 Moral Wrongdoing		1st EFA (Friends)		
Moral Wrongdoing       .41       .11       .82         Fear of contagion       .96       .06       .03         Fear of death       .33       .10       .88         Unconfirmed cluster 2	Unconfirmed cluster 1	Mid. White Pit research succ		
Fear of contagion       .96       .06       .03         Fear of death       .33       -10       .88         Unconfirmed cluster 2       Lack of admiration       .03       .81       .35         Misunderstanding       .05       .94       .12         Lack of compassion      03       .74       .45         Znd EFA (Family)         Unconfirmed cluster 1       Moral Wrongdoing       .85       .27       .51         Fear of contagion       .96       .21       .03       .85         Unconfirmed cluster 1       .39       .05       .85         Unconfirmed cluster 2       Lack of admiration       .13       .87       .23         Lack of admiration       .13       .87       .23       .33         Sid EFA (Non-HIV/AIDS co-workers)         Unconfirmed cluster 2	Moral Wrongdoing	.41	.11	.82
Fear of death       .33      10       .88         Unconfirmed cluster 2       Lack of admiration       .03       .81       .35         Misunderstanding       .05       .94       .12         Lack of compassion      03       .74       .45         Zind EFA (Family)         Unconfirmed cluster 1       Moral Wrongdoing       .96       .27       .51         Fear of contagion       .96       .21       .03       .65         Fear of contagion       .96       .21       .03         Fear of death       .39      05       .85         Unconfirmed cluster 2       Lack of admiration       .13       .67       .23         Lack of compassion       .08       .82       .33         Sid EFA (Non-HIV/AIDS co-workers)         Unconfirmed cluster 1       Moral Wrongdoing       .77       .19       .36         Moral Wrongdoing       .03       .96       .09       .22       .77         Fear of death       .10       .82       .32       .33         Unconfirmed cluster 2       .21       .37       .37         Lack of admiration       .10       .82       .32         Unconfirmed clus	Fear of contagion	. <b>98</b>	.06	.03
Unconfirmed cluster 2 Lack of admiration .03 81 .35 Misunderstanding .05 94 .12 Lack of compassion03 .74 .45 2nd EFA (Family) Unconfirmed cluster 1 Moral Wrongdoing .65 27 .51 Fear of contagion .96 .21 .03 Fear of death .3905 .85 Unconfirmed cluster 2 Lack of admiration .13 .97 .23 Misunderstanding .12 .97 .04 Lack of compassion .08 .52 .33 Srd EFA (Non-HIV/AIDS co-workers) Unconfirmed cluster 1 Moral Wrongdoing .77 .19 .36 Fear of contagion .90 .12 .17 Fear of death .39	Fear of death	.33	10	.88
Lack of admiration       .03       .81       .35         Misunderstanding       .05       .94       .12         Lack of compassion       .03       .74       .45         Znd EFA (Family)         Unconfirmed cluster 1       Moral Wrongdoing       .65       .27       .51         Moral Wrongdoing       .96       .21       .03       .65         Fear of contagion       .93       .74       .35         Unconfirmed cluster 2	Unconfirmed cluster 2			
Misunderstanding       .05       .94       .12         Lack of compassion       .03       .74       .45         Intervalue of compassion         Intervalue of compassion         Intervalue of compassion         Unconfirmed cluster 1         Moral Wrongdoing       .65       .27       .51         Fear of contagion       .96       .21       .03         Fear of contagion       .98       .21       .03         Fear of contagion       .13       .97       .04         Lack of admiration       .13       .97       .04         Lack of compassion       .08       .62       .33         Std EFA (Non-HIV/AIDS co-workers)         Unconfirmed cluster 1       Moral Wrongdoing       .77       .19       .36         Moral Wrongdoing       .77       .19       .36         Fear of contagion       .90       .12       .17         Fear of contagion       .10       .82       .32         Misunderstanding       .03       .96       .09         Lack of admiration       .10       .82       .27	Lack of admiration	.03	.81	.35
Lack of compassion      03       .74       .45         Inconfirmed cluster 1         Moral Wrongdoing       .65       .27       .51         Fear of contagion       .98       .21       .03         Fear of contagion       .98       .21       .03         Fear of death       .39      05       .85         Unconfirmed cluster 2       Lack of admiration       .13       .97       .04         Lack of compassion       .08       .82       .33         Std EFA (Non-HIV/AIDS co-workers)         Unconfirmed cluster 1       Moral Wrongdoing       .77       .19       .36         Moral Wrongdoing       .77       .19       .36       .75         Unconfirmed cluster 1       .03       .96       .09       .21         Moral Wrongdoing       .03       .96       .09       .26       .27         Lack of admiration       .10       .82       .32       .27         Unconfirmed cluster 2       Lack of admiration       .03       .96       .09         Lack of compassion       .05       .25       .27         Whe EFA (Neighbors)         Unconfirmed cluster 1       .04       .98	Misunderstanding	.05	.94	.12
Znd EFA (Family)           Unconfirmed cluster 1         Moral Wrongdoing         655         27         51           Fear of contagion         96         21         03           Fear of death         39         -05         85           Unconfirmed cluster 2         Lack of admiration         13         97         23           Misunderstanding         12         97         04           Lack of compassion         08         632         33           Std EFA (Non-HIV/AIDS co-workers)           Unconfirmed cluster 1         Moral Wrongdoing         77         19         36           Fear of contagion         90         12         17           Fear of contagion         90         12         17           Fear of contagion         10         32         32           Unconfirmed cluster 1         46         -18         .75           Unconfirmed cluster 2         23         32         36           Lack of compassion         -05         .85         .27           Misunderstanding         16         33           Lack of contagion         94         .15         10           Fear of contagion         12	Lack of compassion	03	.74	<u>.</u> 45
Unconfirmed cluster 1 Moral Wrongdoing Fear of contagion Fear of death Unconfirmed cluster 2 Lack of admiration 13 98 27 51 Fear of death 13 97 23 Misunderstanding 12 97 04 Lack of compassion 08 82 33 Srd EFA (Non-HIV/AIDS co-workers) Unconfirmed cluster 1 Moral Wrongdoing 177 19 36 Fear of contagion 90 12 17 Fear of death 10 82 32 Misunderstanding 10 10 10 10 10 10 10 10 10 10		2nd EFA (Family)		
Moral Wrongdoing       .65       .27       .51         Fear of contagion       .98       .21       .03         Fear of death       .39       .05       .85         Unconfirmed cluster 2       .23       .33         Lack of admiration       .13       .67       .23         Misunderstanding       .12       .97       .04         Lack of compassion       .08       .82       .33         Std EFA (Non-HIV/AIDS co-workers)         Unconfirmed cluster 1       .008       .82       .33         Moral Wrongdoing       .77       .19       .36         Fear of contagion       .90       .12       .17         Fear of contagion       .90       .12       .17         Fear of death       .46       .18       .75         Unconfirmed cluster 2	Unconfirmed cluster 1			
Fear of contagion       96       21       .03         Fear of death       .39      05       .85         Unconfirmed cluster 2       Lack of admiration       .13       .67       .23         Misunderstanding       .12       .97       .04         Lack of compassion       .08       .82       .33         Std EFA (Non-HIV/AIDS co-workers)         Unconfirmed cluster 1       Moral Wrongdoing       .77       .19       .36         Fear of contagion       .90       .12       .17         Fear of contagion       .90       .12       .17         Fear of death       .46      18       .75         Unconfirmed cluster 2       Lack of admiration       .10       .82       .32         Lack of compassion       .05       .85       .27         Uth EFA (Neighbors)         Unconfirmed cluster 1       Moral Wrongdoing       .94       .15       .10         Fear of death       .12       .26       .27         Misunderstanding       .04       .96       .04         Lack of admiration       .12       .27       .27         Misunderstanding       .04       .96       .04	Moral Wrongdoing	65	.27	.51
Fear of death       .39      05       .85         Unconfirmed cluster 2       Lack of admiration       .13       .87       .23         Misunderstanding       .12       .97       .04         Lack of compassion       .08       .82       .33         Srd EFA (Non-HIV/AIDS co-workers)         Unconfirmed cluster 1       Moral Wrongdoing       .77       .19       .36         Fear of contagion       .90       .12       .17         Fear of death       .46      18       .75         Unconfirmed cluster 2       Lack of admiration       .10       .82       .32         Lack of admiration       .10       .82       .32         Misunderstanding       .03       .96       .09         Lack of compassion      05       .85       .27 <b>4th EFA (Neighbors)</b> Unconfirmed cluster 1       Moral Wrongdoing       .69       .11       .51         Unconfirmed cluster 2       Lack of admiration       .12       .26       .27         Lack of compassion       .02       .90       .19       .21       .27         Misunderstanding       .04       .98       .04       .24       .27	Fear of contagion	.96	.21	.03
Unconfirmed cluster 2 Lack of admiration .13 .87 .23 Misunderstanding .12 .97 .04 Lack of compassion .08 .82 .33 3rd EFA (Non-HIV/AIDS co-workers) Unconfirmed cluster 1 Moral Wrongdoing .77 .19 .36 Fear of contagion .90 .12 .17 Fear of death .4618 .75 Unconfirmed cluster 2 Lack of admiration .10 .82 .32 Misunderstanding .03 .96 .09 Lack of compassion .05 .25 .27 4th EFA (Neighbors) Unconfirmed cluster 1 Moral Wrongdoing .94 .15 .10 Fear of death .12 .35 Unconfirmed cluster 2 Lack of compassion .02 .90 .19 6th EFA (General public) Unconfirmed cluster 1 Moral Wrongdoing .34 .09 .29 Unconfirmed cluster 2 Lack of compassion .02 .90 .19 6th EFA (General public) Unconfirmed cluster 1 Moral Wrongdoing .34 .12 .27 Fear of contagion .34 .09 .29 Unconfirmed cluster 2 Lack of compassion .07 .81 .34 Misunderstanding .16 .91 .51	Fear of death	.39	05	.85
Lack of admiration       .13       .87       .23         Misunderstanding       .12       .97       .04         Lack of compassion       .08       .82       .33         Srd EFA (Non-HIV/AIDS co-workers)         Unconfirmed cluster 1       Moral Wrongdoing       .77       .19       .36         Fear of contagion       .90       .12       .17         Fear of death       .46      18       .75         Unconfirmed cluster 2	Unconfirmed cluster 2			
Misunderstanding       12       .97       .04         Lack of compassion       .08       .82       .33         Srd EFA (Non-HIV/AIDS co-workers)         Unconfirmed cluster 1       Moral Wrongdoing       .77       .19       .36         Fear of contagion       .90       .12       .17         Fear of contagion       .90       .12       .17         Fear of death       .46       .18       .75         Unconfirmed cluster 2	Lack of admiration	.13		.23
Lack of compassion       .08       .82       .33         Std EFA (Non-HIV/AIDS co-workers)         Unconfirmed cluster 1       Moral Wrongdoing       .77       .19       .36         Fear of contagion       .90       .12       .17         Fear of contagion       .90       .12       .17         Fear of death       .46      18       .75         Unconfirmed cluster 2	Misunderstanding	.12	.97	.04
Srd EFA (Non-HIV/AIDS co-workers)         Unconfirmed cluster 1       Moral Wrongdoing       .77       .19       .36         Fear of contagion       .90       .12       .17         Fear of death       .46      18       .75         Unconfirmed cluster 2	Lack of compassion	.08	82	.33
Unconfirmed cluster 1       Moral Wrongdoing       .77       .19       .36         Fear of contagion       .90       .12       .17         Fear of death       .46      18       .75         Unconfirmed cluster 2	3rd E	FA (Non-HIV/AIDS co-v	vorkers)	
Moral Wrongdoing       .77       .19       .36         Fear of contagion       .90       .12       .17         Fear of death       .46       .18       .75         Unconfirmed cluster 2	Unconfirmed cluster 1		,	
Fear of contagion       .90       .12       .17         Fear of death       .46      18       .75         Unconfirmed cluster 2       .10       .82       .32         Lack of admiration       .10       .82       .32         Misunderstanding       .03       .96       .09         Lack of compassion      05       .85       .27         4th EFA (Neighbors)         Unconfirmed cluster 1       Moral Wrongdoing       .80       .16       .33         Fear of death       .15       .10       .51       .10         Unconfirmed cluster 2       .80       .11       .51         Unconfirmed cluster 2       .12       .265       .27         Lack of admiration       .12       .265       .27         Misunderstanding       .04       .98       .04         Lack of compassion       .02       .90       .19         Sth EFA (General public)         Unconfirmed cluster 1       .34       .09       .29         Unconfirmed cluster 2       .27       .34       .34         Lack of admiration       .07       .81       .34         Misunderstanding       .16       .91	Moral Wrongdoing	77	.19	.36
Fear of death       .46      18       .75         Unconfirmed cluster 2	Fear of contagion	.90	.12	.17
Unconfirmed cluster 2       Lack of admiration       .10       .82       .32         Misunderstanding       .03       .96       .09         Lack of compassion      05       .85       .27         4th EFA (Neighbors)         Unconfirmed cluster 1       Moral Wrongdoing       .94       .15       .10         Fear of contagion       .94       .15       .10       .51         Unconfirmed cluster 2       .69      11       .51         Unconfirmed cluster 2       .69       .11       .51         Unconfirmed cluster 1       .02       .90       .19         Sth EFA (General public)       .12       .27         Unconfirmed cluster 1       .03       .98       .04         Moral Wrongdoing       .64       .98       .04         Lack of compassion       .02       .90       .19         Sth EFA (General public)       .12       .27         Unconfirmed cluster 1       .98       .09       .29         Unconfirmed cluster 2       .12       .27         Lack of admiration       .07       .81       .34         Misunderstanding       .16       .91       .15         Lack of admiration </td <td>Fear of death</td> <td>.46</td> <td>18</td> <td>.75</td>	Fear of death	.46	18	.75
Lack of admiration       .10       .82       .32         Misunderstanding       .03       .96       .09         Lack of compassion      05       .85       .27         4th EFA (Neighbors)         Unconfirmed cluster 1         Moral Wrongdoing       .94       .15       .10         Fear of contagion       .94       .15       .10         Fear of contagion       .94       .15       .10         Fear of death       .69      11       .51         Unconfirmed cluster 2	Unconfirmed cluster 2			
Misunderstanding       .03       .96       .09         Lack of compassion      05       .85       .27         4th EFA (Neighbors)         Unconfirmed cluster 1         Moral Wrongdoing       .94       .15       .10         Fear of contagion       .94       .15       .10         Fear of contagion       .94       .15       .10         Fear of death       .69      11       .51         Unconfirmed cluster 2       .27       .27         Lack of admiration       .12       .265       .27         Misunderstanding       .04       .98       .04         Lack of compassion       .02       .90       .19         Sth EFA (General public)         Unconfirmed cluster 1       .64       .09       .29         Unconfirmed cluster 1       .64       .09       .29         Unconfirmed cluster 2       .27       .27         Lack of admiration       .07       .81       .34         Misunderstanding       .16       .91       .15         Lack of admiration       .07       .81       .34         Misunderstanding       .16       .91       .15	Lack of admiration	10		* 32
Lack of compassion      05       .05       .05         Lack of compassion      05       .85       .27         4th EFA (Neighbors)         Unconfirmed cluster 1       Moral Wrongdoing       .94       .16       .33         Fear of contagion       .94       .15       .10         Fear of death       .94       .15       .10         Unconfirmed cluster 2       .94       .15       .10         Lack of admiration       .12       .265       .27         Misunderstanding       .04       .98       .04         Lack of compassion       .02       .90       .19         Sth EFA (General public)         Unconfirmed cluster 1       .64       .09       .29         Unconfirmed cluster 1       .07       .81       .34         Moral Wrongdoing       .07       .81       .34         Fear of contagion       .07       .81       .34         Unconfirmed cluster 2       .07       .81       .34         Lack of admiration       .07       .81       .34         Misunderstanding       .16       .91       .15         Lack of compassion       .09       .84       .29	Misunderstanding	03	98	09
4th EFA (Neighbors)         Unconfirmed cluster 1       Moral Wrongdoing         Fear of contagion       .94       .16       .33         Fear of contagion       .94       .15       .10         Fear of death       .69      11       .51         Unconfirmed cluster 2       Lack of admiration       .12       .385       .27         Lack of compassion       .02       .90       .19         Sth EFA (General public)         Unconfirmed cluster 1       Moral Wrongdoing       .34       .09       .29         Unconfirmed cluster 1       .07       .81       .34         Moral Wrongdoing       .07       .81       .34         Misunderstanding       .16       .91       .15         Lack of admiration       .07       .81       .34         Misunderstanding       .16       .91       .15	Lack of compassion	05		.00
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Lack of admiration       .12       .265       .27         Misunderstanding       .04       .98       .04         Lack of compassion       .02       .90       .19         Sth EFA (General public)         Unconfirmed cluster 1       .04       .09       .27         Moral Wrongdoing       .84       .09       .29         Unconfirmed cluster 2       .84       .09       .29         Unconfirmed cluster 2       .07       .81       .34         Misunderstanding       .16       .91       .15         Lack of compassion       .09       .84       .29	Unconfirmed cluster 2			
Misunderstanding       .04       .98       .04         Lack of compassion       .02       .90       .19         Sth EFA (General public)         Unconfirmed cluster 1       .12       .27         Fear of contagion       .84       .09       .29         Unconfirmed cluster 2       .07       .81       .34         Lack of admiration       .07       .81       .34         Misunderstanding       .16       .91       .15         Lack of compassion       .09       .84       .29	Lack of admiration	.12		27
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Lack of compassion 09 A4 29	Misunderstanding	16	.91	.15
	Lack of compassion	.09	.84	.29

 Table 7 - Factor Loadings and Uniqueness for Exploratory

 Factor Analyses of Dimensions of Perceived Associational Stigma

Note: Shaded area indicates best factor assignment.

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		Percentage	Cumulative Percentage
Factor ID	Eigenvalue	of Variance	of Variance
	Friend	8	
1	2.121	35.4	35.4
2	1.228	20.5	55.8
	Family	1	
1	2.820	47.0	47.0
2	1.198	20.0	67.0
	Non-HIV/AIDS C	o-workers	
1	2.465	41.1	41.1
2	1.566	26.1	67.2
	Neighbo	<b>)/S</b>	
1	2.724	45.4	45.4
2	1.832	30.5	75.9
	General P	ublic	
1	2.418	48.4	48.4
2	1.246	24.9	73.3

 Table 8 - Percentage of Variance Explained for Exploratory

 Factor Analyses of Dimensions of Perceived Associational

 Stigma

### First Order Confirmatory Factor Analysis

A first order confirmatory factor analysis (CFA) – based upon the results of the preceding EFA – was carried out next. The confirmatory factor model that was proposed was comprised of ten factors, two for each of the contexts measured in the study. The first factor would be comprised of items 1 and 2 (moral wrong-doing and fear of contagion). The second factor would be comprised of items 3, 5, and 6 (lack of admiration, misunderstanding, and lack of compassion).

Table 9 shows the results of the proposed CFA. Just as the preceding EFA suggested, a ten factor solution (two factors within each of the five contexts) was confirmed. These clusters of items suggest the following factor definitions: Table 9 - First Order Correlation Matrix and Item-Factor Loadings for Confirmatory Factor Model of Perceived Associational Stigma

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٩	£	13	9	9	.05	8	03	8	8	03	07	8	96	.74	.65	89	67	20	20	17	-28	61	-28	49	48	4	80	8	80.98	3 5	7.	80	98	.55	Friends
	5	24	29	39	38	45	52	58	57	85	85	8	8	.05	.02	02	02	-05	80	80	8	01	95	19	1 0	40	47	22	50.	190	10	80	Z	25	General Public
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- Judgment of depravity. HIV/AIDS workers are morally bad, corrupt, infectious and perverted (because they attend to the needs of persons who have HIV/AIDS) [Factors 1 through 5].
- Sense of disempathy. HIV/AIDS workers are misunderstood, unadmired, and not worthy of compassion (because then attend to the needs of persons who have HIV/AIDS) [Factors 6 through 10].

The quality of the items within any given factor appear to be uniform, and every item loads highest on its intended factor. Note, however, that correlations among items for the depravity factors (F1 to F5) are relatively high ( $r_{average} = .42$ ), as are correlations among items for the disempathy factors (F6 to F10) ( $r_{average} = .55$ ). This observation suggests that the factor scores themselves may cluster into two 'macro' or 'context-transcendent' clusters.

### Second Order Confirmatory Factory Analysis

The third and final step towards development of a measure of perceived associational stigma was to conduct a second order CFA. This time the proposed model tested a two factor model. The first factor would be comprised of all five depravity factors scores; the second factor would be comprised of all five disempathy factors scores. Table 10 shows the results of this procedure. As with the first order CFA, the quality of the factors within any given macro-factor appear to be uniform, and every item loads highest on its intended macro-factor. Moreover, the second order inter-macro-factor correlation indicates a relatively independent factor structure (r=.18).

To summarize these findings, percieved associational stigma appears to be comprised of ten factors and two macro-factors. For the purposes of the present study, 'factors' may be conceptualized as 'dimensions' and 'macro-factors' may be conceptualized as 'macro-

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		Depravity	(Macro-dim	ension 1)			Disempath	y (Macro-dir	nension 2)	Γ	2nd Orde	r Factors
			Non-HIV/AIDS		General			Non-HIVIAIDS		General		
	Friends	Family	Co-workers	Neighbors	Public	Friends	Family	Co-workers	Neighbors	Public	Depravity	Disempathy
1st/2nd Fac #	F	F2	E	F4	F5	F6	F7	F8	F9	F10	F1'	F2 <sup>1</sup>
E	.36	.50	.55	.38	.40	.17	90.	.07	.05	60.	.60	.11
F2	.50	.55	.61	.58	.47	60	.42	90.	.11	90	.74	.18
F3	.55	.61	69	.61	.57	40	.17	.22	.02	.10	.83	.14
F4	.38	.58	.61	.59	.65	.05	.21	.12	.25	.16	11.	.20
F5	.40	47	.57	.65	.50	05	.01	08	8	.25	.71	8
F6	.17	60 <sup>.</sup>	64	.05	05	.76	.74	.80	99	.55	80.	.87
F7	90	.42	17	.21	.01	74	.60	12.	.61	.47	.24	11.
F8	.07	90	.22	.12	08		11.	.85	.75	.62	.11	.92
F9	.05	11.	.02	.25	64	99.	.61	.75	<b>99</b>	.61	.13	.81
F10	60	90	.10	.16	.25	.55	.47	.62	.61	44	.18	.67
F1'	.60	.74	.83	11.	12	.08	.24	11.	.13	.18	1.00	.18
F2'	11.	.18	.14	.20	8	.87	11.	.92	.81	.67	.18	1.00

dimensions.' Hence, the measurement model of perceived associational stigma includes ten dimensions and two macro-dimensions. This is diagrammed in Figure 3, which shows the combined first and second order confirmatory factor models.

### **Psychometrics for Perceived Associational Stigma Scales**

Table 11 reports two measures of internal consistency for each of the ten dimensions

(D1 to D10) and the two macro-dimensions (MD1 to MD2) of perceived associational

stigma: (1) The standard score coefficient alpha ( $\alpha$ ) and (2) the average correlation

Dimen- sion ID	Variable	Number of Items	Stand. Score Coeff. Alpha	Avg. Corr. among Items
D1	Depravity from Friends	2	.59	.42
D2	Depravity from Family	2	.81	.68
D3	Depravity from Non-HIV/AIDS Co-workers	2	.85	.73
D4	Depravity from Neighbors	2	.88	.78
D5	Depravity from General Public	2	.84	.72
MD1	Depravity (Macro-dimension 1)	10	.87	.40
D6	Disempathy from Friends	3	.87	.68
D7	Disempathy from Family	3	.92	.79
DB	Disempathy from Non-HIV/AIDS Co-workers	3	.91	.76
D9	Disempathy from Neighbors	3	.93	.83
D10	Disempathy from General Public	3	.89	.74
MD2	Disempathy (Macro-dimension 2)	15	.95	.54

 Table 11 - Standard Score Coefficient Alpha and Average Correlation for Perceived

 Associational Stigma Scales

among items ( $r_{average}$ ). Overall the measurement model is convincing, except that the five depravity dimensions are only two-item scales, which are theoretically less reliable than scales with three or more items (Nunnally & Bernstein, 1994). Depravity from friends generated the lowest alpha ( $\alpha = .59$ ) and the lowest average inter-item correlation ( $r_{average}$ = .42) among all ten dimensions. In contrast, disempathy from neighbors





generated the highest alpha ( $\alpha = .93$ ) and the highest average inter-item correlation ( $r_{average} = .83$ ) among all ten dimensions.

Note that the reliability of each of the macro-dimensions is based upon the raw items that comprise the first order dimensions. Because the macro-dimensions were actually derived from factor correlations, not raw items, they may be viewed as constructs, which are theoretically measurement error-free. However, they are still fallible to the degree that the first order factors from which they are empirically derived did not achieve perfect reliability. Although coefficient is relatively high for both macro-dimensions ( $\alpha_{MDI} = .87$ ,  $\alpha_{MD2} = .95$ ), their average inter-item correlation is relatively low ( $r_{MDIoverage} = .40$ ,  $r_{MD2overage} = .54$ ).

In summary, the results of the exploratory analysis, the first order confirmatory factor model, and the second order confirmatory factor model suggest that perceived associational stigma is comprised of two macro-dimensions: perceived associational depravity and perceived associational disempathy. Each macro-dimension is comprised of five context dimensions. Context dimensions are representative of different components of the HIV/AIDS worker's social network (i.e., the worker's friends, family, non-HIV/AIDS co-workers, neighbors, and members of the general public). Given these findings, the degree to which the strength of perceived associational stigma varies by context will now be considered.

Hypothesis 2—Perceived associational stigma increases as persons of a particular context become less familiar. Table 12 shows the outcome of two univariate repeated measures analyses. The first analysis is for dimensions (i.e., contexts) of perceived associational depravity. The second analysis is for dimensions of perceived

						Confi Interva	dence I for Eta	Analy Vari	isis of
Dimension of Perceived				-		•		-	
Associational Sugma	mean	SUMeen	N	EV	3Eca	Lower	upper	<u> </u>	p-value
Depravity									
Friends	.68	1.23	311	.61	.02	.58	.64	122.21	.00
Family	1.40	2.09	311						
Non-HIV/AIDS Co-workers	1.42	1.88	243						
<b>Neighbors</b>	2.27	2.56	264						
General Public	3.80	2.38	308						
Disempathy									
Friends	3.47	2.42	310	.49	.02	.45	.53	112.72	.00
Family	4.17	2.91	310						
Non-HIV/AIDS Co-workers	4.62	2.74	242						
<b>Neighbors</b>	5.65	2.80	263						
General Public	5.58	2.13	307						

Table 12 - Univariate Repeated Measures Analysis for Dimensions of Perceived Associational Stigma

associational disempathy. *Eta*, the nonlinear correlation coefficient, indicates that perceived associational stigma varies in 'less familiar' social contexts than in 'more familiar' social contexts. Note that, for the purposes of this study, friends are taken to be the 'most familiar' members of the HIV/AIDS worker's social network, followed by family members, non-HIV/AIDS co-workers, neighbors, and the general public in the worker's community. Although this ordering of contexts may or may not be valid for all HIV/AIDS workers, it is thought to reflect a particular reality for many people living with HIV/AIDS and their associates. Rejection by family members is not an uncommon occurrence (Geis, Fuller & Rush, 1986; McDonnell, Abell & Miller, 1991).

For instance, the mean for depravity increases as the respondent reports on friends (M=.68), then family members (M=1.40), then non-HIV/AIDS co-workers (M=1.42), and so on  $[Pr(.58 \le \eta \le .64) = .95]$ . For depravity, there appears to be a monotonic increasing relationship that ebbs among family members and neighbors, but then picks up again when the general public is considered. A similar relationship is shown for disempathy

 $[Pr(.45 \le \eta \le .58) = .95]$ . Disempathy appears to increase from context to context in an almost linear fashion, decreasing slightly when public is considered. These results support the hypothesis that perceived associational stigma tends to be higher in less familiar contexts.

To review this section's results, perceived associational stigma is a multidimensional construct that may be conceptualized as having two macro dimensions, depravity and disempathy. Furthermore, perceptions of associational stigma appear to become stronger for 'less familiar' components of the HIV/AIDS workers social network. These results are summarized in Table 13.

Table 13 - Summary of Results for Research Question 1

Нуро-		Re	suit	
theele	Prediction	Depravity	Disempathy	Table(s)
1	Perceived associational stigma (PAS) among HIV/AIDS workers is a multidimensional construct.	Confirmed	Confirmed	7 - 11
2	PAS increases as persons in a setting become less familiar.	Confirmed	Confirmed	12

### **Bivariate Correlational Findings**

This part of the results chapter will report findings from a series of bivariate correlational analyses that respond to Research Questions 2, 3, and 4, respectively. The analyses are divided into three sections, as follows:

- Correlates of Perceived Associational Stigma (Research Question 2)
- Correlates of Perceived Social Distance (Research Question 3), and
- Correlates of HIV/AIDS-Related Communication Behavior (Research Question 4).

Before presenting findings, information about the scale composition and Psychometrics of perceived social distance, HIV/AIDS communication behavior, and eight other variables will be reviewed.

### **Scale Composition and Psychometrics**

A total of ten different characteristics and experiences hypothesized to be germane to HIV/AIDS workers were used in the correlational analyses. Half of these are single-item responses to survey questions. They include: (1) whether or not they are volunteers or paid staff members, (2) the number of 'otherwise stigmatized' groups (e.g., IV drug users) with whom they are associated, (3) their frequency of face-to-face contact with persons who have HIV/AIDS, (4) the duration of their HIV/AIDS work experience, (5) their perceived risk of HIV infection. (See Appendices C, G, H, and I for full information about all data collected for this study). 'Volunteer vs. paid status,' 'number of otherwise stigmatized groups,' 'frequency of face-to-face contact,' and 'duration of work' are variables that describe the HIV/AIDS work experience. 'Perceived risk of HIV infection' describe an individual characteristic of the HIV/AIDS worker.

The other half are multi-item scales. They include: (1) satisfaction with their HIV/AIDS work experience, (2) the amount of social support they report receiving from peer HIV/AIDS workers (relative to non-HIV/AIDS workers), (3) the proportion of others (i.e., friends, family members, neighbors, etc.) who know about their HIV/AIDS worker, (4) perceived social distance that they attribute to their HIV/AIDS work, and (5) the amount of HIV/AIDS-related communication behavior that engage in with others. 'Satisfaction with HIV/AIDS work experience,' 'perceived social support from HIV/AIDS workers,' and 'the proportion of others who know about one's HIV/AIDS

75

work' describe the HIV/AIDS work experience. 'Perceived social distance' and 'HIV/AIDS-related communication behavior' describe an individual characteristic of the HIV/AIDS worker.

In order to show the measurement properties of these five multi-item scales, a confirmatory factor analysis was completed. Table 14 shows the first order correlation matrix and item-factor loadings for the five multi-item scales used in the present study. Note that all items load highest on the factor for which they were intended, and that the quality of these items appear to be relatively uniform.

Measures of reliability for these scales are presented in Table 15. Perceived social distance appears to be the most reliable ( $\alpha = .94$ ;  $r_{average} = .73$ ). The other four have satisfactory coefficient alphas, but relatively low average correlations among the items from which they are comprised.

Table 14 - First Order Correlation Matrix and Item-Factor Loadings for Confirmatory Factor Model of Five Multi-Items Scales

100000000			-			-	-			-	-			-	-	-	-	-		-	-	-			-	-	-	-
	Description	More rewarding than punishing	More satisfying than dissatisfying	More manageable than unmanagable	Count on them to listen to me	Can really be myself around them	Truely appreciate me as a person	Count on them to console me	Proportion of Friends who know	Proportion of Family who know	Proportion of Co-workers who know	Proportion of Neighbors who know	Less likely to ask you to a party	More likely decline meal you prepare.	More difficulty wiothers at office	More reluctant to continue friendship	Less likely to do business together	Less likely to visit your home	Selective about whom I tell	Would not tell a potential employer	Need to be expressly asked	Personal rule not to tell others	Figure out audience before telling	Satisfaction with Work	Social Support from Peer Workers	Proportion of Others who know	Perceived Social Distance	Communication Behavior
50	F5	17	17	.07	6	80.	11	.10	.48	42	50	41	33	35	27	26	34	36	.79	2	.62	.78	.59	.18	.12	88.	37	1.0
acto	ž	8	8	.03	8	8	-04	02	-05	14	15	-14	82	88	.76	18.	87	94	8	23	21	20	-34	8	8	.18	1.0	37
der F	£	Ę	20.	03	5	17	10	.05	.75	.64	.8	.53	Ę	19	60'-	12	-21	19	25	46	45	47	.25	80.	.16	1.0	18	89
st Or	۲	ą.	10	10	-28	69	.74	.75	13	.12	15	.05	8	03	-01	8	05	.03	8	13	80	20.	90	11	1.0	.16	8	.12
Ē	Ξ	84	.94	.52	10	8	-07	.13	80	.07	.05	.05	-01	03	07	8	.03	.04	12	8	.18	.16	.12	1.0	11.	80	8	.18
vior	3	.12	.12	.04	8	8	98	60.	.14	.15	.19	.20	30	31	26	25	29	32	.51	.27	42	41	.35	.12	90	25	34	.59
Behav	2	12	.16	90	8	80	60	01	41	30	34	23	-12	18	15	15	-18	19	-28	20	48	.61	.41	16	10.	47	20	.78
DS-re ation	8	16	17	60	8	02	03	.13	\$	-26	.32	30	-31	-23	-16	Ę	-12	-19	47	31	39	48	.42	18	80	45	-21	.62
HV/AI munic	9	8	.01	64	92	20.	-17	80	31	33	40	22	19	53	-13	16	-26	-23	4	-28	31	20	.27	8	.13	46	-23	54
Con	9	÷	10	20.	2	03	03	.03	38	36	41	40	- 53	-21	19	-20	-24	26	.62	42	.47	-28	.51	12	8	22	26	.79
	17	-01	03	.07	8	10.	04	.01	06	15	-17	15	12	83	20	18	84	88	26	23	19	19	32	.04	03	19	.94	36
stance	9	2	03	8	8	-03	-02	90	8	-17	16	14	1	17	.67	1	.75	84	24	-26	11	18	-29	8	-05	51	.87	34
cial Dis	15	60.	.01	.02	6	80	-03	05	-01	60-	13	60-	74	14	69	.76	1	.81	-20	-16	11	-15	-25	8	03	-12	.87	-26
S po	4	-01	-08	02	8	03	03	-01	8	07	-10	E.	88.	69	-28	69	67	.70	-19	.13	-16	.15	26	-01	01	60	.76	27
rceive	13	8	03	03	8	80	-03	-01	60	-13	-16	.13	74	74	69	14	14	.83	5	53	-23	.18	.31	8	.02	19	.86	-35
å	5	ē	02	10	8	8	-05	-08	ş	60	-07	H.	67	74	-28	74	11	11.	5	19	-21	-12	30	5	-04	11.	.82	33
s ti +	÷	60	.03	00	.03	.07	8	.03	37	35	.45	28	117	13	-11	60'-	14	15	40	3	30	23	.20	.05	.05	.53	-14	.41
of Oth w abou	9	20.	.02	.02	12	.16	60	6	.62	48	99	.45	-07	16	10	13	16	-17	.41	.40	32	34	.19	90.	.15	.81	15	.50
ortion o knor	0	8	80	10	8	.16	.07	.03	49	40	49	35	60	13	10-	60'-	-12	15	36	33	-28	30	.15	20.	.12	-	-14	.42
Prop T T T T		-01	8	.05	Ę	20.	12	8	-28	48	.62	.37	8	60	.03	-01	60	-06	39	31	34	41	.14	8	.12	.76	05	.48
uom ers	2	8	.14	.12	.51	.51	50	.56	.04	03	10	.03	08	01	01	.05	06	.01	.03	80.	.13	01	60	.13	.76	.05	02	.10
Work	9	6	20.	20.	43	.58	.55	.50	.12	.07	60	00	05	03	03	02	02	04	.03	17	.03	60	.05	20.	.74	.10	04	11
al Sup	6	8	0.	01	35	48	28	.51	-01	.16	.16	20.	8	80	03	80	03	10.	8	20.	90	8	8	8	69	17	8	.08
Soci	4	90	10.	60	35	35	43	.51	11	90	.12	.03	.03	.02	02	02	03	.03	.01	.05	.02	.04	00	.10	.59	.12	00	6
Nork	•	.43	.49	.27	60.	01	.07	.12	.05	.01	.02	00.	.01	.02	02	.02	.04	.07	.07	04	60'	90.	.04	.52	.10	.03	.03	70.
laction AIDS V	~	.79	68	49	.07	.01	.07	14	8	80	02	.03	02	03	08	10	02	.03	10	10	11	.16	.12	.94	.10	10.	8	17
Satist HIV/A	-	.70	61.	43	8	8	10	8	-07	80	20.	60	01	.03	07	03	.01	01	÷	.02	.16	.15	.12	.84	8	11	02	17
	# QI	-	2	3	4	9	9	7	80	6	10	11	12	13	14	15	16	17	18	19	20	21	22	E	F2	F3	F4	F5

Survey Section	Variable	Number of Items	Stand. Score Coeff. Alpha	Avg. Corr. among Items
	Satisfaction with HIV/AIDS Work Experience	3	.80	.57
	Social Support from HIV/AIDS Workers	4	.78	.48
в	Proportion of Others who know about HIV/AIDS Work	4	.77	.46
С	Perceived Social Distance	6	.94	.73
D	HIV/AIDS-related Communication Behavior	5	.79	.44

 
 Table 15 - Standard Score Coefficient Alpha and Average Correlation for Multi-Item Scales

### Correlates of Perceived Associational Stigma (Hypotheses 3 - 10)

This part of the chapter reviews results for hypotheses 3 through 10. These

hypotheses address Research Question 2, which was:

# • Research Question 2—Given that perceived associational stigma exists, what types of work experiences and individual characteristics are related to stronger perceptions of associational stigma?

Note that all the tables produced for Research Question 2 show two sets of sample correlations. The first set of sample correlations describes the relationship between each dimension of *perceived associational depravity* and *the hypothesized correlate*; the second set of sample correlations describes the relationship between each dimension of *perceived associational depravity* and *the hypothesized correlate*; the second set of sample correlations describes the relationship between each dimension of *perceived associational disempathy* and *the hypothesized correlate*. Table 16 restates the eight hypotheses and lists their table references.

Hypothesis 3—Perceived associational stigma and satisfaction with work experience are negatively correlated. Table 17 shows that only one of the six odds ratios for depravity but all six of the odds ratios for disempathy supported the hypothesis that the population value ( $\rho$ ) is less than 0. However, four of the odds ratios for depravity (more than half) supported the hypothesis that ( $\rho$ ) is greater than 0. Table 17

Hypo- thesis	Prediction	Table
3	Perceived associational stigma (PAS) and satisfaction with work experience are negatively correlated.	17
4	PAS and basis of current work (volunteer=1; paid=2) are negatively correlated.	18
5	PAS and work with otherwise stigmatized groups are positively correlated.	19
6	PAS and frequency of face-to-face contact with PWAs are positively correlated.	20
7	PAS and duration of work experience are positively correlated.	21
8	PAS and perceived social support from peer HIV/AIDS workers are positively correlated.	22
9	PAS and perceived risk of HIV infection are positively correlated.	23
10	PAS and proportion of others who know about respondent's HIV/AIDS work are positively correlated.	24

Table 16 - Hypotheses for Research Question 2

also shows that two of the six sample correlations for depravity were statistically significant but not in the hypothesized, negative direction, namely: depravity from friends  $[Pr(.03 \le \rho \le .32) = .90]$  and depravity from family  $[Pr(.03 \le \rho \le .28) = .90]$ . One of the six sample correlations for disempathy was statistically significant in the hypothesized direction: disempathy from non-HIV/AIDS co-workers  $[Pr(-.28 \le \rho \le .02) = .90]$ . Based on these results, the hypothesis was disconfirmed with reversed support for depravity but confirmed for disempathy.

Hypothesis 4—Perceived associational stigma and basis of current work

(volunteer=1; paid staff=2) are negatively correlated. Table 18 shows that two of the six odds ratios for depravity and none of the odds ratios for disempathy supported the hypothesis that the population value ( $\rho$ ) is less than 0. However, the other four odds ratios

		90% Two-sided p Confidence Interval <sup>a</sup> i		Proba- bility			
Dimension of Perceived Associational Stigma	~	Lower	Upper	Value is Negative	Odds Ratio <sup>b</sup>	N	Sig (p<.10)
Depravity							
Friends	.17	.03	.32	.03	.03	304	sig
Family	.15	.03	.28	.02	.02	304	sig
Non-HIV/AIDS Co-workers	.02	12	.15	.43	.75	240	ns
<b>Neighbors</b>	04	17	.09	.69	2.23	259	ns
General Public	.05	07	.17	.25	.33	301	ns
Macro	. <b>08</b>	05	.19	.16	.19	305	ns

.04

.00

-.02

.06

.07

.00

5.25

13.29

49.00

4.00

3.00

13.29

.84

.93

.98

.80

.75

.93

303

303

239

258

300

304

ns

ns

sig

**NS** 

ns

ns

 Table 17 - Correlational Analysis for Percieved Associational Stigma and Satisfaction with

 Work Experience

-.20

-.23

-.28

-.19

-.17

-.23

<sup>a</sup>Corrected for attenuation.

Disempathy

Non-HIV/AIDS Co-workers

-.08

-.11

-.15

-.07

-.05

-.12

Friends

Family

Neighbors

Macro

General Public

<sup>b</sup>Odds that population value is less than 0.

		90% Tw Confidence	ro-sided :e Interval <sup>a</sup>	Proba- bility			
Dimension of Perceived Associational Stigma	م	Lower	Upper	Value Is Negative	Odds Ratio <sup>b</sup>	N	<b>Sig</b> (p<.10)
Depravity							
Friends	.01	11	.14	.43	.75	298	ns
Family	06	16	.05	.80	4.00	298	ns
Non-HIV/AIDS Co-workers	13	25	02	.96	24.00	231	sig
<b>Neighbors</b>	.03	08	.14	.31	.45	253	ns
General Public	.00	10	.11	.50	1.00	295	ns
Macro	02	12	.08	.63	1.70	299	<b>N</b> 8
Disempathy							
Friends	.09	01	.19	.09	.10	297	ns
Family	.03	07	.13	.31	.45	297	ns
Non-HIV/AIDS Co-workers	.01	11	.12	.44	.79	230	ns
Neighbors	.09	02	.19	.09	.10	252	ns
General Public	.01	09	.11	.43	.75	294	<b>ns</b>
Macro	.06	03	.16	.16	.19	298	ns.

Table 18 - Correlational Analysis for Perceived Associational Stigma and Basis of HIV/AIDS Work (Volunteer vs. Paid)

\*Corrected for attenuation.

<sup>b</sup>Odds that population value is less than 0.

for disempathy (more than half) supported the hypothesis that  $\rho$  is greater than 0. Table 18 also shows that one of the six sample correlations for depravity was statistically significant in the predicted direction, namely: depravity from non-HIV/AIDS co-workers  $[Pr(-.25 \le \rho \le -.02) = .90]$ . None of the six sample correlations for disempathy were statistically significant. Based on these results, the hypothesis was disconfirmed with no relationship found for depravity and disconfirmed with reversed support for disempathy.

Hypothesis 5—Perceived associational stigma and work with persons who are likely to be held more accountable for their HIV-infection (e.g., IV drug users vs. children) are positively correlated. Table 19 shows that none of the six odds ratios for depravity and none of the six odds ratios for disempathy supported the hypothesis that the population value ( $\rho$ ) is less than 0. However, four of the odds ratios for depravity (more than half) and three for disempathy (just half) supported the hypothesis that  $\rho$  is greater than 0. Table 19 also shows that none of the twelve sample correlations for depravity or disempathy were statistically significant. Based on these results, the hypothesis was disconfirmed with reversed support for depravity and disconfirmed with no relationship for disempathy.

Hypothesis 6—Perceived associational stigma and frequency of contact with persons who have HIV/AIDS are positively correlated. Table 20 shows that four of the six odds ratios for depravity (more than half) but none of the odds ratios for disempathy supported the hypothesis that the population value ( $\rho$ ) is less than 0. However, four of the odds ratios for disempathy (more than half) supported the hypothesis that  $\rho$  is greater than 0. Table 20 also shows that none of the six sample correlations for depravity were

81

		90% Tw Confidence	vo-sided :e Interval <sup>e</sup>	Proba- bility		N	
Dimension of Perceived Associational Stigma	م	Lower	Upper	Value is Positive	Odds Ratio <sup>b</sup>		Sig (p<.10)
Depravity							
Friends	12	24	.00	.07	.08	311	ns
Family	.02	08	.13	.63	1.70	311	ns
Non-HIV/AIDS Co-workers	11	23	.00	.05	.05	243	ns
<b>Neighbors</b>	01	12	.09	.43	.75	264	ns
General Public	04	- 14	.06	.25	.33	308	ns
Macro	04	14	.06	.25	.33	312	ns
Disempathy							
Friends	.02	08	.12	.57	1.33	310	ns
Family	.01	09	.11	.57	1.33	310	ns
Non-HIV/AIDS Co-workers	03	14	.08	.31	.45	242	ns
Neighbors	08	19	.02	.09	.10	263	ns
General Public	05	15	.05	.20	.25	307	ns
Macro	01	11	.08	.43	.75	311	ns

 Table 19 - Correlational Analysis for Perceived Associational Stigma and the Number of Otherwise

 Stigmatized Groups of PWAs with whom Respondents Work

<sup>a</sup>Corrected for attenuation.

<sup>b</sup>Odds that population value is greater than 0.

	- •	90% Tw Confidence	90% Two-sided Confidence Interval <sup>a</sup>				
Dimension of Perceived Associational Stigma		Lower	Upper	Value is Positive	Odds Ratio <sup>b</sup>	N	<b>Sig</b> (p<.10)
Depravity							
Friends	05	17	.07	.25	.33	311	ns
Family	.04	06	.15	.75	3.00	310	ns
Non-HIV/AIDS Co-workers	.00	12	.12	.50	1.00	243	ns
Neighbors	02	13	.09	.37	.59	264	ns
General Public	.08	03	.18	.88	7.33	308	ns
Macro	.06	05	.15	.80	4.00	312	ns
Disempathy							
Friends	04	14	.06	.25	.33	310	ns
Family	04	14	.06	.25	.33	309	ns
Non-HIV/AIDS Co-workers	07	18	.04	.12	.14	242	<b>NS</b>
Neighbors	11	22	01	.03	.03	263	siac
General Public	08	18	.01	.09	.10	307	ns
Macro	07	17	.02	.12	.14	311	ns

### Table 20 - Correlational Analysis for Perceived Associational Stigma and Frequency of Face-to-Face Contact with PWAs

<sup>a</sup>Corrected for attenuation.

<sup>b</sup>Odds that population value is greater than 0.

<sup>6</sup>Sign of correlation is opposite of what was predicted.

statistically significant and that only one of the sample correlations for disempathy was statistically significant, but not in the predicted direction: disempathy from neighbors  $[Pr(-.22 \le \rho \le -.01) = .90]$ . Based on these results, the hypothesis was confirmed for depravity but disconfirmed with reversed support for disempathy.

Hypothesis 7—Perceived associational stigma and duration of work experience are positively correlated. Table 21 shows that none of the six odds ratios for either depravity or disempathy disempathy supported the hypothesis that the population value  $(\rho)$  is greater than 0. However, four of the odds ratios for depravity (more than half) and three for disempathy (just half) supported the reverse hypothesis, that is,  $\rho$  is less than 0. None of the sample correlations for either depravity or disempathy were statistically significant. Based on these results, the hypothesis was disconfirmed with reversed support for depravity and disconfirmed with no relationship for disempathy.

Hypothesis 8—Perceived associational stigma and perceived social support from peer HIV/AIDS workers are positively related. Table 22 shows that four of the six odds ratios for depravity (more than half) supported the hypothesis that the population value ( $\rho$ ) is greater than 0. However, five of the six odds ratios for disempathy supported the reversed hypothesis that  $\rho$  is less than 0. Table 22 also shows that four of the six sample correlations for disempathy were statistically significant but not in the hypothesized, positive direction, namely: disempathy from friends [ $Pr(-.25 \le \rho \le -.02)$ =.90], disempathy from family [ $Pr(-.26 \le \rho \le -.03)$  =.90], disempathy from the general public [ $Pr(-.24 \le \rho \le -.01)$  =.90], and disempathy at the macro-dimensional level [ $Pr(-.24 \le \rho \le -.02)$  =.90]. Based on these results, the hypothesis was confirmed for depravity Table 21 - Correlational Analysis for Perceived Associational Stigma and Duration of Work Experience

		90% Tw Confidence	vo-sided :e Interval <sup>a</sup>	Prob <b>a</b> - bility			
Dimension of Perceived Associational Stigma	م	Lower	Upper	Value is Positive	Odds Ratio <sup>b</sup>	N	<b>Sig</b> (p<.10)
Depravity							
Friends	03	15	. <b>09</b>	.37	.59	307	ns
<b>Family</b>	03	14	.07	.31	.45	306	ns
Non-HIV/AIDS Co-workers	07	18	.05	.16	.19	241	ns
<b>Neighbors</b>	06	17	.05	.16	.19	261	ns
General Public	.02	08	.12	.63	1.70	304	ns
Macro	04	14	.06	.25	.33	308	ns
Disempathy							
Friends	01	11	.09	.43	.75	306	ns
Family	09	19	.01	.07	.08	305	ns
Non-HIV/AIDS Co-workers	07	18	.04	.12	.14	240	ns
Neighbors	.01	<b>09</b>	.12	.57	1.33	260	ns
General Public	.01	<b>09</b>	.11	.57	1.33	303	ns
Macro	03	13	.07	.31	.45	307	ns

<sup>a</sup>Corrected for attenuation.

<sup>b</sup>Odds that population value is greater than 0.

## Table 22 - Correlational Analysis for Perceived Associational Stigma and Perceived Social Support from Peer HIV/AIDS Workers

		90% Two-sided Confidence Interval <sup>e</sup>		Prob <b>a-</b> bility			
Dimension of Perceived Associational Stigma	r.	Lower	Upper	Value is Positive	Odds Ratio <sup>b</sup>	N	<b>8ig</b> (p<.10)
Depravity							
Friends	.02	12	.17	.63	1.70	291	ns
Family	.01	11	.13	.57	1.33	290	<b>NS</b>
Non-HIV/AIDS Co-workers	.07	06	.21	.80	4.00	228	ns
Neighbors	.07	06	.19	.84	5.25	250	ns
General Public	.05	07	.17	.75	3.00	288	ns
Macro	.06	06	.17	.80	4.00	292	ns
Disempathy							
Friends	14	25	02	.03	.03	290	sig <sup>c</sup>
Family	15	26	03	.02	.02	289	sig <sup>c</sup>
Non-HIV/AIDS Co-workers	09	22	.03	.13	.15	227	ns
Neighbors	04	16	.08	.31	.45	249	ns
General Public	- 13	24	01	.03	.03	287	sig <sup>c</sup>
Macro	13	24	02	.03	.03	291	sig

\*Corrected for attenuation.

<sup>b</sup>Odds that population value is greater than 0.

<sup>e</sup>Sign of correlation is opposite of what was predicted.

but disconfirmed with reversed support for disempathy.

### Hypothesis 9—Perceived associational stigma and perceived risk of HIV

infection are positively correlated. Table 23 shows that five of the six odds ratios for depravity but none six of the odds ratios for disempathy supported the hypothesis that the population value ( $\rho$ ) is greater than 0. Moreover, five of the odds ratios for disempathy supported the hypothesis that  $\rho$  is less than 0. Table 23 also shows that three of the six sample correlations for depravity were statistically significant in the hypothesized, positive direction, namely: depravity from neighbors [ $Pr(.10 \le \rho \le .31) = .90$ ], depravity from the general public [ $Pr(.05 \le \rho \le .25) = .90$ ] and depravity at the macro-dimensional level [ $Pr(.07 \le \rho \le .27) = .90$ ]. None of the six sample correlations for disempathy were statistically significant. Based on these results, the hypothesis was confirmed for depravity and disconfirmed with reversed support for disempathy.

Hypothesis 10—Perceived associational stigma and the proportion of others who know about the respondent's HIV/AIDS work are positively correlated. Table 24 shows that all six odds ratios for depravity as well as all six of the odds ratios for disempathy supported the reversed hypothesis that the population value ( $\rho$ ) is less than, not greater than, 0. Table 24 also shows that four of the six sample correlations for depravity and all of the sample correlations for disempathy were statistically significant but not in the hypothesized, positive direction. Sample correlations for disempathy were stronger than those for depravity, the strongest of all being disempathy from non-HIV/AIDS co-workers [ $Pr(-.43 \le \rho \le -.20) = .90$ ]. Based on these results, the hypothesis was disconfirmed with reversed support for depravity as well as for disempathy.

		90% Two-sided Confidence Interval <sup>a</sup>		Proba- bility			
Dimension of Perceived Associational Stigma	4	Lower	Upper	Value is Positive	<b>Odds</b> Ratio <sup>®</sup>	N	<b>Sig</b> (p<.10)
Depravity							
Friends	07	20	.05	.20	.25	298	ns
<b>Family</b>	.10	01	.20	.93	13.29	297	ns
Non-HIV/AIDS Co-workers	.07	05	.19	.84	5.25	232	ns
<b>Neighbors</b>	.20	.10	.31	1.00	999.99	253	sig
General Public	.15	.05	.25	.99	99.00	295	sig
Macro	.18	.07	.27	1.00	999.99	298	sig
Disempathy							
Friends	04	14	.07	.31	.45	297	ns
Family	.00	10	.10	.50	1.00	296	ns
Non-HIV/AIDS Co-workers	10	21	.02	.10	.11	231	ns
<b>Neighbors</b>	06	- 16	.05	.20	.25	252	ns
General Public	05	15	.06	.25	.33	294	ns
Macro	04	- 13	.06	.31	.45	297	ns

#### Table 23 - Correlational Analysis for Perceived Associational Stigma and Perceived Risk of HIV Infection

\*Corrected for attenuation.

<sup>b</sup>Odds that population value is greater than 0.

### Table 24 - Correlational Analysis for Perceived Associational Stigma and the Proportion of Others who Know about Respondents' HIV/AIDS Work

		90% Two-sided Confidence Interval <sup>a</sup>		Proba- bility			
Dimension of Perceived Associational Stigma	•	Lower	Upper	Value is Positive	Odds Ratio <sup>b</sup>	N	<b>Sig</b> (p<.10)
Depravity							
Friends	10	24	.04	.12	.14	311	ns
Family	17	29	05	.01	.01	311	sig <sup>c</sup>
Non-HIV/AIDS Co-workers	17	30	05	.01	.01	243	sig <sup>c</sup>
Neighbors	17	29	05	.01	.01	264	sig <sup>c</sup>
General Public	05	17	.07	.25	.33	308	ns
Macro	16	27	05	.02	.02	312	sig <sup>c</sup>
Disempathy							
Friends	22	33	11	.00	.00	310	sig <sup>c</sup>
Family	31	41	21	.00	.00	310	sig <sup>c</sup>
Non-HIV/AIDS Co-workers	32	43	20	.00	.00	242	sig <sup>c</sup>
Neighbors	25	37	14	.00	.00	263	sig <sup>c</sup>
General Public	12	24	01	.05	.05	307	sig <sup>c</sup>
Macro	28	38	17	.00	.00	311	sig

\*Corrected for attenuation.

<sup>b</sup>Odds that population value is greater than 0.

<sup>e</sup>Sign of correlation is opposite of what was predicted.

Reviewing the results for hypotheses 3 through 10 shows that perceived associational stigma appears to be related to all the variables in this section except two. Support for whether an HIV/AIDS worker served 'otherwise stigmatized' groups, such as gay men and IV drug users, or not was not found when perceived associational disempathy was considered. Similarly, support for whether an HIV/AIDS worker had been serving persons with HIV/AIDS for a long or short duration was not supported. Table 25 summarizes these results.

Нуро-	na na artear inn na artear daois inn an trainn an tain an tainn an tainn an a	Re	ult	1.0.0
thesis	Prediction	Depravity	Disempethy	Teble
3	Perceived associational stigma (PAS) and satisfaction with work experience are negatively correlated.	Disconfirmed (Reversed Support)	Confirmed	17
4	PAS and basis of current work (volunteer=1; paid=2) are negatively correlated.	Disconfirmed (No Relationship)	Disconfirmed (Reversed Support)	18
5	PAS and work with otherwise stigmatized groups are positively correlated.	Disconfirmed (Reversed Support)	Disconfirmed (No Relationship)	19
6	PAS and frequency of face-to-face contact with PWAs are positively correlated.	Confirmed	Disconfirmed (Reversed Support)	20
7	PAS and duration of work experience are positively correlated.	Disconfirmed (Reversed Support)	Disconfirmed (No Relationship)	21
8	PAS and perceived social support from peer HIV/AIDS workers are positively correlated.	Confirmed	Disconfirmed (Reversed Support)	22
9	PAS and perceived risk of HIV infection are positively correlated.	Confirmed	Disconfirmed (Reversed Support)	23
10	PAS and proportion of others who know about respondent's HIV/AIDS work are positively correlated.	Disconfirmed (Reversed Support)	Disconfirmed (Reversed Support)	24

 Table 25 - Summary of Results for Research Question 2

88

### Correlates of Perceived Social Distance (Hypotheses 11 - 19)

Perceived social distance is defined as the HIV/AIDS workers' perception that someone is physically avoiding them because they have contact with persons who have HIV/AIDS. This is conceptually different from perceived associational stigma in that perceived associational stigma does not call attention to *avoidance maneuvers*, but to beliefs, that they, as HIV/AIDS workers, are somehow discounted, or devalued, by others as a result of their interaction with persons who have HIV/AIDS. The measure of perceived social distance is taken from the survey's Section C, which measured perceptions of specific types of stigmatizing *behavior* that may be directed at an HIV/AIDS worker. For example, respondents were asked, "Once people know that you work with persons who have HIV/AIDS, do you sense that they are less willing to strike up conversation with you?"

# • Research Question 3—Given that perceived associational stigma exists, how is it related to perceived social distance (i.e., physical avoidance by others as a result of being identified as an HIV/AIDS worker)?

Considering the same set of characteristics and experiences of HIV/AIDS workers that were used in the previous section, it was generally hypothesized that a pattern of relationship similar to those found for perceived associational stigma would also be found for perceived social distance. Table 26 restates the nine hypotheses and lists their table references.

theois	Prodiction	Table
11	Perceived social distance (PSD) and PAS are positively correlated.	27
12	PSD and satisfaction with work experience are negatively correlated.	28
13	PSD and basis of current work (volunteer=1; paid=2) are negatively correlated.	28
14	PSD and work with otherwise stigmatized groups are positively correlated.	28
15	PSD and frequency of face-to-face contact with PWAs are positively correlated.	28
16	PSD and duration of work experience are positively correlated.	28
17	PSD and perceived social support from peer HIV/AIDS workers are positively correlated.	28
18	PSD and perceived risk of HIV infection are positively correlated.	28
19	PSD and proportion of others who know about respondents' HIV/AIDS work are positively correlated.	28

**Table 26 - Hypotheses for Research Question 3** 

\*Confirmed for both Depravity and Disempathy.

Hypothesis 11—Perceived social distance and perceived associational stigma are positively correlated. Table 27 shows that all odds ratios for depravity as well as for disempathy supported the hypothesis that the population value ( $\rho$ ) is greater than 0. Moreover, all of the sample correlations for depravity and all but one for disempathy were statistically significant. Note that the relationship between depravity and social distance appears to be stronger than the relationship between disempathy and perceived social distance. This result may be summarized by examining the confidence interval for the two macro-dimensions (depravity [ $Pr(.54 \le \rho \le .69) = .90$ ]; disempathy [ $Pr(.03 \le \rho \le .23) = .90$ ]. Based on these results, the hypothesis was confirmed for both depravity and disempathy.

		90% Two-sided Confidence Interval <sup>a</sup>		Prob <b>a</b> - bility			
Dimension of Perceived Associational Stigma	<b>~</b>	Lower	Upper	Value is Positive	Odds Ratio <sup>b</sup>	N	<b>Sig</b> (p<.10)
Depravity						· · ·	
Friends	.39	.27	.51	1.00	999.99	309	sig
<b>Family</b>	.43	.34	.53	1.00	<b>999.99</b>	309	sig
Non-HIV/AIDS Co-workers	.51	.41	.60	1.00	<b>999.99</b>	241	sig
Neighbors	.55	.46	.63	1.00	999.99	263	sig
General Public	.46	.37	.55	1.00	<b>999.99</b>	308	sig
Macro	.61	.54	.69	1.00	999.99	310	sig
Disempathy							
Friends	.06	04	.17	.84	5.25	308	ns
Family	.12	.01	.22	.97	32.33	308	sig
Non-HIV/AIDS Co-workers	.12	.00	.23	.97	32.33	240	sig
Neighbors	.13	.02	.24	.98	49.00	262	sig
General Public	.12	.02	.22	.97	32.33	307	sig
Macro	.13	.03	.23	.98	49.00	309	sig

Table 27 - Correlational Analysis for Perceived Associational Stigma and Perceived Social Distance

\*Corrected for attenuation.

<sup>b</sup>Odds that population value is greater than 0.

Hypothesis 12—Perceived social distance and satisfaction with HIV/AIDS work experience are negatively correlated. Table 28 shows that the odds ratio for the hypothesis that the population value ( $\rho$ ) is less than 0 is inconclusive. Also, the sample correlation is positively signed and not significant. Based on these results, the hypothesis was disconfirmed with no relationship found between HIV/AIDS-related work experience satisfaction and perceived social distance.

### Hypothesis 13—Perceived social distance and the basis of current work

(volunteer = 1; paid staff = 2) are negatively correlated. Table 28 shows that the odds ratio for the hypothesis that the population value ( $\rho$ ) is less than 0 is inconclusive. However, the sample correlation is negatively signed, but not statistically significant. Based on these results, the hypothesis was disconfirmed with no relationship found

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#### Table 28 - Correlational Analysis for Perceived Social Distance and Selected Variables

	م	90% Two-sided Confidence Interval <sup>a</sup>		Proba- bility			
Variable		Lower	Upper	Value is Positive	Odds Ratio	N	<b>Sig</b> (p<.10)
Satisfaction with HIV/AIDS Work Experience	.03	09	.15	.63	.59 Þ	305	ns
Volunteer vs. Paid Work	01	11	.09	.43	1.33 Þ	299	ns
Number of Otherwise Stigmatized Groups	.02	08	.12	.63	1.70 °	312	ns
Frequency of Face-to-face Contact in Past 3 Months	.09	.00	.19	.93	13. <b>29</b> °	311	ns
Number of Years Working with Persons with HIV/AIDS	.02	08	.12	.63	1.70 °	307	ns
Social Support from HIV/AIDS- workers	.01	10	.13	.57	1.33 °	291	ns
Perceived Risk of HIV Infection	. <b>29</b>	.20	.38	1.00	999.99 °	299	sig
Proportion of others who know about HIV/AIDS work	17	27	06	.01	99.00 °	312	sig <sup>d</sup>

\*Corrected for attenuation.

<sup>b</sup>Odds that population value is less than 0.

<sup>c</sup>Odds that population value is greater than 0.

<sup>4</sup>Sign of correlation is opposite of what was predicted.

between volunteer versus paid work status and perceived social distance.

Hypothesis 14—Perceived social distance and work with persons who are likely to be held more accountable for their HIV-infection (e.g. IV drug users vs. children) are positively correlated. Table 28 shows that the odds ratio for the hypothesis that the population value ( $\rho$ ) is greater than 0 is, like the previous two hypotheses, inconclusive. The sample correlation is positively signed, but not statistically significant. Based on these results, the hypothesis was also disconfirmed with no relationship found between work with otherwise stigmatized groups and perceived social distance.

Hypothesis 15—Perceived social distance and frequency of face-to-face contact with persons who have HIV/AIDS are positively correlated. Table 28 shows that the odds ratio for the hypothesis that the population value ( $\rho$ ) is greater than 0 is, supported. The sample correlation is not statistically significant, although the lower limit of the confidence interval is 0, which adds support for the hypothesis  $[Pr(.00 \le \rho \le .19) = .90]$ . Based on these results, the hypothesis was confirmed; more frequent contact is related to stronger perceptions of perceived social distance.

Hypothesis 16—Perceived social distance and duration of work experience are positively correlated. Table 28 shows that the odds ratio for the hypothesis that the population value ( $\rho$ ) is greater than 0 is inconclusive. The sample correlation is positively signed, but not statistically significant. Based on these results, the hypothesis was disconfirmed with no relationship found between duration of work and perceived social distance.

Hypothesis 17—Perceived social distance and perceived social support from peer HIV/AIDS workers are positively correlated. Table 28 shows that the odds ratio for the hypothesis that the population value ( $\rho$ ) is greater than 0 is inconclusive. The sample correlation is positively signed, but not statistically significant. Based on these results, the hypothesis was disconfirmed with no relationship found between social support from peer workers and perceived social distance.

Hypothesis 18—Perceived social distance and perceived risk of HIV infection are positively correlated. Table 28 shows that the odds ratio for the hypothesis that the population value ( $\rho$ ) is greater than 0 is supported. Moreover, the sample correlation is statistically significant [ $Pr(.20 \le \rho \le .38) = .90$ ]. Based on these results, the hypothesis was confirmed; perceived risk for HIV infection is positively related to perceptions of perceived social distance.

Hypothesis 19—Perceived social distance and the proportion of others who
**know about respondents' HIV/AIDS work are positively correlated.** Table 28 shows that the odds ratio for the hypothesis that the population value ( $\rho$ ) is greater than 0 is, supported in the reversed direction. The sample correlation is also statistically significant in the reversed direction [ $Pr(-.27 \le \rho \le -.06 = .90$ ]. Based on these results, the hypothesis was disconfirmed with reversed support.

A review of Hypotheses 11 through 19 indicates that perceived social distance is positively related to perceived associational stigma, positively related to face-to-face contact with persons with HIV/AIDS, and positively related to perceived fear of HIV infection. It also appears to be related negatively to the proportion of persons who know about the respondent's HIV/AIDS work. Table 29 summarizes these results.

thesis	Prediction	Result	Table
11	Perceived social distance (PSD) and PAS are positively correlated.	Confirmed <sup>a</sup>	27
12	PSD and satisfaction with work experience are negatively correlated.	Disconfirmed (No Relationship)	28
13	PSD and basis of current work (volunteer=1; paid=2) are negatively correlated.	Disconfirmed (No Relationship)	28
14	PSD and work with otherwise stigmatized groups are positively correlated.	Disconfirmed (No Relationship)	28
15	PSD and frequency of face-to-face contact with PWAs are positively correlated.	Confirmed	28
16	PSD and duration of work experience are positively correlated.	Disconfirmed (No Relationship)	28
17	PSD and perceived social support from peer HIV/AIDS workers are positively correlated.	Disconfirmed (No Relationship)	28
18	PSD and perceived risk of HIV infection are positively correlated.	Confirmed	28
19	PSD and proportion of others who know about respondents' HIV/AIDS work are positively correlated.	Disconfirmed (Reversed Support)	28

 Table 29 - Summary of Results for Research Question 3

\*Confirmed for both Depravity and Disempathy.

### Correlates of HIV/AIDS-related Communication Behavior (Hypotheses 20 - 29)

The fourth and final research question considered in this study focuses on how communication behavior about HIV/AIDS-related topics is related to perceived associational stigma. It was hypothesized that HIV/AIDS workers who reported stronger perceptions of either type of perceived associational stigma were less likely to exhibit HIV/AIDS-related communication behavior. Primarily as an exploratory effort, the same set of individual characteristics and experiences of HIV/AIDS workers that were used for Research Question 2 and 3 were reconsidered for Research Question 4.

# Research Question 4—Given that perceived associational stigma exists, does it affect the degree to which HIV/AIDS workers talk to others about HIV/AIDSrelated topics?

Table 30 restates the ten hypotheses and lists their table references.

Table 30 - Hypotheses for Research Question 4

thesis	Prediction	Table
20	Communication behavior about HIV/AIDS-related topics (CB) and PAS are negatively correlated.	31
21	CB and satisfaction with work experience are positively correlated.	32
22	CB and basis of current work (volunteer=1; paid=2) are positively correlated.	32
23	CB and work with otherwise stigmatized groups are negatively correlated.	32
24	CB and frequency of face-to-face contact with PWAs are positively correlated.	32
25	CB and duration of work experience are positively correlated.	32
26	CB and perceived social support from peer HIV/AIDS workers are positively correlated.	32
27	CB and perceived risk of HIV infection are negatively correlated.	32
28	CB and proportion of others who know about respondents' HIV/AIDS work are positively correlated.	32
29	CB and PSD are negatively correlated.	32

Hypothesis 20—Communication behavior about HIV/AIDS-related topics and perceived associational stigma are negatively correlated. Table 31 shows that all odds ratios for depravity as well as for disempathy supported the hypothesis that the population value ( $\rho$ ) is less than 0. Moreover, all of the sample correlations for both depravity and disempathy were statistically significant. This finding may be summarized by examining the confidence intervals for the relationship between communication behavior and the macro-dimensions of perceived associational stigma (depravity  $Pr(-.31 \le \rho \le -.09)$ =.90]; disempathy [ $Pr(-.34 \le \rho \le -.13) = .90$ ]). It appears depravity has a stronger impact than disempathy on communication behavior. Based on these results, the hypothesis was confirmed for both depravity and disempathy.

Hypothesis 21—Communication behavior and satisfaction with HIV/AIDS work experience are positively correlated. Table 32 shows that the odds ratio for the hypothesis that the population value ( $\rho$ ) is greater than 0 is supported. Moreover, the sample correlation is statistically significant [ $Pr(.06 \le \rho \le .30) = .90$ ]. Based on these results, the hypothesis was confirmed

Hypothesis 22—Communication behavior and basis of current work (volunteer = 1; paid staff = 2) are positively correlated. Table 32 shows that the odds ratio for the hypothesis that the population value ( $\rho$ ) is greater than 0 is supported. The sample correlation is also statistically significant [ $Pr(.09 \le \rho \le .30)$  =.90]. Based on these results, the hypothesis was confirmed.

Hypothesis 23—Communication behavior work with persons who are likely to be held more accountable for their HIV-infection (e.g. IV drug users vs. children) are negatively correlated. Table 32 shows that the odds ratio for the hypothesis that the

# Table 31 - Correlational Analysis for HIV/AIDS-related Communication Behavior and Perceived Associational Stigma

		90% Two-sided Confidence Interval <sup>a</sup>		Proba- bility			
Dimension of Perceived Associational Stigma	م	Lower	Upper	Value is Negative	Odds Ratio <sup>b</sup>	N	<b>Sig</b> (p<.10)
Depravity							
Friends	17	21	.07	.98	49.00	305	sig
Family	24	37	14	.99	999.99	305	sig
Non-HIV/AIDS Co-workers	35	40	15	1.00	<b>999.99</b>	239	sig
Neighbors	27	34	10	1.00	999.99	260	sig
General Public	28	11	.12	1.00	999.99	303	sig
Macro	35	31	09	1.00	999.99	306	sig
Disempathy							
Friends	12	38	17	.95	999.99	304	sig
Family	16	36	14	.98	999.99	304	sig
Non-HIV/AIDS Co-workers	15	41	17	.98	999.99	238	sig
Neighbors	12	25	01	.95	19.00	259	sig
General Public	14	17	.05	.98	49.00	302	sig
Macro	16	34	13	.99	999.99	305	sig

\*Corrected for attenuation.

<sup>b</sup>Odds that population value is less than 0.

		90% Tw Confidence	vo-sided ;e Interval <sup>a</sup>	Proba- bility		N	
Variable	م	Lower	Upper	Value is Positive	Odds Ratio		<b>Sig</b> (p<.10)
Satisfaction with HIV/AIDS Work Experience	.18	.06	.30	.99	99.99 °	301	sig
Volunteer vs. Paid Work	.19	.09	.30	1.00	999.99 °	295	sig
Number of Otherwise Stigmatized Groups	.12	.01	.22	.95	.05 Þ	308	sig <sup>d</sup>
Frequency of Face-to-face Contact in Past 3 Months	.08	03	.18	.88	7. <b>33</b> °	307	ns
Number of Years Working with Persons with HIV/AIDS	.05	06	.16	.75	3.00 °	303	ns
Social Support from HIV/AIDS- workers	.13	.01	.26	.95	999.99 °	287	sig
Perceived Risk of HIV Infection	22	33	12	.00	999.99 <sup>b</sup>	295	sig
Proportion of others who know about HIV/AIDS work	.64	.55	.73	1.00	999.99 °	308	sig
Perceived Social Distance	37	47	27	.00	999.99 Þ	307	sig

#### Table 32 - Correlational Analysis for HIV/AIDS-related Communication Behavior and Selected Variables

\*Corrected for attenuation.

<sup>b</sup>Odds that population value is less than 0.

<sup>c</sup>Odds that population value is greater than 0.

<sup>4</sup>Sign of correlation is opposite of what was predicted.

population value ( $\rho$ ) is greater than 0 is not supported. In addition, the sample correlation is also statistically significant [ $Pr(.01 \le \rho \le .22) = .90$ ], but not in the predicted direction. Based on these results, the hypothesis was disconfirmed with reversed support.

Hypothesis 24—Communication behavior and frequency of face-to-face contact with persons who have HIV/AIDS are positively correlated. Table 32 shows that the odds ratio for the hypothesis that the population value ( $\rho$ ) is greater than 0 is supported. The sample correlation, however, is not statistically significant [ $Pr(-.03 \le \rho \le -.18)$ =.90]. Based on these results, the hypothesis was confirmed.

Hypothesis 25—Communication behavior and duration of work experience are positively correlated. Similar to the results of Hypothesis 24, Table 32 shows that the odds ratio for the hypothesis that the population value ( $\rho$ ) is greater than 0 is supported. Note, however, that the sample correlation is not statistically significant [ $Pr(-.06 \le \rho \le$ .16) =.90]. Despite lack of statistical significance, the hypothesis was confirmed.

# Hypothesis 26-Communication behavior and social support from peer

HIV/AIDS workers are positively correlated. Table 32 shows that the odds ratio for the hypothesis that the population value ( $\rho$ ) is greater than 0 is supported. The sample correlation is also statistically significant [ $Pr(.01 \le \rho \le .26) = .90$ ]. Based on these results, the hypothesis was confirmed.

Hypothesis 27—Communication behavior and perceived risk of HIV infection are negatively correlated. Table 32 shows that the odds ratio for the hypothesis that the population value ( $\rho$ ) is less than 0 is supported. The sample correlation is also statistically significant [ $Pr(-.33 \le \rho \le -.12) = .90$ ]. Based on these results, the hypothesis was confirmed.

Hypothesis 28—Communication behavior and the proportion of others who know about respondents' HIV/AIDS work are positively correlated. Table 32 shows that the odds ratio for the hypothesis that the population value ( $\rho$ ) is greater than 0 is supported. The sample correlation is also statistically significant [ $Pr(.55 \le \rho \le .73)$ =.90]. Note that this sample correlation (which was corrected for attenuation, as were all the others) was the strongest of all correlations produced for this study. Based on these results, the hypothesis was confirmed.

Hypothesis 29—Communication behavior and perceived social distance are negatively correlated. Table 32 shows that the odds ratio for the hypothesis that the population value ( $\rho$ ) is less than 0 is supported. The sample correlation is also statistically significant [ $Pr(-.47 \le \rho \le -.27) = .90$ ]. Based on these results, the hypothesis was confirmed.

To review, support was found for all ten hypotheses regarding communication behavior about HIV/AIDS-related topics. Note, however, that a positive relationship, as opposed to the predicted negative relationship, was found for the number of 'otherwise stigmatized' groups served by an HIV/AIDS worker and communication behavior. Table 33 summarizes these results.

thesis	Prodiction	Result	Table
20	Communication behavior about HIV/AIDS-related topics (CB) and PAS are negatively correlated.	Confirmed	31
21	CB and satisfaction with work experience are positively correlated.	Confirmed	32
22	CB and basis of current work (volunteer=1; paid=2) are positively correlated.	Confirmed	32
23	CB and work with otherwise stigmatized groups are negatively correlated.	Disconfirmed (Reversed Support)	32
24	CB and frequency of face-to-face contact with PWAs are positively correlated.	Confirmed	32
25	CB and duration of work experience are positively correlated.	Confirmed	32
26	CB and perceived social support from peer HIV/AIDS workers are positively correlated.	Confirmed	32
27	CB and perceived risk of HIV infection are negatively correlated.	Confirmed	32
28	CB and proportion of others who know about respondents' HIV/AIDS work are positively correlated.	Confirmed	32
29	CB and PSD are negatively correlated.	Confirmed	32

Table 33 - Summary of Results for Research Question 4

# **Supplemental Analyses**

Results of the bivariate correlational analyses that respond to Research Questions 2,

3, and 4 reveal a relatively complicated array of inter-variable correlations. In order to put

these results into a more understandable arrangement, two additional, exploratory

analyses were completed:

- a respondent clustering procedure that grouped respondents based upon their level of perceived associational depravity and perceived associational disempathy, and
- a path analytic model that tested specific causal relationships among perceived associational depravity, perceived associational disempathy, and their respective correlates.

# **Exploratory Cluster Analysis of Study Respondents**

A sequential, agglomerative, hierarchical clustering method commonly referred to as

'K-means clustering' was used (Ward, 1963; Milligan & Cooper, 1987) to group respondents by the two macro-dimensions of depravity and disempathy. The K-means method uses a cluster-assignment algorithm that begins with each case (i.e., respondent) treated as an independent cluster, and then merges two of them together with each successive iteration.

Clustering may continue until all cases belong to a single cluster. The researcher specifies the number of non-overlapping clusters, or partitions, desired, which may be from 1 to n, where n is the total number of cases under consideration. Once the algorithm has generated the specified number of clusters, the procedure stops and the final location of cluster centers, or centroids, is computed.

Using the present study's sample of 319 HIV/AIDS workers, a four group solution was generated (see Figure 4). Note that group labels describe the relative level of perceived associational depravity and perceived associational disempathy found within each group's assigned cases. Group 2, 'Medium depravity/medium disempathy,' was assigned the most cases (34.1%; n=106); group 4, 'High depravity/high disempathy,' was assigned the fewest cases (15.4%; n=48).

To validate the grouping structure, a discriminant function comprised of six variables that showed a comparatively strong relationship to either perceived associational depravity or perceived associational disempathy was tested. Variables included in this discriminate analysis (DA) were: perceived risk of HIV infection, social support from HIV/AIDS-workers, satisfaction with HIV/AIDS work experience, HIV/AIDS-related communication behavior, perceived social distance, and the proportion of persons who know about the respondent's HIV/AIDS work.



Figure 4. Standardized Respondent Group Centroids

Table 34 shows how well the DA function predicted group membership. Given four possible groups to which a respondent may be assigned, a useful discriminant function would be one that explains membership for more than 25% of the cases (i.e., better than chance). The results show that for the low depravity/low disempathy cluster and the high depravity/high disempathy cluster, the DA function explains a majority of group membership (59.0% and 53.5%, respectively). The DA function does less well for the low depravity/high disempathy group, but still better than what would be expected by chance alone (42.2%). Prediction of cluster membership for the medium depravity/medium disempathy cluster, however, is poor (15.1%; less than 25%). In general, the DA function correctly predicted respondent group membership for 39.4% of all cases.

		Predicted Group Membership						
Group	N	Low/low	Med/med	Low/high	High/high			
Low depravity/low disempathy	78	46	8	20	4			
% of respondents	100%	59.0%	10.3%	25.6%	5.1%			
Med depravity/med disempathy	93	32 _	14	26	21			
% of respondents	100%	34.4%		28.0%	22.6%			
Low depravity/high disempathy	45	18	5	19	3			
% of respondents	100%	40.0%	11.1%	42.2%	6.7%			
High depravity/high disempathy	43	5	5	10	23			
% of respondents	100%	11.6%	11.6%	23.3%	53.504			
Unclustered cases	2	1	0	1	0			
% of respondents	100%	50.0%	0.0%	50.0%	0.0%			

### Table 34 - Validation of Group Membership by Selected External Criteria<sup>a</sup>

<sup>e</sup>External Criteria included Perceived Risk of HIV Infection, Social Support from Peer HIV/AIDS Workers, Satisfaction with HIV/AIDS Work Experience, HIV/AIDS-related Communication Behavior, Perceived Social Distance, Proportion of Others who know about Respondent's HIV/AIDS Work. Note: Percent of correctly grouped respondents is 39.4%.

Figure 5 presents a 'group profile' for each of the six variables included in the DA. For ease of comparison, standardized group means were plotted. Figure 5 shows how these respondent groups differed across each of the six variables included in the DA. Table 35 provides further evidence that, indeed, there are differences between respondent groups. Note, however, that social support from HIV/AIDS-workers [ $Pr(.0 \le \eta \le .21)$ =.95] and satisfaction with HIV/AIDS work experience [ $Pr(.0 \le \eta \le .22)$  =.95] do not appear to provide explanatory power at a statistically significant level. Despite these nonsignificant results, the analysis of variance of the discriminant function score by respondent group was statistically significant [ $Pr(.49 \le \eta \le .55)$  =.95].





						95% Tw			
						Confidence Interval for Eta		Analys Varia	is of nce
Variable Description	Mean	SD	N	Eta	SE	Lower	Upper	F	Ρ
Perceived Risk of HIV Infection						· · · · · ·			
Low depravity/low disempathy	2.16	1.14	94	.18	.05	.08	.28	3.28	.02
Med depravity/med disempathy	2.53	1.39	101						
Low depravity/high disempathy	2.07	1.23	55						
High depravity/high disempathy	2.72	1.68	47						
Social Support from HIV/AIDS-workers									
Low depravity/low disempathy	4.55	0.48	92	.10	.07	.00*	.23	.97	.41
Med depravity/med disempathy	4.58	0.57	102						
Low depravity/high disempathy	4.39	1.07	51						
High depravity/high disempathy	4.50	0.76	46						
Satisfaction with HIV/AIDS Work Experie	nce								
Low depravity/low disempathy	1.66	1.30	95	.11	.07	.00 <sup>6</sup>	.25	1.24	.29
Med depravity/med disempathy	1.47	1.46	105						
Low depravity/high disempathy	1.32	1.37	57						
High depravity/high disempathy	1. <b>76</b>	1.16	47						
HIV/AIDS-related Communication Behav	ior								
Low depravity/low disempathy	8.11	2.05	89	.29	.05	.19	.39	9.06	.00
Med depravity/med disempathy	7.23	2.27	104						
Low depravity/high disempathy	7.54	2.23	55						
High depravity/high disempathy	6.03	2.42	46						
Perceived Social Distance									
Low depravity/low disempathy	0.41	0.82	98	.51	.04	.43	.59	35.51	.00
Med depravity/med disempathy	1.26	1.61	105						
Low depravity/high disempathy	0.49	1.06	58						
High depravity/high disempathy	<b>2.99</b>	2.50	48						
Proportion of Others who know about HI	VAIDS W	ork							
Low depravity/low disempathy	3.20	0.60	99	.27	.07	.13	.40	7.73	.00
Med depravity/med disempathy	2.95	0.60	106						
Low depravity/high disempathy	2.75	0.78	58						
High depravity/high disempathy	2.70	0.65	48						

# Table 35 - Nonlinear Correlational Analysis for Selected External Criteria and Respondent Group

\*The probability the *eta* is zero is .097.

<sup>b</sup>The probability the *eta* is zero is .057.

# Exploratory Path Analysis of Major Constructs

A post hoc path analysis of perceived associational depravity and perceived associational disempathy and their important correlates was carried out as an additional way to integrate this study's findings. In particular, the path analytic model attempted to establish a causal order of impact among the following five constructs: perceived associational depravity, perceived associational disempathy, perceived risk of HIV infection, perceived social distance, and communication behavior about HIV/AIDS-related topics. Hunter and Hamilton's (1992) *Path* software was used for this analysis.

Figure 6 shows the best-fit model (*chi square*=8.15, *df*=11, *p*=.70) with 90% confidence intervals about its path coefficients. The model is comprised of seven variables that are either directly or indirectly linked to a respondent's perception of associational depravity and associational disempathy. It shows that HIV/AIDS-related communication behavior is directly affected by depravity [ $Pr(-.40 \le \rho \le ..18) = ..90$ ], disempathy [ $Pr(-.19 \le \rho \le ..03) = ..90$ ], and by satisfaction with HIV/AIDS work experience [ $Pr(.04 \le \rho \le ..26) = ..90$ ]. It also shows that disempathy mediates a second pathway between communication behavior and depravity.

Considering the antecedents of the two measures of perceived associational stigma, it was found that depravity was strongly linked to workers who believed that others physically avoided them as a result of their work in the community  $[Pr(.47 \le \rho \le .63) = .90]$ . In turn, perceived risk of HIV infection was found to be antecedent to perceived social distance  $[Pr(.18 \le \rho \le .38) = .90]$ . Disempathy was linked to workers who perceived more depravity  $[Pr(.09 \le \rho \le .29) = .90]$  and who reported receiving less social support from other HIV/AIDS workers  $[Pr(-.23 \le \rho \le .01) = .90]$ . Table 36 refers the reader to relavant parts of the bivariate correlational analyses that preceded this supplemental analysis. See Appendix K for a complete set of Path output, including a sampling error analysis.





Chi Square = 8.15

p = .70

11 df

Link ID	Din	Direct Link						
8	Risk of HIV Infection	$\rightarrow$	Social Distance	.28	28			
b	Social Distance	$\rightarrow$	Depravity	.55	27			
с	Depravity	$\rightarrow$	Disempathy	.19	10			
d	Social Support from HIV/AIDS Workers	$\rightarrow$	Disempathy	12	22			
•	Depravity	<b>→</b>	HIV/AID Communication Behavior	29	31			
f	Disempathy	$\rightarrow$	HIV/AIDS Communication Behavior	08	31			
9	Satisfaction with HIV/AIDS Work	<b>→</b>	Communication Behavior	.15	32			

Table 36 - List of Results Tables for Path Analytic Model's Direct Links

### Chapter 5

### DISCUSSION

Building upon previous research that shows that persons living with HIV/AIDS bear a particular social stigma (e.g., Bor, Miller & Goldman, 1993; Douglas, Kalman & Kalman, 1985; Herek, 1988; Herek & Glunt, 1988; Peloquin, 1990), the present study sought to explore the possibility of a similar outcome for persons who work with persons with HIV/AIDS. Although this study is not the first to research the topic of an associational stigma attributable to HIV/AIDS (see Omoto & Crain, 1995b), it is the first to build a psychometrically validated measurement model of the dimensions of the construct from the perspective of nurses, doctors, volunteer 'buddies,' case mangers, HIV/AIDS educators and others who work with persons who have HIV/AIDS.

#### Differentiating Depravity from Disempathy

Results showed that two macro-dimensions of perceived associational stigma exist among HIV/AIDS workers: (1) *judgment of depravity* and (2) *sense of disempathy*. Recall that depravity was defined as perceiving oneself to be viewed as morally bad, corrupt, infectious and perverted (because one attends to the needs of persons who have HIV/AIDS), and that disempathy was defined as perceiving oneself to be viewed as misunderstood, unadmired, and not worthy of compassion (because one attends to the needs of persons who have HIV/AIDS). Depravity and disempathy represent strikingly different perceptions of the self as an HIV/AIDS worker. It appears that depravity is the more severe of the two macrodimensions of perceived associational stigma. Its combination of 'moral wrong-doing' and 'fear of contagion' present a discouraging view of what it means to be an HIV/AIDS worker. Depravity connotes feelings of condemnation, mistrust, and fear. It seems to assert that people with AIDS—as well as others who can be associated with them—are affected by this disease because they deserve to suffer. The meaning of perceived associational depravity, therefore, suggests that being HIV-positive and being an HIV/AIDS worker are equally immoral and equally punishable.

As was pointed out in Chapter 1, the saliency of moral wrong-doing to depravity can be generally attributed to the fact the topic of sex—and therefore HIV/AIDS—and debates about morality and social ethics in Western society are virtually inextricable (Foucault, 1980). The attribution of immorality appears to be strong enough to wipe away rational thinking about how HIV is actually transmitted. Despite the fact that HIV is contagious only via particular body fluids, namely blood, semen, vaginal fluids, and breast milk (Singer, Rogers, & Corcoran, 1987), HIV/AIDS workers are inclined to believe that they are viewed as contagious reservoirs of HIV.

In contrast to depravity, disempathy seems somewhat more benign. Its combination of 'misunderstanding,' 'lack of admiration,' and 'lack of compassion' connote a reaction of general discomfort between HIV/AIDS workers and members of their social networks. Although disempathy does not bring with it the same sense of impending punishment that depravity does, it appears to cause uncertainty and cautious concern about how others view anyone who is affected by HIV/AIDS. This is consistent with Powell-Cope and

Brown's (1992) finding that 'uncertainty' was the basic psycho-social problem of AIDS family caregiving, particularly when caregivers made decisions about how and when to 'go public' about a family member's AIDS diagnosis.

For some HIV/AIDS workers, the uneasiness generated by a perception of disempathy may be explained in terms of need for a more robust sense of community. That is, some HIV/AIDS workers may find themselves feeling *lonely*. Rook's (1984) definition of loneliness seems to capture the essence of perceived associational disempathy. He writes that loneliness is ". . . an enduring condition of emotional distress that arises when a person feels estranged from, misunderstood, or rejected by others and/or lacks appropriate social partners for desired activities, particularly activities that provide a sense of social integration and opportunities for emotional intimacy" (p. 139). Disempathized HIV/AIDS workers may feel that their work sets them apart—even keeps them apart—from others.

Along a similar line of thinking, HIV/AIDS workers' perception of associational disempathy may result from a lack of positive feedback about the value of their contribution to the community at large. Social Exchange Theory (or Equity Theory) would explain that HIV/AIDS workers perceive themselves as disempathized when they do not experience positive appraisal for their work with persons who have HIV/AIDS (Shumaker & Brownell, 1984). Although both loneliness theories and social exchange theories suggest plausible explanations about why disempathy exists, which of these theories drive such perceptions is not clearly answered by this study.

It is important to underscore that the present study has developed a measure of *perceived*, not actual, associational stigma. As such it provides a window into the

HIV/AIDS worker's personal attitudes and beliefs about HIV/AIDS. Considered from this standpoint, perceived associational stigma may be explained by Attribution Theory, which posits that individuals understand, predict, and control their environment according to relative weights that they assign to internal (person) or to external (environment) factors (Weiner, 1988; Heider, 1958). Hence, perceptions of depravity may be best understood as an expression of the degree to which internal (person) factors affect how HIV/AIDS workers see themsleves, as opposed to perceptions of disempathy, which may be best understood as an expression of the degree to which external (environment) factors affect how HIV/AIDS workers see themsleves.

Conceptualizing depravity as an internally motivated perception may help explain why the present study's path model of major constructs showed that perceived social distance mediated the relationship between perceived risk of HIV infection and perceived associational depravity, but that neither risk of HIV infection nor perceived social distance were linked to perceptions of disempathy. Recall the perceived social distance was a measure of avoidance behavior on the part of a third party who somehow became aware of the target's role in the community as an HIV/AIDS worker. These results suggest that HIV/AIDS workers who strongly fear the possibility of becoming HIVpositive may actually present themselves in such a way that others tend to avoid them. Furthermore, their perception of being viewed as depraved may be a function of an internally motivated perception that they are somehow deserving of such a negative judgment. If this is the case, then some HIV/AIDS workers may be projecting onto themselves their own negative attribution about why some people are HIV-positive and others are not.

Similarly, considering disempathy as an externally motivated perception appears to explain why the path model showed that stronger perceptions of social support from other HIV/AIDS workers was linked to weaker perceptions of associational disempathy, but not to perceptions of associational depravity. As was mentioned earlier in this chapter, the possibility that a perception of disempathy arises out of a need for a more robust sense of community suggests that external cues, as opposed to internal cues, are driving perceptions of disempathy among HIV/AIDS workers.

Although the negative relationship between social support from other HIV/AIDS workers and disempathy was not predicted, it suggests not only an evaluation of external factors, as opposed to internal factors, but also the possibility of a 'buffering effect' on perceived associational disempathy. Social support has been shown to function directly as a coping strategy by providing the recipient with the resources required to meet the specific needs evoked by the stessor, which in this case is perceived associational disempathy (Gottlieb, 1985). This outcome is also consistent with previous research by Bennett, Kelaher, and Ross (1994), which found that HIV/AIDS workers may be more selective about whom they seek out for social support than other health care workers who do not work with persons who have HIV/AIDS.

Other findings are less straightforward to interpret. For instance, satisfaction with HIV/AIDS work experience and frequency of face-to-face contact with persons who have HIV/AIDS were positively correlated with depravity and negatively correlated with disempathy. It is possible that the overall HIV/AIDS work experience creates a 'safe space' for workers who perceive associational depravity. This by itself may be enough to generate satisfaction with their HIV/AIDS work experience. In contrast, the negative

relationship between satisfaction with HIV/AIDS work experience and a perception of disempathy implies that HIV/AIDS work mitigates this macro-dimension of associational stigma. By working directly (i.e., face-to-face) with persons with HIV/AIDS or with HIV/AIDS service organizations, workers are able to develop a stronger understanding of their own location within the epidemic and of the forces that affect their perceptions of the disease. Hence, a renewed faith in the community is discovered through their HIV/AIDS work.

Also somewhat difficult to interpret are the results of the bivariate correlational analyses for number of 'otherwise stigmatized' groups served and the duration of HIV/AIDS work experience. Both of these variables were found to be negatively correlated with depravity—which was opposite of what was hypothesized—and unrelated to disempathy. One explanation is that HIV/AIDS workers who have (1) had more contact with, for example, HIV-positive gay men, I.V. drug users, and commercial sex workers and who have (2) worked with these groups over a longer period of time [more than five years] are somehow 'above' perceptions of associational stigma. Their more intense and/or longer experience in the field of HIV/AIDS work may have empowered them to deal more effectively with negative attitudes and beliefs about persons with HIV/AIDS when they encounter them.

Nonetheless, these somewhat paradoxical findings about the relationship between percieved associational stigma and (1) HIV/AIDS work satisfaction, (2) frequency of face-to-face contact with persons with HIV/AIDS, (3) amount of work with otherwise stigmatized groups, and (4) duration of HIV/AIDS work experience appear to uphold Omoto and Synder's (1990) view of HIV/AIDS work as *socially adjustive*. They explain

that HIV/AIDS work, particularly when volunteers are considered, serves either a value expressive function or an ego defensive function. Their ideas may be related to the present study's macro-dimensions of associational stigma.

According to Omoto and Synder (1990), HIV/AIDS workers for whom HIV/AIDS work provides a value expressive function would tend to be more altruistic and externally focused. Value expressive workers would be expected to communicate a dissatisfaction with 'the system' and they would tend to espouse a *social change* orientation. By comparison, those for whom HIV/AIDS work provides an ego defensive function would tend to harbor internal fears about how AIDS could, or does, affect them and they would tend to espouse a *personal change* orientation. Applying these analogies to the present study's findings, ego defensive HIV/AIDS workers would be those who report stronger perceptions of depravity, while value expressive HIV/AIDS workers would be those who report stronger perceptions of disempathy.

#### Strength of Association

The confirmatory factor analyses presented in this study showed that perceived associational stigma is distinguishable across each aspect of an individual's social network and that the two macro-dimensions were relatively independent (r = .18). Non-HIV/AIDS co-workers generated the highest measure of association for perceived associational depravity ( $r_{depravity} = .83$ ) and for perceived associational disempathy ( $r_{disempathy} = .92$ ). Friends generated the lowest measure of association for perceived depravity ( $r_{depravity} = .60$ ), although the general public generated the lowest measure of association for perceived associational disempathy ( $r_{disempathy} = .67$ ). These results imply that HIV/AIDS workers are least likely to believe that their friends view them as

depraved. Likewise, HIV/AIDS workers are least likely to believe that the general public in their community views them as disempathized.

The finding that non-HIV/AIDS co-workers—relative to other members of HIV/AIDS workers' social networks—are shown to be the most stigmatizing group is intriguing. This may reflect that persons who work with persons with HIV/AIDS are particularly wary of the possibility that they could somehow be discriminated against at their non-HIV/AIDS job. For instance, if their HIV/AIDS-related work was brought to the attention of a their non-HIV/AIDS employer, the HIV/AIDS worker could potentially be passed over for a promotion or a pay increase, or even be dismissed from the non-HIV/AIDS organization.

This kind of negative outcome represents a direct and tangible loss when compared to, for instance, the possibility that a previously friendly neighbor simply doesn't reciprocate an HIV/AIDS worker's 'hello' anymore. This rationale may also explain how perceptions of disempathy (albeit not depravity) were found to be stronger among survey respondents who were paid for their HIV/AIDS work than they were among volunteers. Both of these results appear to indicate that HIV/AIDS workers are relatively more concerned about outcomes related to associational stigma from their non-HIV/AIDS workers than they are from their friends, family members, neighbors, or the general public in their community.

#### Strength of Belief

Accepting that depravity is the more severe of the two macro-dimensions, it is somewhat comforting to know that HIV/AIDS workers are not likely to strongly believe that others view them this way. On a scale from 0 to 10, this study's sample of HIV/AIDS

workers reported almost no perception of depravity from their friends (M=.68, SD=1.23, N=311), with gradual, but significant mean increases across other components of their social network. Depravity from the general community was reported to be highest (M=3.80, SD=2.38, N=308).

By comparison, HIV/AIDS workers are somewhat more likely to believe themselves disempathized. Using the same scale upon which depravity was measured, this study's sample of HIV/AIDS workers reported relatively stronger perceptions of disempathy. Recall that, for friends, the average level of perceived associational disempathy was M=3.47 (SD=2.42, N=310), and that it climbed as high as M=5.58 when HIV/AIDS workers were asked to consider the general public (SD=2.13, N=307).

The fact that the strength of the belief in associational stigma tends to increase as HIV/AIDS workers report on presumably less familiar persons in their social network reinforces a fundamental principle of social psychology: *people like familiar things (or familiar people) more than unfamiliar things (or unfamiliar people)*(Swap, 1977). This outcome implies that programs that facilitate greater interaction between HIV/AIDS workers and non-HIV/AIDS workers would likely alleviate perceptions of associational stigma and, in turn, increase community involvement.

Previous studies have shown that efforts can be made to effectively increase perceived familiarity and thereby attenuate negative perceptions of others. Allport's (1954) review of contact and acquaintance programs—which were used to help members of different ethic or racial groups breakdown stereotypes of each other—are a testimony to how this can be accomplished.

#### **HIV/AIDS Worker Profiles**

The respondent cluster analysis provided insight into the proportion of HIV/AIDS workers that reported experiencing different levels of perceived associational stigma. A four-group solution revealed that a 'high' level of perceived associational stigma was reported by a minority of the total sample (see Figure 4). Recall that only 43 HIV/AIDS workers (13%) could be classified as having reported a strong belief that they are perceived as depraved and disempathized. Ninety-three respondents reported a medium level of both perceived depravity and perceived disempathy (29%). In general, these results imply that a strongly perceived associational stigma does not appear to affect a large proportion of HIV/AIDS workers.

The discriminant analysis (DA) helped describe characteristics of each of the four groups. Recall that group characteristics included (1) members' perceived risk of HIV infection, (2) perceived social support from HIV/AIDS workers, (3) satisfaction with HIV/AIDS work experience, (4) HIV/AIDS-related communication behavior, (5) perceived social distance, and (6) the proportion of others who knew about the respondent's HIV/AIDS work. Results showed that levels of depravity relative to disempathy predicted group membership effectively for Group 1 (low depravity/low disempathy), Group 3 (low depravity/high disempathy), and Group 4 (high depravity/high disempathy), but not for Group 2 (medium depravity/medium disempathy).

These group profiles complemented the results of the present study's path model, providing another picture of how particular characteristics of HIV/AIDS workers where related to measures of perceived associational stigma. As expected, HIV/AIDS workers who perceived a high level of both depravity and disempathy showed the highest

perceived social distance and the lowest HIV/AIDS-related communication behavior. Also as expected, HIV/AIDS workers who perceived a low level of both depravity and disempathy showed the highest HIV/AIDS-communication behavior and the lowest perceived social distance. However, AIDS workers who perceived a low level of depravity and a high level of disempathy revealed a profile that was qualitatively different: all six characteristics measured below average. Their profile indicates a relatively 'depressed' and/or 'frustrated' circumstance. Additional analyses are needed for further interpretation of these results.

#### **Talking is Preventing**

In general, peer-to-peer communication about health-related topics is considered to be an important information dissemination mechanism for community-level prevention programs (CDC, 1995b). There is broad consensus that individuals acquire information, form attitudes, and develop beliefs from members of their social network(s). It is important to recognize that, in many situations, what is said can be just as important as what cannot be said. For instance, HIV/AIDS workers are all potential 'key communicators' of relevant information about health practices and health services.

The impact of perceived associational stigma on communication behavior about HIV/AIDS-related topics underscores how this construct is germane to community-based HIV/AIDS prevention. Recall that the present study's bivariate correlational analyses showed that workers who reported stronger perceptions of either type of perceived associational stigma were less likely to tell others about their HIV/AIDS work experience. Furthermore, results of the present study's path analysis revealed that (1) a negative effect on communication behavior would be particularly salient when a strong

perception of associational depravity exists and that (2) higher disempathy was also related to lower communication behavior, but not at a statistically significant level. In constrast, more satisfaction with HIV/AIDS work experience appeared to generate more communication about HIV/AIDS-related topics, thereby mitigating some of the negative effect of perceived associational depravity and disempathy. Although not the focus of the present study, the positive effect of satisfaction with HIV/AIDS work experience on communication behavior is a potentially important insight for HIV/AIDS preventionists.

These findings provide support for a number of theories about health communication that conceptualize how informal, person-to-person interaction can profoundly change the way an entire community thinks and responds to a particular topic, such as HIV/AIDS, over time. Diffusion Theory is one of these. In general, it explains how information about new ideas, or some new set of behavioral norms, such as those that might be communicated about 'safer sex' by an HIV/AIDS worker, are received and then internalized by individuals in a community. By 'community' diffusion theorists refer to any interdependent group of people, such as HIV/AIDS workers and their social network of friends, family, and co-workers. Researchers note that the most important mechanism at work in Diffusion Theory is interpersonal communication among peers (Dignan, Tillgren & Michielutte, 1994).

To summarize, results of the present study suggest that, in an informal way, this activity is on-going between HIV/AIDS workers and members of their social network. However, perceptions of associational stigma tend to decrease the amount and/or frequency of communication about HIV/AIDS-related topics that might otherwise have taken place.

#### Conclusion

HIV/AIDS workers, whether they provide primary, secondary, or tertiary prevention services to persons with HIV/AIDS, are carrying out much needed, much appreciated work in the community. However, the complex social circumstance that is attached to the HIV/AIDS epidemic may sometimes mean that persons who work with persons with HIV/AIDS will shoulder a social stigma. Perceived associational stigma manifests as a subtle, but influential construct among HIV/AIDS workers. It underscores the notion that people do not readily expose personal beliefs of discrimination and fear to others.

At the community level, inhibited communication about important health-related topics may be viewed as a potentially serious barrier for prevention. Detection of an associational stigma among health service providers, such as HIV/AIDS workers, may be particularly indicative that this type of barrier is at work. An increased awareness about the potential impact of associational stigma may empower HIV/AIDS workers—and therefore the communities in which they serve—to become more effective agents of prevention in the fight to end the AIDS epidemic.

**APPENDICES** 

**APPENDIX** A

# **APPENDIX A**

# **PARTICIPATING ORGANIZATIONS**

# **REGIONAL PREVENTION PLANNING GROUP 1**

#### AIDS Consortium of SE Michigan

Lydia Myers, MSW Program Director AIDS Consortium of SE Michigan 1150 Griswold Suite 1400 Detroit, MI 48226

## **AIDS Partnership of Michigan**

Barbara Murray Executive Director AIDS Partnership of Michigan 2751 East Jefferson, Suite 301 Detroit, Michigan 48207

Ph: (313) 446-9800

#### **REGIONAL PREVENTION PLANNING GROUP 2**

#### **HIV/AIDS Resource Center**

Patrick Yankee Executive Director HIV/AIDS Resource Center 3075 Clark Road Suite 203 Ypsilanti, MI 48197

# **REGIONAL PREVENTION PLANNING GROUP 3**

#### CARES

Cyril Colonius Executive Director CARES 628 South Park Street Kalamazoo, MI 49007

### **REGIONAL PREVENTION PLANNING GROUP 4**

# Lansing Area AIDS Network

Bill Bathie Executive Director 4660 S. Hagadorn Suite 510 East Lansing, MI 48823

Ph: (313) 572-9355

(800) 578-2300

Ph: (616) 381-2437

Ph: (313) 496-0140

Ph: (517) 351-4534

# **APPENDIX** A

#### **REGIONAL PREVENTION PLANNING GROUP 4**

#### Michigan Protection and Advocacy Service

Teresa Muñiz Advocate 106 West Allegan, Suite 210 Lansing, MI 48933 Ph: (517) 487-1755 (800) 288-5923

#### **REGIONAL PREVENTION PLANNING GROUP 5**

#### **AIDS Resource Center**

Jan Koopman, Executive Director AIDS Resource Center P.O. Box 6603 Grand Rapids, MI 49516-6603

#### Ph: (616) 459-9177

#### **REGIONAL PREVENTION PLANNING GROUP 6**

#### Wellness HIV/AIDS Services

Rob Bader, Executive Director Wellness HIV/AIDS Services 311 East Court Street Flint, MI 48502 Ph: (810) 232-0888

Ph: (616) 947-1110

#### **REGIONAL PREVENTION PLANNING GROUP 7**

#### HIV/AIDS Weilness Networks GTA

Jim Carruthers, Executive Director HIV/AIDS Wellness Networks GTA P.O. box 1632 Traverse City, MI 49685

#### **REGIONAL PREVENTION PLANNING GROUP 8**

#### Marquette County Health Department Penny Peterson

Ph: (906) 475-7651

Penny Peterson Marquette County Health Department 184 US Highway 41 Negaunee, Michigan 49866

**APPENDIX B** 

#### **APPENDIX B**

# MICHIGAN STATE

UNIVERSIT

May 7, 1996

TO: David Lounsbury 129 Psychology Research

RE: IRB#: 96-259 TITLE: MEASURING ASSOCIATIONAL STIGMA AMONG HIV/AIDS WORKERS REVISION REQUESTED: N/A CATEGORY: FULL REVIEW APPROVAL DATE: 05/06/96

The University Committee on Research Involving Human Subjects' (UCRIHS) review of this project is complete. I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and methods to obtain informed consent are appropriate. Therefore, the UCRIHS approved this project and any revisions listed above.

**REMEWAL:** UCRIHS approval is valid for one calendar year, beginning with the approval date shown above. Investigators planning to continue a project beyond one year must use the green renewal form (enclosed with the original approval letter or when a project is renewed) to seek updated certification. There is a maximum of four such expedited renewals possible. Investigators wishing to continue a project beyond that time need to submit it again for complete review.

**REVISIONS:** UCRIHS must review any changes in procedures involving human subjects, prior to initiation of the change. If this is done at the time of renewal, please use the green renewal form. To revise an approved protocol at any other time during the year, send your written request to the UCRIHS Chair, requesting revised approval and referencing the project's IRB # and title. Include in your request a description of the change and any revised instruments, consent forms or advertisements that are applicable.



OFFICE OF

AND

PROBLEMS /

CHANGES :

Should either of the following arise during the course of the work, investigators must notify UCRIHS promptly: (1) problems (unexpected side effects, complaints, etc.) involving human subjects or (2) changes in the research environment or new information indicating greater risk to the human subjects than existed when the protocol was previously reviewed and approved.

If we can be of any future help, please do not hesitate to contact us at (517)355-2180 or FAX (517)432-1171.

GRADUATE STUDIES

University Committee on Research Involving Human Subjects (UCRIHS)

Michigan State University 232 Administration Building East Lansing, Michigan 48824-1046

> 517/355-2180 FAX 517/432-1171

The Michigan State University IDEA is Institutional Diversity. Excellence in Action

MSU is an affirmative-action, equal-opportunity institution David E. Wright, Ph.D. UCRIHS Chair DEW:bed

cc: Ralph Levine

**APPENDIX C** 

# APPENDIX C

### HIV/AIDS WORK EXPERIENCE SURVEY

This survey focuses on particular aspects of your experience as a person who works with persons who have HIV/AIDS, such as caregivers, case managers, counselors, community advocates, volunteer "buddies", and service administrators. Note that this is an anonymous survey - please do not write your name anywhere on the survey or on its return envelope. It takes approximately 30 minutes to respond to all items.

#### SECTION A. HIV/AIDS Work Background

This section asks about your HIV/AIDS work background.

- On what basis do you CURRENTLY work with persons who have HIV/AIDS? Check one. A01WBASI 1.
  - □ 1 All volunteer work (not for pay)
  - □ 2 Mostly volunteer work with some paid work □ 5 Neither working for pay nor volunteering my
  - 3 Mostly paid work with some volunteer work
- 2. If you are affiliated with one or more HIV/AIDS agencies or organizations in the community, which one(s)? Specify: A02AFF11 A02AFF12 A02AFF13 A02AFF14 A02AFF15
- 3. Which of the following groups describe those persons who have HIV/AIDS with whom you work? Check all that apply.
  - 1 Gay men A031GAYM
  - 2 IV drug users A032IVDG
  - **3** Hemophiliacs A033HEMO
  - 4 Women A034WOME

- **5** Children A035CHIL
- G Adolescents A036ADOL
- □ 7 Commercial sex workers A037SEXW
- **8** Other Specify: <u>A038OTHE</u>
- Briefly describe the nature of your work with persons who have HIV/AIDS. 4. A04WNATU

5. How long have you been working with persons who have HIV/AIDS? Fill in blanks. \_\_\_\_\_ years plus \_\_\_\_\_ months A05YEARS A05MONTH

Approximately how often have you had face-to-face interaction with persons who have HIV/AIDS 6. during the past three months? Consider all interactions that you may have with such people whether at work, home, school, etc. Check one. A06FACEI

- Q 1 Everyday
- □ 4 Two or three times a month
- **Q** 2 More than once a week
- □ 5 About once a month

**3** About once a week

□ 6 Less than once a month

Please continue on NEXT PAGE

- Q 4 All paid work
  - time at the moment
#### 2

#### SECTION A (continued)

7. How do you describe your overall work experience with persons who have HIV/AIDS? For each word-pair respond by circling the response-number that best indicates your experience on the two-sided scale from 0 to 3.

		м	DRE						MORE	
			CE T	HIS	BA		ED			
			3						<u> </u>	
1.	Frustrating		3	2	1	0	1	2	3 🖿	Encouraging A071FRUS
2.	Tiresome		3	2	1	0	1	2	3 🖬	Energizing A072TIRE
3.	Rewarding	æ	3	2	1	0	1	2	3 🖬	Punishing A073REWA
4.	Satisfying		3	2	1	0	1	2	3 🖬	Dissatisfying A074SATI
5.	Political		3	2	1	0	1	2	3 🖻	Non-political A075POLI
6.	Manageable		3	2	1	0	1	2	3 🖿	Unmanageable A076MANA

- 8. Do you know persons other than yourself who have experience working with persons who have HIV/AIDS? Check one. A08PEERS □ 1 Yes □ 2 No → Skip to next page
- 9. If you answered "Yes" to question 8, use the following statements to indicate the level of support you receive FROM THEM as compared to FROM OTHERS whom you know NOT to have experience working with persons who have HIV/AIDS. For each statement circle the response-number on the scale from 1 to 5 that corresponds most closely to your current situation.

		LESS THAN OTHERS I	2	ABOUT THE SAME AS OTHERS 3	4	MORE THAN OTHERS 5 🖻
1.	I count on THEM to listen to me when I need to talk. A091SUPP	1	2	3	4	5
2.	I count on THEM to help me out in a crisis even if they have to go out of their way. A092SUPP	1	2	3	4	5
3.	Around THEM I can really be myself. A093SUPP	1	2	3	4	5
4.	THEY truely appreciate me as a person. A094SUPP	1	2	3	4	5
5.	When I'm very upset I know I can count on THEM to console me. A095SUPP	1	2	3	4	5

Please continue on NEXT PAGE

3

#### SECTION B. Perceptions of Others' Beliefs

This section is comprised of five parts. Each part asks about your perception of a different group of persons in your life, namely your:

- ♦ FRIENDS
- ♦ FAMILY MEMBERS
- CO-WORKERS NOT AFFILIATED WITH HIV/AIDS WORK
- NEIGHBORS
- THE GENERAL PUBLIC IN YOUR COMMUNITY.

Please continue on NEXT PAGE

THE GENERAL P

4

#### SECTION B — Part 1. FRIENDS

This part asks about how many of your FRIENDS know about your work with persons who have HIV/AIDS and about YOUR PERCEPTION of how THEY VIEW YOU in this role.

- 1. How many of your FRIENDS know about your work with persons who have HIV/AIDS? Check one. BP101PRO
  - 1 None 4 Al
  - □ 2 A few
  - 3 Most
- 4 All or nearly all
  - □ 5 Not applicable (don't have any friends) → PLEASE SKIP TO NEXT PAGE

For the following statements base your response on those FRIENDS who know about your work with persons who have HIV/AIDS. If <u>none</u> of your FRIENDS know (i.e., you checked "None" for question 1 in this part), please respond to each item as if they did. *Respond by circling the number that best indicates your overall level of belief on the scale from 0 to 10.* (Suggestion: it may help to think of each number on the 11-point scale as a percentage. For example, '10' corresponds to '100% of your belief,' '9' to '90% of your belief', '8' to '80% of your belief' and so on).

I be	lieve that MY FRIENDS	DO N BELI AT A (1) 0	IEV	E 2	3	4 4	56	7	AN 8	BE WIT IY I 9	LIE HO OU	UT
			<u> </u>	_								
2.	judge my work to be morally wrong because I work with persons who have HIV/AIDS. BP102MOR	0	1	2	3	4	5	6	7	8	9	10
3.	are afraid that I might pass HIV on to them because I work with persons who have HIV/AIDS. BP103CON	0	1	2	3	4	5	6	7	8	9	10
4.	admire me because I work with persons who have HIV/AIDS. BP104ADM	0	1	2	3	4	5	6	7	8	9	10
5.	associate thoughts of death and dying with me because I work with persons who have HIV/AIDS. BP105DEA	0	1	2	3	4	5	6	7	8	9	10
6.	understand and value me because I work with persons who have HIV/AIDS. BP106UND	0	1	2	3	4	5	6	7	8	9	10
7.	show compassion for me because I work with persons who have HIV/AIDS. BP107COM	0	1	2	3	4	5	6	7	8	9	10

Please continue on NEXT PAGE

#### 128

#### **APPENDIX C**

5

#### SECTION B — Part 2. FAMILY MEMBERS

This part asks about how many of your FAMILY MEMBERS (i.e., spouse/intimate partner, children, siblings, parents/step-parents, aunts/uncles, nieces/nephews) know about your work with persons who have HIV/AIDS and about YOUR PERCEPTION of how THEY VIEW YOU in this role.

# 1. How many of your FAMILY MEMBERS know about your work with persons who have HIV/AIDS? Check one. BP201PRO

	None	☐ 4 All or nearly all	
2	A few	□ 5 Not applicable (don't have any family) →	PLEASE SKIP
<b>D</b> 3	Most		TO NEXT PAGE

For the following statements base your response on those FAMILY MEMBERS who know about your work with persons who have HIV/AIDS. If <u>none</u> of your FAMILY MEMBERS know (i.e., you checked "None" for question 1 in this part), please respond to each item as if they did. Respond by circling the number that best indicates your overall level of belief on the scale from 0 to 10.

I bel	lieve that MY FAMILY MEMBERS	DO N BELI AT A	NOT IEV	Е 2	3	4	5	6	7	AN 8	BE WII IY I 9	LIP HC DOL 10	INE JUT JBT
2.	judge my work to be morally wrong because I work with persons who have HIV/AIDS. BP202MOR	0	1	2	3		4	5	6	7	8	9	10
3.	are afraid that I might pass HIV on to them because I work with persons who have HIV/AIDS. BP203CON	0	1	2	3	. 4	4	5	6	7	8	9	10
4.	admire me because I work with persons who have HIV/AIDS. BP204ADM	0	1	2	3		4	5	6	7	8	9	10
5.	associate thoughts of death and dying with me because I work with persons who have HIV/AIDS. BP205DEA	0	1	2	3		4	5	6	7	8	9	10
6.	understand and value me because I work with persons who have HIV/AIDS. BP206UND	0	1	2	3		4	5	6	7	8	9	10
7.	show compassion for me because I work with persons who have HIV/AIDS. BP207COM	0	1	2	3		4	5	6	7	8	9	10

Please continue on NEXT PAGE

#### 6

#### SECTION B — Part 3. CO-WORKERS NOT AFFILIATED WITH HIV/AIDS WORK

This part asks about how many of your CO-WORKERS NOT AFFILIATED WITH HIV/AIDS WORK (i.e., people you work with on some other job or project unrelated to your work with persons who have HIV/AIDS) know about your work with persons who have HIV/AIDS, about what you do on this job or project, and about YOUR PERCEPTION of how THEY VIEW YOU as a person who works with persons who have HIV/AIDS.

#### How many of your CO-WORKERS NOT AFFILIATED WITH HIV/AIDS WORK know about your 1. work with persons who have HIV/AIDS? Check one. BP301PRO

1 None

4 All or nearly all

- 2 A few
- 3 Most

- □ 5 Not applicable (don't have other co-workers)→PLEASE SKIP TO NEXT

PAGE

#### 2. What is your job title/description?\_BP302JOB

For the following statements base your response on those CO-WORKERS who know about your work with persons who have HIV/AIDS. If none of them know (i.e., you checked "None" for question 1 in this part), please respond to each item as if they did. Respond by circling the number that best indicates your overall level of belief on the scale from 0 to 10.

I beli AFF	eve that MY CO-WORKERS NOT ILIATED WITH HIV/AIDS WORK	DO N BELI AT A (1)	IEV	E 2	3	4	5	6	7	AN 8	BE WII IY I 9	LIE HO DOU 10	
3.	judge my work to be morally wrong because I work with persons who have HIV/AIDS. BP303MOR	0	1	2	3		4	5	6	7	8	9	10
4.	are afraid that I might pass HIV on to them because I work with persons who have HIV/AIDS. BP304CON	0	1	2	3	4	4	5	6	7	8	9	10
5.	admire me because I work with persons who have HIV/AIDS. BP305ADM	0	1	2	3	4	4	5	6	7	8	9	10
6.	associate thoughts of death and dying with me because I work with persons who have HIV/AIDS. BP306DEA	0	1	2	3		4	5	6	7	8	9	10
7.	understand and value me because I work with persons who have HIV/AIDS. BP307UND	0	1	2	3	•	4	5	6	7	8	9	10
8.	show compassion for me because I work with persons who have HIV/AIDS. BP308COM	0	1	2	3		4	5	6	7	8	9	10

Please continue on NEXT PAGE

#### 129

7

#### SECTION B — Part 4. NEIGHBORS

This part asks about how many of your NEIGHBORS (i.e., those people who live on your block or in the same apartment building) know about your work with persons who have HIV/AIDS and about YOUR PERCEPTION of how THEY VIEW YOU in this role.

#### 1. How many of your NEIGHBORS know about your work with persons who have HIV/AIDS? Check one. BP401PRO

1 None

□ 4 All or nearly all

□ 2 A few

□ 5 Not applicable (don't have any neighbors)→ PLEASE

3 Most

SKIP TO NEXT PAGE

For the following statements base your response on those NEIGHBORS who know about your work with persons who have HIV/AIDS. If <u>none</u> of your NEIGHBORS know (i.e., you checked "None" for question 1 in this part), please respond to each item as if they did. *Respond by circling the number that best indicates your overall level of belief on the scale from 0 to 10.* 

I bel	ieve that MY NEIGHBORS	DO BE AT	NOT LIEV ALL 0 1	г /Е ́2	3	4	5	6	7 '	E W ANY 8	ITE DC 9	IEVE IOUT )UBT 10 P
2.	judge my work to be morally wrong because I work with persons who have HIV/AIDS. BP402MOR	0	1	2	3	4	5	6	7	8	9	10
3.	are afraid that I might pass HIV on to them because I work with persons who have HIV/AIDS. BP403CON	0	1	2	3	4	5	6	7	8	9	10
4.	admire me because I work with persons who have HIV/AIDS. BP404ADM	0	1	2	3	4	5	6	7	8	9	10
5.	associate thoughts of death and dying with me because I work with persons who have HIV/AIDS. BP405DEA	0	1	2	3	4	5	6	7	8	9	10
6.	understand and value me because I work with persons who have HIV/AIDS. BP406UND	0	1	2	3	4	5	6	7	8	9	10
7.	show compassion for me because I work with persons who have HIV/AIDS. BP407COM	0	1	2	3	4	5	6	7	8	9	10

Please continue on NEXT PAGE

130

#### 131

## **APPENDIX C**

#### 8

## SECTION B - Part 5. THE GENERAL PUBLIC IN YOUR COMMUNITY

This part asks about your PERCEPTION of how THE GENERAL PUBLIC IN YOUR COMMUNITY views people who work with persons who have HIV/AIDS. For the following statements base your response solely on what you believe most people in your community would think about people who work with persons who have HIV/AIDS. Respond by circling the number that best indicates your overall level of belief on the scale from 0 to 10.

I bel MY	ieve that THE GENERAL PUBLIC IN COMMUNITY	DO BEI AT	NOT LIEV ALI 0 1	г /Е 2	3	4	5	6		7	B W NY B	EL ITE DO 9	IEVE IOUT DUBT
1.	judges such people to be morally wrong because they work with persons who have HIV/AIDS. BP501MOR	0	1	2	3	4		5	6	7	8	9	10
2.	is afraid that such people might pass HIV on to them because they work with persons who have HIV/AIDS. BP502CON	0	1	2	3	4	•	5	6	7	8	9	10
3.	admire such people because they work with persons who have HIV/AIDS. BP503ADM	0	1	2	3	4	ļ	5	6	7	8	9	10
4.	associate thoughts of death and dying with such people because they work with persons who have HIV/AIDS. BP504DEA	0	1	2	3	4	ļ	5	6	7	8	9	10
5.	understand and value such people because they work with persons who have HIV/AIDS. BP505UND	0	1	2	3	4	ļ	5	6	7	8	9	10
6.	shows compassion for such people because they work with persons who have HIV/AIDS. BP506COM	0	1	2	3	4	•	5	6	7	8	9	10

#### 9

## SECTION C. Perceptions of Others' Behaviors

This set of questions asks about the degree to which your work with persons who have HIV/AIDS has <u>negatively affected</u> the way others (i.e., persons who are not affiliated with HIV/AIDS work) interact with you. Respond by circling the number that best indicates your overall sense of this occurring on the scale from 0 to 10.

Onc have	e people know that you work with persons who e HIV/AIDS, do you sense that they	NE SEI TH	ver NSE IS 0 1	2	3	4	5	6		7 8	8	S S 9 1	VAYS Ense This IO D
1.	are less willing to strike up conversation with you? COIPOBCO	0	1	2	3	4		5	6	7	8	9	10
2.	are less likely to ask you to a party? C02POBPA	0	1	2	3	4		<b>5</b> 1	6	7	8	9	10
3.	are more likely to decline an offer to eat a meal that you prepared?	0	1	2	3	4	ļ	5	6	7	8	9	10
4.	are more difficult to get along with in the office or place of work? C04POBWO	0	1	2	3	4	ļ	5	6	7	8	9	10
5.	are more reluctant to continue a friendship with you? COSPOBFR	0	1	2	3	4	ļ	5	6	7	8	9	) 10
6.	are less likely to continue a legal or business relationship with you?	0	1	2	3	4	•	5	6	7	8	9	) 10
7.	are less likely to visit in your home?	0	1	2	3	4	ļ	5	6	7	8	9	) 10

Please continue on NEXT PAGE

#### 10

#### SECTION D. Communication with Others

This set of questions asks about how you communicate with others (i.e., non-HIV/AIDS workers) about your work with persons who have HIV/AIDS. Respond by circling the number that best indicates the degree to which each statement is like you on the scale from 0 to 10.

		NO ALI LIK	TA1 L CEM	r De					CO	MPI	ET. I	ELY JKE ME
		•	0 1	2	3	4	5 (	5 7	78	9	1	0 🖻
1.	Telling people that I work with persons who have HIV/AIDS gives me a sense of pride and satisfaction. D01CWOPR	0	1	2	3	4	5	6	7	8	9	10
2.	I am very selective about whom I tell and whom I don't tell about my work with persons who have HIV/AIDS. D02CWOSE	0	1	2	3	4	5	6	7	8	9	10
3.	The thought of being seen in public with a person with AIDS makes me uncomfortable. DO3CWOPU	0	1	2	3	4	5	6	7	8	9	10
4.	I often wear a red "In remembrance" ribbon when I go out. D04CWORI	0	1	2	3	4	5	6	7	8	9	10
5.	I would not tell a potential employer about my work with persons who have HIV/AIDS unless the job directly called for such experience. DOSCWOEM	0	1	2	3	4	5	6	7	8	9	10
6.	I am completely open with others about my work with persons who have HIV/AIDS. D06CWOOP	0	1	2	3	4	5	6	7	8	9	10
7.	I am not afraid to tell others that I work with persons who have HIV/AIDS. D07CWOAF	0	1	2	3	4	5	6	7	8	9	10

Please continue on NEXT PAGE

## 11

SEC	TION D (continued)	NO AL	TAT L	ſ						CON	<b>IPI</b>	EI	ELY
		4	0 1	2	3	4	5	6	7	8	9	1	
8.	I wouldn't bring up the topic of my work with persons who have HIV/AIDS unless someone expressly asked me. DO8CWOAS	0	1	2	3	4	4	5	6	7	8	9	10
9.	I get the strong impression that people wonder whether I might be homosexual after I've told them I work with persons who have HIV/AIDS. DOSCWOHO	0	1	2	3	4	4	5	6	7	8	9	10
10.	I am concerned that people will think that I am HIV+ after I've told them I work with persons who have HIV/AIDS. DIOCWOP	0	1	2	3	4	4	5	6	7	8	9	10
11.	As a rule I don't tell others about my work with persons who have HIV/AIDS. DIICWODT O	0	1	2	3	4	4	5	6	7	8	9	10
12.	I always try to figure out how my audience might respond to the information that I work with persons who have HIV/AIDS before bringing up the topic. D12CWOAR	0	1	2	3	4	4	5	6	7	8	9	10

Please continue on NEXT PAGE

#### 134

# 135

## **APPENDIX C**

12

#### **SECTION E. Unexpected Reactions of Others**

This section asks you to recall a situation in which someone's awareness of your HIV/AIDS work elicited an unexpected behavior. If you can think of such a situation, please answer the following four questions in the space provided.

#### 1. What was the person's behavior? E01URODE



Please continue on NEXT PAGE

Please continue on NEXT PAGE

136

#### APPENDIX C

13

#### SECTION F. Personal Background

The following questions ask about your personal background. Although information gathered in this section is central to the design of this study, responding to these items is completely optional. Respond to items by checking appropriate boxes or by writing in the space provided.

- 1. What is your age? \_\_\_\_\_ years FOIREAGE 2. What is your sex? F02RESEX **1** Female 2 Male 3. How do you describe your race or ethnic background? F03ETHNI □ 1 African American **5** White/Caucasian 2 Asian or Pacific Islander 6 Chicano/Hispanic/Latino **3** Haitian □ 7 Other Specify: \_\_ **4** Native American or Alaskan Native 4. What is your primary or first language? F04LANGU **O**1 English **2** Spanish □ 3 Other Specify: \_\_\_\_\_ What is the highest level of education you have completed to date? FO5HEDUC 5. **Q** 1 Elementary □ 5 Some college 2 Middle/intermediate school □ 6 Two-year undergraduate program □ 3 High school □ 7 Four-year undergraduate program 4 Trade/technical certificate **3** 8 One or more years of graduate/professional training 6. What is your yearly household income? F06HHINC **1** \$0 - \$9,999 **4** \$30,000 - \$39,999 **2** \$10,000 - \$19,999 **5** \$40,000 - \$49,999 **3** \$20,000 - \$29,999 □ 6 \$50,000 or more 7. How do you describe your sexual orientation? F07SEXOR
  - □ 1 Heterosexual
  - 2 Homosexual (gay or lesbian)
  - □ 3 Bisexual

#### 137

#### **APPENDIX C**

#### 14

4 Separated

#### **SECTION F (continued)**

□ 1 Single

8.

2 Partnered by marriage □ 5 Divorced
3 Partnered by domestic agreement □ 6 Widowed
9. Are you HIV+? F09HIVST
1 Yes → Skip to question 11
2 No
3 Not sure
16 You answered "No" or "Not sure" to question 9, to what degree do you believe you are at risk of becoming HIV+ in the future? F10HIVRK

What is your current marital/intimate partnership status? F08MARST

- I No riskI 4 Moderately high risk2 Extremely low risk5 Extremely high risk
- □ 3 Moderately low risk

#### 11. Are you a member of a church, mosque, temple, synagogue or other place of worship? F11CHMEM 1 Yes Continue with parts a, b, and c below:

- → a. What is your religious affiliation? (e.g., "Lutheran") Specify: FIIRELIG
- → b. How often do you go there to pray or worship? F11WORFR
  - □ 1 More than once a week □ 4 About once a month
  - □ 2 About once a week □ 5 Less than once a month
  - **3** Two or three times a month
- → c. How long have you been worshiping there? \_\_\_\_\_ years F11WORDU
- 2 No, I am not a member of a place of worship.
- 12. How do you describe your current political leanings? F12POLIT
  - 1 Liberal
  - 2 Moderate
  - **3** Conservative

#### END OF SURVEY -- Thanks for your participation!

Please use the large pre-paid, pre-addressed envelope to return your survey to:

David Lounsbury Michigan State University Department of Psychology 129 Psychology Research Building East Lansing, MI 48824-1117 **APPENDIX D** 

## **APPENDIX D**

#### MICHIGAN STATE UNIVERSITY

DEPARTMENT OF PSYCHOLOGY PSYCHOLOGY RESEARCH BUILDING EAST LANSING . MICHIGAN . 48824-1117

Dear HIV/AIDS Worker or Volunteer:

Greetings! I write to you today to ask you to consider participating in an anonymous, state-wide survey of *persons who work with persons who are living with HIV disease or AIDS*. Although you are under no obligation to participate, your input is very much valued. Results from this survey will be used to strengthen future community-based HIV/AIDS caregiving interventions, which are unfortunately becoming increasingly in-demand throughout Michigan.

Enclosed you will find a blank copy of the HIV/AIDS Work Experience Survey. You are eligible to take the survey if you are 18 or older and if you have ever worked, either for pay or as a volunteer, with persons who have HIV/AIDS. It takes no more than 30 minutes to fill out. When you have finished, simply mail it back to me in its attached pre-paid, pre-addressed envelope. Completing and returning the survey will indicate your voluntary agreement to participate in the study. NOTE THAT THIS IS AN ANONYMOUS SURVEY—PLEASE DO NOT WRITE YOUR NAME ANYWHERE ON THE SURVEY OR ON ITS RETURN ENVELOPE.

Your participation in this study is a potentially important contribution towards an end to the epidemic. Although I cannot pay you for your time, I have enclosed a "red remembrance ribbon" decal as a small gift of appreciation and as a symbol of our collective efforts in the fight against HIV/AIDS. In addition, I have also enclosed a **Study Results Request Form**. If you would like a personal copy of the findings from this study, please fill out this special form and mail it back to me in its pre-paid, preaddressed envelope.

Please feel free to contact me should you have any questions or concerns about the survey. I am easily reached by phone or e-mail.

Sincerely,

V.L

David W. Lounsbury Study Coordinator

Contact information Michigan State University Department of Psychology 129 Psychology Research Building East Lansing, MI 48824-1117

(517) 374-1117 Lounsbu1@pilot.msu.edu

MSU is an Affirmative Action/Equal Opportunity Institution

**APPENDIX E** 

## **APPENDIX E**

# **INFORMED CONSENT**

**Purpose of the research.** To learn more about particular aspects of community-based HIV/AIDS caregiving interventions through reports from persons who work with persons who have HIV/AIDS (i.e., HIV/AIDS workers).

**Eligible respondents.** Anyone who is (1) 18 years or older and (2) working for pay or as a volunteer as an HIV/AIDS worker. HIV/AIDS work may include, but is not limited to, efforts as a caregiver, case manager, counselor, community advocate, volunteer "buddy", or service administrator.

**Voluntary participation.** Anyone receiving this survey may choose not to participate at all or may refuse to fill out particular sections or items. Completing and returning it will indicate your voluntary agreement to participate in the study.

*Confidentiality and anonymity.* All information gathered through this survey will be treated with strict confidence. All reports of research findings will be made in a completely anonymous manner.

*Study results requests.* Upon request and within the bounds stated above, results will be made available to all respondents.

**APPENDIX F** 

## **APPENDIX F**

# STUDY RESULTS REQUEST FORM

If you would like a personal copy of the findings from this study, please fill out this special form and mail it back to me in the attached envelope — <u>do not return this form in the same envelope as the</u> <u>completed survey</u>. In order to maintain your anonymity, this request form will not be opened until the study is complete and final results are ready to be mailed. *Please print*.

Contact name (optional)	
Street	· · ·
City	State Zip

Thanks again for your participation!

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Label	Survey identification code	Survey mailing date	Survey mailing location	Location population	County	County population	County pop density per sqr mile	County cumulative PWAs	County cum incidence of AIDS per 1000	Regional planning code	Regional population	Average regional pop density per sqr mile	Regional cumulative PWAs	Regional cum incidence of AIDS per 1000	Basis of current work	Basis of current work (recoded)	First affiliation type	Second affiliation type	Third affiliation type	Fourth affiliation type	Fifth affiliation type	First affiliation recorded	Second affiliation recorded	Third affiliation recorded	Fourth affiliation recorded	Fifth affiliation recorded	Total affiliations recorded	Works with gay men	Works with IV drug users	Works with hemophiliacs	Works with women	Works with children	Works with adolescents
Standard Deviation			3.19	422604.69	3.19	807215.04	1328.05	1785.87	0.65	2.37	1737758.07	582.99	2483.82	0.44	1.34	0.49	0.67	0.97	0.88	0.83	0.58	0.00	0.00	0.00	0.00	0.00	0.78	0.28	0.49	0.47	0.46	0.45	0.43
Mean		6/19/48	4.49	381139.92	4.49	945322.48	1441.08	1445.66	1.00	3.36	2230887.44	662.31	2471.01	0.78	2.05	1.41	1.28	2.00	1.88	2.09	1.67	1.00	1.00	1.00	1.00	1.00	1.37	1.09	1.38	1.68	1.31	1.71	1.75
Actual Maxium	319	8/23/96	11	1027974	11	2111687	3438.7	4187	2.0	80	4191886	1323	5294	1.3	2	2	4	4	3	3	2	-	۰	-	-	-	5	2	2	2	2	2	2
Actual Minimum	+	5/9/96	-	4741	-	64273	38.9	10	0.1	-	313915	18	41	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
z	319	242	292	292	292	292	292	292	292	292	292	292	292	292	316	303	295	69	25	11	3	295	69	25	11	3	295	314	314	314	314	314	314
Missing Value Code															66	66	66	66	66	66	66							66	66	66	66	66	66
Not Applic Code																	88	88	88	88	88												-
Possible Values	1 TO 9999	> 5/9/1996	1 TO 11	1 TO 9999999	1 TO 11	1 TO 9999999	1 TO 9999	1 TO 9999	1 TO 99	1 TO 8	1 TO 9999999	1 TO 9999	1 TO 9999	1 TO 99	1 TO 5	1 TO 2	1 TO 4	1 TO 4	1 TO 4	1 TO 4	1 TO 4	•	-	•		+	1 TO 5	1 OR 2	1 OR 2	1 OR 2	1 OR 2	1 OR 2	1 OR 2
Variable Name	SURVEYID	POSTMARK	LOCATION	LOCPOP	CNTYCODE	CNTYPOP	CNTYDEN	CNTYPWAS	CNTYINCI	RPCODE	RPPOP	RPDEN	RPPWAS	RPINCI	A01WBASI	A01WBASR	A02AFFI1	A02AFFI2	A02AFFI3	A02AFF14	A02AFFI5	A02ACNT1	A02ACNT2	A02ACNT3	A02ACNT4	A02ACNT5	A02AFTOT	A031GAYM	A032IVDG	A033HEMO	A034WOME	A035CHIL	A036ADOL
Position	-	2	9	4	5	9	7	8	6	10	1	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33

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3	Works with child and/or adolescents	Works with commercial sex workers	Works with others not specified abov	Non-stigmatized group count	Stigmatized group count	Description of clients/patients with w HIV/AIDS worker	Type of HIV/AIDS work	Dir/Indirect HIV/AIDS work experience	Type of HIV/AIDS work	Dir/Indirect HIV/AIDS work experience	Type of HIV/AIDS work	Dir/Indirect HIV/AIDS work experience	Overall type of HIV/AIDS work exper	Duration of work in years	Frequency of face-to-face interaction past three months	Frequency of face-to-face interaction past three months (recoded)	Frustrating vs encouraging	Tiresome vs energizing	Rewarding vs punishing	Satisfying vs dissatisfying	Political vs non-political	Managable vs unmanagable	Punishing vs rewarding (recode)	Dissatisfying vs satisfying (recoded)	Unmanagable vs manageable (recod	General rating of HIV/AIDS work experience	Respondent knows other HIV/AIDS workers	Count on them to listen to me	Count on them to help out in crises
Standard Deviation	0.48	0.40	0.34	1.08	0.84	0.46	1.25	0.43	1.37	0.50	1.27	0.51	0.80	2.95	1.61	1.61	1.52	1.42	1.69	1.56	1.91	1.55	1.69	1.56	1.55	1.35	0.21	0.84	0.96
Mean	1.63	1.80	1.86	1.36	1.71	2.20	3.15	1.24	3.38	1.49	4.17	1.58	1.56	3.57	2.90	4.10	0.96	0.88	-1.71	-1.70	-0.15	-1.21	1.71	1.70	1.21	1.54	1.05	4.41	4.38
Actual Maxium	2	2	2	3	e	6	9	2	9	2	9	2	9	13	9	9	9	3	3	3	3	3	3	3	3	3	2	2	2
Actual Minimum	-	-	-	0	0	-	-	-	-	-	-	-	-	0	-	-	ę	ę	ę	ę	-3	ę	ę	ę	ę	ę	۰	+	+
z	314	314	314	319	319	305	304	304	98	86	12	12	304	311	315	315	307	306	307	307	306	304	307	307	304	307	313	293	292
Missing Value Code	66	66	66											66	66	66	66	66	66	66	66	66	66	66	66		66	66	66
Not Applic Code																								-		8.	3.	88	88
Possible Values	1 OR 2	1 OR 2	1 OR 2	0 T O 5	0 TO 3	1 TO 3	1 TO 6	1 TO 2	1 TO 6	1 TO 2	1 TO 6	1 TO 2	1 TO 3	>= 0	1 TO 6	1 TO 6	-3 TO 3	-3 TO 3	-3 TO 3	-3 TO 3	-3 TO 3	-3 TO 3	-3 TO 3	-3 TO 3	-3 TO 3	-3 TO 3	1 OR 2	1 TO 5	1 TO 5
Variable Name	A0356CHI	A037SEXW	A0380THE	A03NSGRP	A03SGRPS	A03CLASS	A04WNA1D	A04WNA1T	A04WNA2D	A04WNA2T	A04WNA3D	A04WNA3T	A04WNGEN	A05YEARS	A06FACEI	A06FACER	A071FRUS	A072TIRE	A073REWA	A074SATI	A075POLI	A076MANA	A073REWR	A074SATR	A076MANR	A07EXPER	A08PEERS	A091SUPP	A092SUPP
Position	æ	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	28	60	61	62

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Label	Can really be myself around them	Truely appreciate me as a person	Count on them to console me	General rating of social support from peer HIV/AIDS workers	Proportion of friends who know about respondent's work	Friend moral judgement	Friend fear of contagion	Friend admiration	Friend assocation with death	Friend understanding	Friend compassion	Proportion of family who know about respondent's work	Family moral judgement	Family fear of contagion	Family admiration	Family assocation with death	Family understanding	Family compassion	Proportion of co-workers who know about respondent's work	Current non-HIV-related job title/description	Co-worker moral judgement	Co-worker fear of contagion	Co-worker admiration	Co-worker assocation with death	Co-worker understanding	Co-worker compassion	Proportion of neighbors who know about respondent's work
Standard Deviation	0.80	0.74	0.96	0.69	0.77	1.43	1.48	2.57	3.13	2.65	2.95	0.87	2.23	2.34	3.07	3.25	3.12	3.23	1.00	1.23	1.97	2.07	2.93	3.11	2.97	3.08	06:0
Mean	4.61	4.55	4.42	4.53	3.45	0.57	0.78	7.12	2.89	6.84	5.62	3.35	1.33	1.46	6.26	2.89	5.99	5.20	2.97	3.16	1.44	1.40	5.69	2.88	5.52	4.90	1.82
Actual Maxium	2	5	5	5	4	10	10	10	10	10	10	4	6	10	10	10	10	10	4	4	6	6	10	10	10	10	4
Actual Minimum	+	-	-	-	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-	-	0	0	0	0	0	0	-
z	293	292	290	293	310	311	311	310	309	310	308	308	311	311	310	309	310	307	242	147	243	243	242	241	242	241	290
Missing Value Code	66	66	66		66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	8
Not Applic Code	88	88	88		5	88	88	88	88	88	88	5	88	88	88	88	88	88	5	88	88	88	88	88	88	88	5
Possible Values	1 TO 5	1 TO 5	1 TO 5	1 TO 5	1 TO 4	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	1 TO 4	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	1 TO 4	1 TO 4	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	1 TO 4
Variable Name	A093SUPP	A094SUPP	A095SUPP	A09SOCSU	BP101PRO	BP102MOR	BP103CON	BP104ADM	BP105DEA	BP106UND	BP107COM	BP201PRO	BP202MOR	BP203CON	BP204ADM	BP205DEA	BP206UND	BP207COM	BP301PRO	BP302JOB	<b>BP303MOR</b>	BP304CON	BP305ADM	BP306DEA	BP307UND	BP308COM	BP401PRO
Position	63	64	65	99	67	68	69	70	71	72	73	74	75	76	11	78	19	80	81	82	83	84	85	86	87	88	88

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# Variable Descriptives (cont'd)

Latio	Neighbor disempathy	Neighbor depravity	General public disempathy	General public depravity	Avg depravity rating across submeasures (mean.4)	Avg disempathy rating across submeasures (mean.4)	Avg depravity rating across submeasures (mean.2)	Avg disempathy rating across submeasures (mean.2)	Proportion of others who know about respondent's work	Proportion of persons who know about respondent's work (recoded)	Respondent's community profile	Less willing to strike up conversation with you	Less likely to ask you to a party	More likely to decline a meal you prepared	More difficult to get along with at office	More reluctant to continue friendship	Less likely to continue legal/bus relations	Less likely to visit your home	Perceived social distance	Telling gives me pride and satisfaction	Selective about whom I tell about work	Uncomfortable with PWAs in public	Often wear ribbon in public	Would not tell a potential employer about work	Completely open with others about work
Standard	2.80	2.56	2.13	2.38	1.52	2.12	1.51	2.14	0.68	0.77	0.49	2.17	1.99	1.87	1.76	1.82	1.73	2.01	1.73	2.80	3.50	1.93	3.74	3.00	3.10
Mean	5.65	2.27	5.58	3.80	1.92	4.65	1.92	4.64	2.92	2.62	1.59	1.73	1.33	1.09	1.15	1.15	1.01	1.15	1.10	7.29	3.22	0.81	5.53	1.90	7.68
Actual Maxium	10	10	10	10	8	10	80	10	4.0	4	2	6	6	10	6	6	6	10	6	10	10	10	10	9	10
Actual Minimum	0	0	0	0	0	0	0	0	1.3	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0
z	263	264	307	308	291	290	312	311	316	316	316	312	310	312	303	312	311	312	312	306	308	308	306	306	308
Missing Value Code												66	66	66	66	66	66	66		66	66	66	66	66	66
Not Applic Code																									
Possible Values	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	1 TO 4	1 TO 4	1 TO 2	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10
Variable Name	BP4DISEM	BP4DEPRA	BP5DISEM	BP5DEPRA	<b>BXDEPRA4</b>	<b>BXDISEM4</b>	BXDEPRA2	<b>BXDISEM2</b>	BAVGPROP	BAVGPROR	BPROFILE	C01POBCO	C02POBPA	C03POBEA	C04POBWO	COSPOBFR	COGPOBLE	C07POBHV	CAVGPERB	DO1CWOPR	D02CWOSE	D03CWOPU	D04CWORI	DOSCWOEM	DOGCWOOP
Position	123	124	125	126	127	128	129	130	131	132	133 1	134 (	135 (	136 (	137 (	138	139 (	140	141	142	143	144	145	146	147

# Variable Descriptives (cont'd)

Label	Not afraid to tell others about work	Need to be expressly asked about work	Get impression people think I am gay	Get impression that people think I am HIV+	Personal rule not to tell others	Figure out audience reaction before telling about work	Selective about whom I tell about work (recoded)	Uncomfortable w/PWAs in public (recoded)	Would not tell a potential employer about work (recoded)	Need to be expressly asked about work (recoded)	Get impression people think I'm gay (recoded)	Get impression people think I'm HIV+ (recoded)	Personal rule not to tell others (recoded)	Figure out audience before telling about work (recoded)	Communication behavior	Behavior attribution	Unexpected behavior of other	Affect of respondent towards other	Respondent's behavior towards other	General rating of other's behavior	Severity of other's behavior	Type of behavior	Severity of respondent's feeling	Severity of respondent's reaction to other	Reviewer
Standard Deviation	2.71	2.99	3.42	2.83	2.77	3.46	3.50	1.93	3.00	2.99	3.42	2.83	2.77	3.46	2.68	1.47	1.40	1.58	1.47	0.76	0.62	0.84	0.56	0.73	0.45
Mean	8.35	2.88	3.53	2.01	1.89	3.39	6.78	9.19	8.10	7.12	6.47	7.99	8.11	6.61	8.01	4.21	3.85	3.51	3.02	-0.52	2.52	2.36	2.55	2.22	1.12
Actual Maxium	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	9	9	7	1	e	5	3	6	3
Actual Minimum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	Ŧ	-	-	-	-	-
z	307	306	302	306	308	301	308	308	306	306	302	306	308	301	308	160	153	155	155	162	160	160	155	153	162
Missing Value Code	66	66	66	66	66	66	66	66	66	66	66	66	66	66		66	66	66	66	66	66	66	66	66	66
Not Applic Code																									
Possible Values	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	0 TO 10	1 TO 6	1 TO 6	1 TO 6	1 TO 7	0 to 2	1 TO 3	1 TO 5	1 TO 3	1 TO 3	1 TO 3
Variable Name	D07CWOAF	D08CWOAS	D09CWOHO	D10CWOPO	D11CWODT	D12CWOAR	D02CWOSR	D03CWOPR	D05CWOER	D08CWOAR	D09CWOHR	D10CWOPR	D11CWODR	D12CWORR	DCOMMBEH	E01ATTRI	E02UNEXP	E03AFFEC	E04RESPO	E00TONE	EQISEVER	EQITYPE	EQ3SEVER	EQ4SEVER	EREVIEWE
Position	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172

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Label	Coder	Coder Assignment	Batch ID	Respondent's age	Respondent's sex	Respondent's race/ethnicity	Respondent's primary language	Respondent's level of education	Respondent's yearly household income	Respondent's sexual orientation	Respondent's current marital/intimate partnership status	Respondent's HIV status	Respondent's perceived risk for HIV	Respondent's place of worship	Respondent's religious affiliation	Frequency of worship	Duration of worship in years	Respondent's current political leanings	Respondent's race/ethnicity (recoded)	Respondent's sexual orientation (recoded)	Respondent's current marital/intim partner stutus (recoded)	Respondent's HIV status (recoded)	Respondent's percvd risk for HIV (recoded)	Zscore avg depravity rating	Zscore avg disempathy rating	Cluster ID
Standard Deviation	0.76	0.37	1.77	11.68	0.49	1.27	0.23	1.51	1.62	0.69	1.33	0.35	0.78	0.50	5.09	1.45	14.33	0.56	0.37	0.94	0.50	0.28	1.35	1.00	1.00	1.05
Mean	1.63	1.17	3.43	39.57	1.40	4.60	1.03	6.79	4.25	1.50	2.19	1.95	2.00	1.45	7.83	2.85	14.67	1.40	1.84	1.77	1.46	1.91	2.34	00.0	0.00	2.18
Actual Maxium		2	9	79	2	7	e	80	9	7	9	3	4	8	21	5	67.0	3	2	9	2	2	9	3.90	2.51	4
Actual Minimum	-	-	+	19	-	-	-	2	-	-	-	-	-	-	-	-	0.3	-	-	-	۲	-	٢	-1.27	-2.17	-
z	162	162	162	312	313	310	314	314	309	309	307	306	276	304	161	163	145	303	310	308	307	294	302	312	311	311
Missing Value Code	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66			
Not Applic Code													88		88	88	88									
Possible Values	1 TO 3	1 TO 2	1 TO 6	>= 18	1 TO 2	1 TO 7	1 TO 3	1 TO 8	1 TO 6	1 TO 3	1 TO 6	1 TO 3	1 TO 5	1 OR 2	1 TO 21	1 TO 5	•0	1 TO 3	1 TO 2	1 TO 3	1 TO 2	1 TO 2	1 TO 6	-3 TO 5	-3 TO 5	-3 TO 5
Variable Name	ECODERID	ECODELET	EBATCHID	F01REAGE	FO2RESEX	FO3ETHNI	F04LANGU	FOSHEDUC	F06HHINC	F07SEXOR	FOBMARST	F09HIVST	F10HIVRK	F11CHMEM	F11RELIG	F11WORFR	F11WORDU	F12POLIT	F03ETHNR	F07SXORR	FOBMARSR	F09HIVSR	F10HIVRR	ZBXDEPR2	ZBXDISE2	ZBXCLUID
Position	173	174	175	176	177	178	179	180	181	182	183	184	185 1	186	187	188 1	189 6	190	191	192	193	194	195	196	197	198

Note: Data for variable LOCPOP through RPINCI (Positions 4 through 14) were obtained from the Michigan Department of Community Health and 1980 United States Census.

Position	Variable	Label
3	LOCATION	Location
	Value	Label
	1	Detroit
	2	Flint
	3	Grand Rapids
	4	Kalamazoo
	5	Lansing/E. Lansing
	6	Muskegon
	7	Royal Oak
	8	Saginaw/Bay City
	9	Traverse City
	10	Negaunee
	11	Ypsilanti
5	CNTYCODE	County
	Value	Label
	1	Wayne
	2	Genesee
	3	Kent
	4	Kalamazoo
	5	Ingham
	6	Muskegon
	7	Oakland
	8	Saginaw/Bay
	9	Grand Traverse
	10	Marquette
	11	Washtenaw
10	RPCODE	Regional planning code
	Value	Label
	1	Region 1
	2	Region 2
	3	Region 3
	4	Region 4
	5	Region 5
	6	Region 6
	7	Region 7
	8	Region 8

## Value Labels for Categorical Variables

## Value Labels for Categorical Variables (cont'd)

Position	Variable	Label
15	A01WBASI	Basis of current work
	Value	Label
	1	All volunteer work
	2	Mostly volunteer work
	3	Mostly paid work
	4	All paid work
	5	Neither working for pay nor volunteering time
16	A01WBASR	Basis of current work (recoded)
	Value	Label
	1	Volunteers
	2	Paid workers
17	A02AFFI1	First affiliation type
	Value	Label
	1	Comm-based support service
	2	Health/medical service
	3	Prevention planning
	4	Undeterminable
18	A02AFFI2	Second affiliation type
	Value	Label
	1	Comm-based support service
	2	Health/medical service
	3	Prevention planning
	4	Undeterminable
19	A02AFFI3	Third affiliation type
	Value	Label
	1	Comm-based support service
	2	Health/medical service
	3	Prevention planning
	4	Undeterminable
20	A02AFFI4	Fourth affiliation type
	Value	Label
	1	Comm-based support service
	2	Health/medical service
	3	Prevention planning
	4	Undeterminable

#### 149

Position	Variable	Label
21	A02AFFI5	Fifth affiliation type
	Value	Label
	1	Comm-based support service
	2	Health/medical service
	3	Prevention planning
	4	Undeterminable
22	A02ACNT1	First affiliation recorded
	Value	Label
	1	Yes
23	A02ACNT2	Second affiliation recorded
	Value	Label
	1	Yes
24	A02ACNT3	Third affiliation recorded
	Value	Label
	1	Yes
25	A02ACNT4	Fourth affiliation recorded
	Value	Label
	1	Yes
26	A02ACNT5	Fifth affiliation recorded
	Value	Label
	1	Yes
28	A031GAYM	Works with gay men
	Value	Label
	1	Yes
	2	Νο
29	A032IVDG	Works with IV drug users
	Value	Label
	1	Yes
	2	Νο
30	A033HEMO	Works with hemophiliacs
	Value	Label
	1	Yes
	2	No

#### Position Variable Label 31 A034WOME Works with women Value Label 1 Yes 2 No 32 Works with children A035CHIL Value Label 1 Yes 2 No 33 A036ADOL Works with adolescents Value Label Yes 1 2 No 34 A0356CHI Works with children and/or adolescents Value Label 1 Yes 2 No 35 A037SEXW Works with commercial sex workers Value Label Yes 1 2 No 36 A038OTHE Works with others not specified above Value Label Yes 1 2 No 39 A03CLASS Description of clients/patients with whom HIV/AIDS worker Value Label Non-stigmatized groups only 1 2 Both stigmatized and non-stigmatized groups 3 Stigmatized groups only

Position	Variable	Label
40	A04WNA1D	Type of HIV/AIDS work experience
	Value	Label
	1	Admin/secretarial
	2	Advocacy/case management
	3	Care giving/personal support
	4	Community support
	5	Counseling
	6	Management/leadership
41	A04WNA1T	Dir/Indirect HIV/AIDS work experience
	Value	Label
	1	Direct care
	2	Indirect care
42	A04WNA2D	Type of HIV/AIDS work experience
	Value	Label
	1	Admin/secretarial
	2	Advocacy/case management
	3	Care giving/personal support
	4	Community support
	5	Counseling
	6	Management/leadership
43	A04WNA2T	Dir/Indirect HIV/AIDS work experience
	Value	Label
	1	Direct care
	2	Indirect care
44	A04WNA3D	Type of HIV/AIDS work experience
	Value	Label
	1	Admin/secretarial
	2	Advocacy/case management
	3	Care giving/personal support
	4	Community support
	5	Counseling
	6	Management/leadership
45	A04WNA3T	Dir/Indirect HIV/AIDS work experience
	Value	Label
	1	Direct care

# Value Labels for Categorical Variables (cont'd)

Position	Variable	Label
46	A04WNGEN	Overall type of HIV/AIDS work experience
	Value	Label
	1	Direct only
	2	Both direct & indirect
	3	Indirect only
48	A06FACEI	Freq of face-to-face interaction in past 3 months
	Value	Label
	1	Everyday
	2	More than once a week
	3	About once a week
	4	Two or three times a month
	5	About once a month
	6	Less than once a month
49	A06FACER	Freq of face-to-face interaction in past 3 months (recoded)
	Value	Label
	1	Less than once a month
	2	About once a month
	3	Two or three times a month
	4	About once a week
	5	More than once a week
	6	Everyday
60	A08PEERS	Respondent knows other HIV/AIDS workers
	Value	Label
	1	Yes
	2	No
67	BP101PRO	Proportion of friends who know about respondent's work
	Value	Label
	1	None
	2	A few
	3	Most
	4	All or nearly all
74	BP201PRO	Proportion of family who know about respondent's work
	Value	Label
	1	None
	2	A few
	3	Most

3 MOST 4 All or nearly all

Position	Variable	Label
81	BP301PRO	Proportion of co-workers who know about respondent's work
	Value	Label
	1	None
	2	A few
	3	Most
	4	All or nearly all
82	BP302JOB	Current non-HIV-related job description
	Value	Label
	1	Health care provider
	2	Pastoral/clergy
	3	Teacher
	4	Other
89	BP401PRO	Proportion of neighbors who know about respondent's work
	Value	Label
	1	None
	2	A few
	3	Most
	4	All or nearly all
132	BAVGPROR	Proportion of persons who know about respondent's work (re
	Value	Label
	1	None to one
	2	A few
	3	Most
	4	All or nearly all
133	BPROFILE	Respondent's community profile
	Value	Label
	1	Low
	2	High
164	E01ATTRI	Behavior attribution recoded
	Value	Label
	1	Admiration/appreciation
	2	Compassion/sympathy/pity
	3	Curiosity/inquisitivity
	4	Fear of AIDS
	5	Moralizing about AIDS
	6	Not determinable

## Value Labels for Categorical Variables (cont'd)

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Position	Variable	Label
165	E02UNEXP	Unexpected behavior of other recoded
	Value	Label
	1	Support/encouragement
	2	Attention to self/topic of HIV/AIDS
	3	Awkwardness/confusion
	4	Ignorance/lack of awareness
	5	Intolerance
	6	Not determinable
166	E03AFFEC	Affect of respondent towards other recoded
	Value	Label
	1	Affirmed/proud/content
	2	Contemplative
	3	Pity/sympathy for other
	4	Depressed/disappointed
	5	Defensive/angry
	6	Not determinable
167	E04RESPO	Respondent's behavior towards other recoded
	Value	Label
	1	Approving
	2	Provided HIV/AIDS related info
	3	Neutral
	4	Disapproving
	5	Avoidance
	6	No response – did nothing
	7	Not determinable
168	E00TONE	General rating of other's behavior
	Value	Label
	-1	Negative
	0	Neutral
	1	Positive
169	EQ1SEVER	Severity of other's behavior
	<b>Value</b>	Label
	1	Weak
	2	Mild
	3	Strong
	-	•
#### Position Variable Label 170 **EQ1TYPE** Type of behavior Value Label Physical 1 2 Verbal 3 Affective 4 Non-reaction 5 Other 171 **EQ3SEVER** Severity of respondent's feeling Value Label 1 Weak 2 Mild 3 Strong 172 **EQ4SEVER** Severity of respondent's reaction to other Value Label Weak 1 2 Mild 3 Strong 173 **EREVIEWE** Reviewer Value Label Andrea 1 2 David Whitney 3 4 Tim 174 **ECODERID** Coder Value Label 1 Andrea 2 David 3 Whitney 4 Tim 175 ECODELET **Coder Assignment** Value Label 1 Α 2 В

# 157

# **APPENDIX H**

#### Position Variable Label 178 F02RESEX Respondent's sex Value Label Female 1 2 Male 179 **F03ETHNI Respondent's race/ethnicity** Value Label African American 1 Asian or Pacific Islander 2 3 Haitian 4 Native American or Alaskan Native 5 White/caucasian Chicano/Hispanic/Latino 6 7 Other 180 **F04LANGU** Respondent's primary language Value Label English 1 2 Spanish Other 3 181 **F05HEDUC** Respondent's level of education Value Label 1 Elementary 2 Middle/intermediate school 3 High school 4 Trade/technical certificate 5 Some college 6 Two-year undergraduate program Four-year undergraduate program 7 One of more years of graduate training 8 182 **F06HHINC** Respondent's yearly household income Value Label \$0 to \$9,999 1 \$10,000 to \$19,999 2 3 \$20,000 to \$29,999 4 \$30,000 to \$39,999 5 \$40,000 to \$49,999 6 \$50,000 or more

•

Position	Variable	Label
183	F07SEXOR	Respondent's sexual orientation
	Value	Label
	1	Heterosexual
	2	Homosexual (gay or lesbian)
	3	Bisexual
184	F08MARST	Respondent's current marital/intimate partnership status
	Value	Label
	1	Single
	2	Partnered by marriage
	3	Partnered by domestic agreement
	4	Separated
	5	Divorced
	6	Widowed
185	F09HIVST	Respondent's HIV status
	Value	Label
	1	Yes
	2	No
	3	Not sure
186	F10HIVRK	Respondent's perceived risk for HIV
	Value	Label
	1	No risk
	2	Extremely low risk
	3	Moderately low risk
	4	Moderately high risk
	5	Extremely high risk
187	F11CHMEM	Respondent is a member of a place of worship
	Value	Label
	1	Yes
	2	No

### Value Labels for Categorical Variables (cont'd)

Position	Variable	Label					
188	F11RELIG	Respondent's religious affiliation					
	Value	Label					
	1	Apostolic					
	2	Baptist					
	3	Buddist					
	4	Catholic					
	5	Non-specific Christian					
	6	Episcopal					
	7	Jewish					
	8	Lutheran					
	9	Maceyonian Orthodox					
	10	Methodist					
	11	Muslim					
	12	Non-denominational					
	13	Pentacostal					
	14	Protestant					
	15	Quaker					
	16	Reformed					
	17	Spiritualist					
	18	Traditional Native American					
	19	Unitarian Universalist					
	20	Wesleyan					
	21	Wiccan					
189	F11WORFR	Frequency of worship					
	Value	Label					
	1	More than once a week					
	2	About once a week					
	3	Two or three times a month					
	4	About once a month					
	5	Less than once a month					
191	F12POLIT	Respondent's current political leanings					
	Value	Label					
	1	Liberal					
	2	Moderate					
	3	Conservative					
192	F03ETHNR	Respondent's race/ethnicity (recoded)					
	Value	Label					
	1	Non-white/non-caucasion					

2 White/caucasian

#### 159

_Position	Variable	Label
193	F07SXORR	Respondent's sexual orientation (recoded)
	Value	Label
	1	Heterosexual
	2	Bisexual
	3	Homosexual
194	F08MARSR	Respondent's current marital/intim partnr stutus (recoded)
	Value	Label
	1	Not married/partnered
	2	Married/partnered
195	F09HIVSR	Respondent's HIV status (recoded)
	Value	Label
	1	HIV positive
	2	HIV negative
196	F10HIVRR	Respondent's percvd risk for HIV (recoded)
	Value	Label
	1	No risk
	2	Extremely low risk
	3	Moderately low risk
	4	Moderately high risk
	5	Extremely high risk
	6	Already HIV positive
200	ZBXCLUID	Cluster ID
	Value	Label
	1	Low/low
	2	Med/med
	3	Low/high
	4	High/high

### Variable Compute Statements (SPSS for Windows Syntax)

Position	Satement
	SECTION A. HIV/AIDS Work Background
22	IF (a02affi1 > 0 & a02affi1 <= 4) a02acnt1 = 1. EXECUTE.
23	IF (a02affi2 > 0 & a02affi2 <= 4) a02acnt2 = 1. EXECUTE .
24	IF (a02affi3 > 0 & a02affi3 <= 4) a02acnt3 = 1. EXECUTE .
25	IF (a02affi4 > 0 & a02affi4 <= 4) a02acnt4 = 1. EXECUTE .
26	IF (a02affi5 > 0 & a02affi5 $\leq 4$ ) a02acnt5 = 1. EXECUTE.
27	COMPUTE a02aftot = SUM.1(a02acnt1,a02acnt2,a02acnt3,a02acnt4,a02acnt5). EXECUTE.
34	IF (a035chil = 1   a036adol = 1) a0356chi = 1. EXECUTE. IF (a035chil = 2 & a036adol = 2) a0356chi = 2. EXECUTE. IF (a035chil = 99 & a036adol = 99) a0356chi = 99. EXECUTE.
37	COUNT a03nsgrp = a033hemo a034wome a0356chi (1). VARIABLE LABELS a03nsgrp 'Non-stigmatized group count'. EXECUTE.
38	COUNT a03sgrps = a031gaym a032ivdg a037sexw (1). VARIABLE LABELS a03sgrps 'Stigmatized group count'. EXECUTE.
39	IF (a03sgrps > 0 & a03nsgrp = 0) a03class = 3. EXECUTE. IF (a03sgrps > 0 & a03nsgrp > 0) a03class = 2. EXECUTE. IF (a03sgrps = 0 & a03nsgrp > 0) a03class = 1. EXECUTE.

### Variable Compute Statements (SPSS for Windows Syntax) (cont'd)

Position	Satement
41	IF $(a04wnald = 2   a04wnald = 3   a04wnald = 5) a04wnalt = 1$ . EXECUTE. IF $(a04wnald = 1   a04wnald = 4   a04wnald = 6) a04wnalt = 2$ . EXECUTE.
43	IF $(a04wna2d = 2   a04wna2d = 3   a04wna2d = 5) a04wna2t = 1$ . EXECUTE. IF $(a04wna2d = 1   a04wna2d = 4   a04wna2d = 6) a04wna2t = 2$ . EXECUTE.
45	IF $(a04wna3d = 2   a04wna3d = 3   a04wna3d = 5) a04wna3t = 1$ . EXECUTE. IF $(a04wna3d = 1   a04wna3d = 4   a04wna3d = 6) a04wna3t = 2$ . EXECUTE.
46	IF (a04wnalt = 1 & a04wna2t = 1 & a04wna3t = 1) a04wngen = 1. EXECUTE. IF (a04wnalt = 1 & a04wna2t = 1 & a04wna3t = 99) a04wngen = 1. EXECUTE. IF (a04wnalt = 1 & a04wna2t = 99 & a04wna3t = 99) a04wngen = 1. EXECUTE. IF (a04wnalt = 2 & a04wna2t = 2 & a04wna3t = 2) a04wngen = 3. EXECUTE. IF (a04wnalt = 2 & a04wna2t = 2 & a04wna3t = 99) a04wngen = 3. EXECUTE. IF (a04wnalt = 2 & a04wna2t = 99 & a04wna3t = 99) a04wngen = 3. EXECUTE. IF (a04wnalt = 1 & a04wna2t = 1 & a04wna3t = 2) a04wngen = 2. EXECUTE. IF (a04wnalt = 2 & a04wna2t = 2 & a04wna3t = 1) a04wngen = 2. EXECUTE. IF (a04wnalt = 1 & a04wna2t = 2) a04wngen = 2. EXECUTE. IF (a04wnalt = 1 & a04wna2t = 2) a04wngen = 2. EXECUTE. IF (a04wnalt = 1 & a04wna2t = 2) a04wngen = 2. EXECUTE. IF (a04wnalt = 1 & a04wna2t = 2) a04wngen = 2. EXECUTE. IF (a04wnalt = 1 & a04wna2t = 1) a04wngen = 2. EXECUTE. IF (a04wnalt = 1 & a04wna2t = 1) a04wngen = 2. EXECUTE. IF (a04wnalt = 1 & a04wna2t = 1) a04wngen = 2. EXECUTE. IF (a04wnalt = 1 & a04wna2t = 1) a04wngen = 2. EXECUTE.
59	COMPUTE a07exper = mean.3(a073rewr,a074satr,a076manr) . EXECUTE .
66	COMPUTE a09socsu = mean.4(a091supp,a093supp,a094supp,a095supp) . EXECUTE .

### Variable Compute Statements (SPSS for Windows Syntax) (cont'd)

f

Position	Satement
	SECTION B. Perceptions of Others' Beliefs
117	COMPUTE bp1disem = mean.3(bp104adr,bp106unr,bp107cor). EXECUTE.
118	COMPUTE bp1depra = mean.2(bp102mor,bp103con). EXECUTE.
119	COMPUTE bp2disem = mean.3(bp204adr,bp206unr,bp207cor) . EXECUTE .
120	COMPUTE bp2depra = mean.2(bp202mor,bp203con). EXECUTE .
121	COMPUTE bp3disem = mean.3(bp305adr,bp307unr,bp308cor). EXECUTE.
122	COMPUTE bp3depra = mean.2(bp303mor,bp304con). EXECUTE .
123	COMPUTE bp4disem = mean.3(bp404adr,bp406unr,bp407cor) . EXECUTE .
124	COMPUTE bp4depra = mean.2(bp402mor,bp403con). EXECUTE.
125	COMPUTE bp5disem = mean.3(bp503adr,bp505unr,bp506cor) . EXECUTE .
126	COMPUTE bp5depra = mean.2(bp501mor,bp502con). EXECUTE.
127	COMPUTE bxdepra4=mean.4(bp1depra,bp2depra,bp3depra,bp4depra,bp5depra). EXECUTE .
12 <b>8</b>	COMPUTE bxdisem4= mean.4 (bp1disem,bp2disem,bp3disem,bp4disem, bp5disem). EXECUTE.
129	COMPUTE bxdepra2 =mean.2(bp1depra,bp2depra,bp3depra,bp4depra, bp5depra). EXECUTE .
130	COMPUTE bxdisem2 = mean.2(bp1disem,bp2disem,bp3disem,bp4disem, bp5disem) . EXECUTE .

# 164

# **APPENDIX I**

#### Variable Compute Statements (SPSS for Windows Syntax) (cont'd)

Position	Satement
131	COMPUTE bavgprop = mean.4(bp101pro,bp201pro,bp301pro,bp401pro). EXECUTE.
133	IF (bavgprop < 3.00) bprofile = 1. EXECUTE. IF (bavgprop >= 3.00) bprofile = 2. EXECUTE.
	SECTION C. Percieved Social Distance
141	COMPUTE cavgperb = mean.6(c02pobpa, c03pobea, c04pobwo, c05pobfr, c06poble, c07pobhv). EXECUTE.
	SECTION D. Communication about HIV/AIDS-related Topics
162	COMPUTE dcommbeh = mean.3(d02cwosr,d05cwoer,d08cwoar,d11cwodr,d12cworr). EXECUTE.

#### **Respondent Demographics**

					95% Two-eided Confidence Interval		
Group Served	Women	Men	Diff	SEDIM	Lower	Upper	Sig (p<.05)
		Race/ethr	nicity				
White/caucasian							
Population proportion	85%	85%	0%	4%	-8%	9%	ns
Number of affirmed cases	158	105					
Sample size	186	123					
African American							
Population proportion	10%	10%	0%	3%	-7%	6%	ns
Number of affirmed cases	19	12					
Sample size	187	123					
Chicano/Hispanic/Latino							
Population proportion	2%	3%	1%	2%	-3%	5%	ns
Number of affirmed cases	4	4					
Sample size	187	123					
Native American Indian							
Population proportion	2%	1%	-1%	1%	-4%	1%	ns
Number of affirmed cases	4	1					
Sample size	187	123					
Asian or Pacific Islander							
Population proportion	1%	1%	0%	1%	-2%	2%	ns.
Number of affirmed cases	2	1					
Sample size	187	123					
		Primary	Language	•			
English							
Population proportion	99%	98%	-1%	1%	-4%	1%	ns
Number of affirmed cases	186	122					
Sample size	187	124					
Spanish							
Population proportion	0%	1%	1%	1%	-1%	2%	ns
Number of affirmed cases	0	1					
Sample size	187	124					
Other							
Population proportion	2%	1%	-1%	1%	-3%	2%	ns
Number of affirmed cases	3	1			•		
Sample size	187	124					
		lichest I.ev	el of Educ	ation			
One or more years of graduate training							
Population proportion	49%	45%	-4%	6%	-15%	8%	ns
Number of affirmed cases	91	56					
Sample size	187	124					
Four-vear undergraduate program							
Population proportion	22%	23%	1%	5%	-8%	11%	115
Number of affirmed cases	41	29			- / •		
Sample size	187	124					

### Respondent Demographics (cont'd)

					95% Two-sided Confidence Interval		
Group Served	Women	Men	Diff	SEcur	Lower	Upper	<b>Sig</b> (p<.05)
Some college							
Population proportion	13%	18%	5%	4%	-3%	13%	<b>ns</b>
Number of affirmed cases	24	22					
Sample size	187	124					
Trade/technical certificate							
Population proportion	2%	3%	2%	2%	-2%	5%	<b>ns</b>
Number of affirmed cases	3	4					
Sample size	187	124					
High school							
Population proportion	7%	4%	-3%	3%	-8%	2%	05
Number of affirmed cases	13	5	•	•	•		
Sample size	187	124					
Reputation properties	194	0%	19/	194	264	194	
Number of affirmed asses	170	070	-170	170	-270	170	119
Samola size	187	124					
	107	124					
<b>AO</b> 4- <b>AO AO</b>	Year	ly Househo	old income	1			
20 10 29,999	•••						
Population proportion	8%	4%	-4%	3%	-9%	2%	ns
Number of ammed cases	14	5					
Sample size	185	123					
\$10,000 to \$19,999							
Population proportion	11%	13%	2%	4%	-6%	9%	ns
Number of affirmed cases	21	16					
Sample size	185	123					
\$20,000 to \$29,999							
Population proportion	12%	18%	6%	4%	-2%	14%	ns
Number of affirmed cases	22	22					
Sample size	185	123					
\$30,000 to \$39,999							
Population proportion	22%	16%	-6%	5%	-15%	3%	ns
Number of affirmed cases	41	20					
Sample size	185	123					
\$40,000 to \$49,999							
Population proportion	14%	13%	-1%	4%	-8%	7%	ns
Number of affirmed cases	25	16					
Sample size	185	123					
\$50,000 or more							
Population proportion	34%	36%	2%	6%	-9%	13%	05
Number of affirmed cases	62	44		5.0	2		
Sample size	185	123					
-							

#### **Respondent Demographics (cont'd)**

					95% Two-sided Confidence Interval		
Group Served	Women	Men	Diff	SEDW	Lower	Upper	Sig (p<.05)
	8	exual Orle	ntation				
Heterosexual							
Population proportion	80%	25%	-55%	5%	-64%	-45%	sig
Number or ammed cases	148	31					
Sample size	185	122					
Bisexual							
Population proportion	6%	7%	1%	3%	-5%	<b>6%</b>	ns
Number of affirmed cases	11	8					
Sample size	185	122					
Homosexual (gay or lesbian)							
Population proportion	14%	68%	54%	5%	44%	64%	sig
Number of affirmed cases	26	83					
Sample size	185	122					
	Current Marit	al/intimate	Partnersh	in Status			
Single							
Population proportion	37%	44%	7%	6%	-4%	18%	ns
Number of affirmed cases	69	53					
Sample size	186	120					
Partnered by marriage							
Population proportion	33%	21%	-12%	5%	-22%	-2%	sia
Number of affirmed cases	61	25	12.70	070		2/0	
Sample size	186	120					
Partnered by domestic agreement							
Population opportion	1894	2294	64	<b>5</b> 94	204	1594	
Number of affirmed cases	20	22.70	070	570	-370	1376	113
Samole size	186	120					
	100	120					
	HIV S	eroconver	sion Statu	8			
HIV antibody positive							
Population proportion	3%	18%	14%	4%	7%	22%	sig
Number of affirmed cases	6	20					
Sample size	180	113					
HIV antibody negative							
Population proportion	97%	82%	-14%	4%	-22%	-7%	sig
Number of affirmed cases	174	93					
Sample size	180	113					
	Curr	ent Politica	al Leanings				
Liberal			•				
Population proportion	66%	58%	-8%	6%	-19%	3%	ns
Number of affirmed cases	122	69					
Sample size	184	118					
Moderate							
Population proportion	30%	37%	7%	6%	-4%	18%	ns
Number of affirmed cases	56	44					
Sample size	184	118					

# **Respondent Demographics (cont'd)**

					95% Two-sided Confidence Interval		-
Group Served	Women	Nen	Diff	SEom	Lower	Upper	Sig (p<.05)
Conservative							
Population proportion	3%	4%	1%	2%	-3%	5%	ns
Number of affirmed cases	6	5					
Sample size	184	118					
	Memb	er of a Plac	e of Worst	nip			
Currently participating				•			
Population proportion	56%	54%	-2%	6%	-14%	9%	ns
Number of affirmed cases	104	63					
Sample size	186	117					
		Age					
Years of age		-					
Population proportion	38.54	40.87	2.33	1.34	29	4.95	ns
Sample size	187	124		-			

#### **OUTPUT FROM HUNTER AND HAMILITON'S PATH ANALYSIS SOFTWARE**

Legend	:
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- ID Label
- 1 Perceived Risk of HIV Infection
- 2 <not used>
- 3 Perceived Social Distance
- 4 Perceived Associational Depravity
- 5 Perceived Associational Disempathy
- 6 Social Support from Other HIV/AIDS-workers
- 7 Satisfaction with HIV/AIDS Work Experience
- 8 Respondent's HIV/AIDS-related Communication Behavior

Output:

Variable 2 was deleted from working matrix.

Input correlation matrix file name is c:\work\thesis\cfaruns\mod18.cor Indicator file name is mod22.ind

Original correlations:

	1	6	7	3	4	5	8
1	100	5	2	28	16	-3	-20
6	5	100	7	1	5	-11	10
7	2	7	100	2	6	-9	14
3	28	1	2	100	55	12	-32
4	16	5	6	55	100	18	-29
5	-3	-11	-9	12	18	100	-14
8	-20	10	14	-32	-29	-14	100

Path coefficients:

	1	6	7	3	4	5	8
1	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
3	28	0	0	0	0	0	0
4	0	0	0	55	0	0	0
5	0	-12	0	0	19	0	0
8	0	0	15	0	-29	-8	0

Standard errors for path coefficients:

1	6	7	3	4	5	8
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
6	0	0	0	0	0	0
0	0	0	5	0	0	0
0	7	0	0	6	0	0
0	0	7	0	7	7	0
	1 0 0 6 0 0 0	1 6 0 0 0 0 6 0 0 0 0 7 0 0	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

and bot confidence intervals for path coefficients.	***							
Upper endpoints :								
1 6 7 3 4 5 8								
7 0 0 0 0 0 0								
3 34 0 0 0 0 0 0								
5 0 -5 0 0 25 0 0 8 0 0 22 0 -22 -1 0								
Lower endpoints :								
7 0 0 0 0 0 0								
3 22 0 0 0 0 0 0								
4 0 0 0 50 0 0 0								
5 0 -19 0 0 12 0 0								
8 0 0 8 0 -35 -14 0								
Multiple correlations:								
1 6 7 3 4 5 8								
0 0 0 28 55 22 34								
Shrunken multiple correlations:								
1 6 7 3 4 5 9								
0 0 0 27 55 20 32								
Standard errors for multiple correlations:								
0 0 0 5 4 6 5								
Reproduced correlations:								
1 6 7 3 4 5 8								
1 100 5 2 28 15 2 -4								
0  5  100  7  1  1  -12  2 7 2 7 100 1 0 -1 15								
3 28 1 1 100 55 10 -16								
4 15 1 0 55 100 19 -30								
5 2 -12 -1 10 19 100 -13								
8 -4 2 15 -16 -30 -13 100								

Errors: (Actual - reproduced) 6 7 3 1 4 5 8 1 0 0 0 0 1 -5 -16 6 0 0 0 Ω 4 1 8 7 0 0 0 1 -1 6 -8 3 0 0 1 0 0 2 -16 4 1 4 6 0 0 -1 1 5 -5 1 -8 2 -1 0 -1 8 -16 -1 -16 8 1 -1 0 SAMPLING ERROR ANALYSIS SAMPLE SIZE IS 300 THE RELIABILITIES OF THE VARIABLES IN THE MODEL ARE 1.00 1 6 0.78 7 0.80 3 0.94 4 0.87 5 0.95 0.79 8 INDIVIDUAL LINK ANALYSIS Analysis for the missing link between 3 AND 6 The difference is -0.00 The normal z value is -0.04 The tail probability is .967 Analysis for the missing link between 3 AND 7 The difference is 0.01 The normal z value is 0.15 The tail probability is .879 Analysis for the missing link between 4 AND 1 The difference is 0.01 The normal z value is 0.07 The tail probability is .944 Analysis for the missing link between 4 AND 6 The difference is 0.04 The normal z value is 0.43 The tail probability is .670 Analysis for the missing link between 7 4 AND The difference is 0.06 The normal z value is 0.58 The tail probability is .561 Analysis for the missing link between 5 AND 1 The difference is -0.05 The normal z value is -0.63 The tail probability is .530 Analysis for the missing link between 5 AND 7 The difference is -0.08 The normal z value is -0.88 The tail probability is .381

Analysis	for the missing link between	5	AND	3
The	difference is 0.02			
The	normal z value is 0.23			
The	tail probability is .821			
Analysis	for the missing link between	8	AND	1
The	difference is -0.16			
The	normal z value is -1.71			
The	tail probability is .087			
Analysis	for the missing link between	8	AND	6
The	difference is 0.08			
The	normal z value is 0.80			
The	tail probability is .427			
Analysis	for the missing link between	8	AND	3
The	difference is -0.16			
The	normal z value is -1.68			
The	tail probability is .093			
*******	* * * * * * * * * * * * * * * * * * * *			
THE ANALY	YSIS FOR THE MODEL AS A WHOLE	IS		
THE OVER	ALL CHISQUARE IS 8.15			
THE DEGRI	EES OF FREEDOM ARE 11			
THE TAIL	PROBABILITY IS .700			

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Adib, he 2

Ajzen B

Allpo

Bean, A 1

Benno p 2

Biren E

Biren

Bisho F 1

Blum C

Bolter N

Bor, F re

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