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A Preliminary Examination of Sexual Orientation as a Social Vulnerability for Experiencing HIV/AIDS-related Stigma

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Abstract

This investigation is a preliminary examination of sexual orientation as a social vulnerability for experiencing HIV/AIDS-related stigma, specifically concerns about disclosure and public attitudes. Participants were 36 heterosexual men and 82 gay men with HIV/AIDS. Consistent with prediction, a heterosexual sexual orientation was significantly associated with HIV/AIDS disclosure concerns. This effect was evident after controlling for various demographic variables, CD4 T-cell count, time since HIV diagnosis, self-esteem, and coping styles. Also, as predicted, similar levels of enacted stigma were evident regardless of sexual orientation. Further work is needed to understand the process of HIV/AIDS disclosure for heterosexual men with this illness and to differentiate the experience of HIV/AIDS-related stigma among gay and straight men with HIV/AIDS.

Keywords

Social Vulnerability; Stigma; HIV/AIDS; Sexual Orientation; Risk

Although in the United States HIV once affected primarily gay and bisexual men (Kelly & Murphy, 1992), it is now increasingly common among heterosexual men (CDC, 2007a). Even with its growing prevalence among heterosexual men, people continue to associate HIV/AIDS with being gay (Herek & Capitanio, 1999; Pryor, Reeder, Landau, 1999; Herek & Glunt, 1988; Crandall, 1991a). As a result, heterosexual men with HIV/AIDS may be especially vulnerable to experiencing HIV/AIDS-related stigma because they may be suspected of being gay, in addition to other stigmatizing aspects of the disease.

Stigma is generally defined as an attribute that is deeply discrediting in a particularly social context (Crocker, Major, & Steele, 1998). The stigma of HIV/AIDS results from the negative reactions of other people toward those who have HIV/AIDS. These reactions are rooted in both instrumental concerns (e.g., fears of the contagiousness of HIV; Herek & Capitanio, 1998) and symbolic concerns (e.g., offensiveness of the behaviors and lifestyles associated with HIV infection; Pryor, Reeder, Vinacco, & Kott, 1989). Symbolic concerns include associations between HIV/AIDS and death, intravenous drug use, promiscuity, and homosexuality (Crandall, 1991a; Herek & Capitanio, 1998; Herek & Capitanio, 1999; Swendeman, Rotheram-Borus, Comulada, 2006; Weibust, Miller, Solomon, & Webster, & Saucier, 2009). In the present study, we assumed that people with HIV/AIDS experience HIV/AIDS-related stigma in four ways, (1) anticipated negative reactions resulting from disclosure of HIV status (*disclosure concerns*), (2) perceptions of how other people may

negatively view people with HIV (*concern with public attitudes*), (3) incidents of discrimination and social isolation due to HIV (*enacted stigma*), and (4) perceptions of negative self-attributes regarding having HIV (*negative self-image*; Berger, Ferrans, & Lashley, 2001; Bunn, Solomon, Miller, & Forehand, 2007).

Although a previous finding suggests that gay men with HIV/AIDS perceive less AIDS-related stigma than heterosexual women with this illness (Crandall, 1991b), no study to our knowledge has examined differing perceptions of HIV/AIDS-related stigma specifically among gay and heterosexual men living with this disease. However, past research has examined how anti-gay attitudes contribute to HIV/AIDS-related stigma (Pryor et al., 1989; Pryor & Reeder, 1993). Pryor et al. (1989) found that negative attitudes toward homosexuality were significantly related to participants' negative attitudes and intentions about having their children in class with a child with AIDS, even though the child with AIDS was described as non-gay. In another study, college students were told that their professor had contracted AIDS through a blood transfusion and were asked whether they would rather switch to a different section of the course taught by another instructor. Students who had expressed negative attitudes toward homosexuality on a prior questionnaire indicated a greater interest in transferring to another section of the course (Pryor et al., 1989). Similarly, prospective employers who held negative attitudes toward homosexuality indicated less willingness to hire a job candidate with HIV than a candidate who was described without any mention of HIV; whereas employers who did not hold negative attitudes toward homosexuality were equally likely to hire each of the candidates (Pryor & Reeder, 1993). These studies suggest that anti-gay attitudes contribute to HIV/AIDS-related stigma.

Given the association between anti-gay attitudes and HIV/AIDS-related stigma, heterosexual men with HIV/AIDS may be more vulnerable than gay men to experience some aspects of HIV/AIDS-related stigma. Because many people continue to perceive HIV/AIDS as the "gay plague", heterosexual men with HIV/AIDS may be especially concerned about disclosing their HIV status and about public attitudes towards people with HIV/AIDS for fear of possibly being labeled as gay. In contrast, gay men with HIV/AIDS, especially those who are open about their sexual orientation, may not acquire an "extra" stigma (specifically, being labeled as gay) by disclosing their HIV/AIDS status, and thus may have less to fear about disclosing and less concern about public attitudes.

The above reasoning is consistent with research on stigma by association (which Goffman (1956), who originated the concept, also referred to as *courtesy* stigma). Stigma by association refers to the stigmatization of otherwise non-stigmatized individuals because of their association or relationship to someone who is stigmatized. For instance, people who had previously expressed negative attitudes toward gays perceived a male college student who voluntarily roomed with a gay peer as having homosexual tendencies himself and as possessing the same personality traits that are stereotypically attributed to gays (Sigelman, Howell, Cornell, Cutright, & Dewey, 1991). Similarly, Hebl and Mannix (2003) found that a male job applicant was rated lower on interpersonal skills and professional qualities, and was less likely to be recommended for hiring when he was seated next to a heavy weight woman than when he was seated next to an average weight woman in a waiting room, regardless of his relationship to the woman (i.e., girlfriend vs. stranger). Other research shows that people who are often in proximity to death or other unpleasant events (e.g., illness), such as hospital workers, the elderly, and widows, also are stigmatized (Posner, 1976). Thus, heterosexual men with HIV/AIDS may anticipate stigmatization because they may be associated with gay men by virtue of having a disease that is historically related to the gay community.

Accordingly, we hypothesized that heterosexual men with HIV/AIDS would indicate greater disclosure concerns and concern with public attitudes than would gay men with HIV/AIDS. Moreover, we expected these findings above and beyond the effects of demographic variables, HIV/AIDS disease severity markers, and theoretically relevant psychological and coping factors (i.e., self-esteem, and coping style). Previous work has documented that self-esteem and the strategies that individuals use to cope with HIV/AIDS-related stigma affect their perception and experience of HIV/AIDS-related stigma (as defined by Berger et al., 2001; Bunn et al., 2007; Varni, Miller, Gonzalez, Cassidy & Solomon, 2009); therefore controlling for these factors might serve to strengthen the hypothesized findings. We also hypothesized that the other major components of stigma (enacted stigma and negative self-image) would not be related to the sexual orientation of men with HIV/AIDS because experiencing these components are less dependent on the expectations of men living with HIV/AIDS. A heterosexual man who is assumed to be gay because his HIV/AIDS status is known may be treated in the same way as a gay man with HIV/AIDS who is assumed to be (or known to be) gay. For this reason, enacted stigma (instances of discrimination and exclusion) should not differ for gay and heterosexual men with HIV/AIDS. Since heterosexual men and gay men with HIV/AIDS are likely to experience similar reactions from others (because all may be assumed by others to be gay), we also did not expect a relationship between negative self-image related to HIV/AIDS and sexual orientation.

Method

Participants

Participants included 36 exclusively heterosexual and 82 exclusively gay men with HIV/AIDS (age $M = 44.30$ years, $SD = 8.09$) who were recruited as part of a larger study on HIV/AIDS risk (Bunn et al., 2007; Ryan, Forehand, Solomon, Miller, 2008; Bunn et al., 2008). Participants were recruited through AIDS Service Organizations (ASOs), medical clinics treating patients with HIV/AIDS, advertisements in local newspapers, and by word of mouth in Vermont, New Hampshire, and areas of Massachusetts and Maine. Eligibility requirements included being at least 18 years of age and reporting a positive HIV/AIDS diagnosis. Approximately half (52%) of the participants reported having an AIDS diagnosis and on average participants had lived with HIV/AIDS for 13 years ($M = 12.59$, $SD = 6.68$). The racial/ethnic distribution of the sample was 80% Caucasian, 9% African American, 5% Latino, 4% Native American, 1% Asian American, and 1% bi-racial. Although 82% of the participants had a high school/equivalent degree or higher, more than half (63%) were unemployed.

Procedures

Upon arrival at the University of Vermont, participants were greeted by a research assistant and informed about the study. After consenting to participate, participants were brought to a separate room to complete protocol measures through a computer program (Media Lab; Jarvis, 2004). If participants were unable to come into the lab due to health or traveling complications, research assistants traveled to a mutually agreed upon location (i.e., hospital or ASO) to allow for their participation. Fifty-five percent of participants completed the study protocol off-site. All participants were compensated \$50 for participating in the study and were reimbursed for any travel expenses that they incurred.

Measures

Participants reported their age, sexual orientation, race/ethnicity, education attainment, employment status, HIV/AIDS diagnosis, CD4 T-cell count, and diagnosis date. They reported sexual orientation on a scale ranging from 1 (*Exclusively Heterosexual*) to 7 (*Exclusively Gay*), with a rating of 4 being "*Bisexual*." Only participants who indicated that

they were exclusively heterosexual or exclusively gay within the larger study were included in the present study ($n = 118$). Amount of time living with HIV was calculated by subtracting participation date from diagnosis date (in years).

Rosenberg Self-esteem Scale (RSE)—The RSE (Rosenberg, 1965) is a 10-item scale used to assess self-esteem. Items are rated on a 4-point Likert-type scale ranging from 1 (strongly disagree) to 4 (strongly agree). A total score was achieved by averaging across all items with higher scores indicative of higher self-esteem. This scale demonstrated good internal consistency in the present study (Cronbach's $\alpha = 0.88$).

Response to Stress Questionnaire (RSQ)—The RSQ (Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000) assesses self-regulatory responses to a stressor as described by Compas and colleagues' (2001) theoretical coping model, including disengagement coping and engagement coping styles. The questionnaire can be adapted to direct the participants' focus towards a particular source of stress. In this study, participants were directed to think about how the stigma of HIV/AIDS caused them to experience stress. Participants reported different ways that the stigma of HIV/AIDS caused them stress and indicated how stressful each problem was for them and how much control they believed they had over the problem on a 4-point Likert scale (1 = *not at all* to 4 = *very*). Participants could report up to 10 ways in which the stigma of HIV/AIDS was stressful for them and were asked to think about the most stressful problem reported as a reference for the rest of the questionnaire. Participants were then asked to indicate on a 4-point Likert scale (1 = *not at all* to 4 = *a lot*) how much they used a variety of strategies (described below) to cope with that particular problem.

This study utilized the disengagement and engagement coping subscales of the RSQ. The disengagement coping subscale assesses avoidance (e.g., 'I try not to think about it, to forget all about it.'), denial (e.g., 'When I am around other people I act like the problems related to the stigma of HIV/AIDS never happened.'), and wishful thinking (e.g., 'I deal with the problems related to the stigma of HIV/AIDS by wishing they would just go away, that everything would work itself out.') coping strategies.

The engagement coping subscale assesses coping strategies consistent with problem solving ('I try to think of different ways to deal with problems related to the stigma of HIV/AIDS.'), emotion regulation ('I keep my feelings under control when I have to, then let them out when they won't make things worse.'), emotional expression ('I let my feelings out.'), positive thinking ('I tell myself that I can get through this that I will be okay.'), cognitive restructuring ('I tell myself that things could be worse.'), acceptance ('I decide I'm okay the way I am, even though I'm not perfect.'), and distraction ('I imagine something really fun or exciting happening in my life.'). All items are coded so that higher scores indicate using disengagement or engagement coping strategies more often. The disengagement and engagement coping subscales demonstrated good internal consistency in the current study (Cronbach's $\alpha = 0.79$ and 0.84 , respectively).

HIV Stigma Scale—HIV/AIDS-related stigma was measured using a modification (Bunn et al., 2007) of the HIV Stigma Scale (Berger et al., 2001) which is composed of 32 items asking about the participants' perception of stigma in four areas: enacted stigma, disclosure concerns, negative self-image, and concern with public attitudes. The scale also yields an overall stigma score. The enacted stigma subscale is composed of 11 items and measures perceptions about actual experiences of stereotyping, discrimination or rejection due to others' knowledge of the respondent's HIV status (e.g., 'Some people who know that I have HIV/AIDS have grown more distant.'). The disclosure concerns subscale contains eight items and measures perceptions about anticipated or expected negative consequences that

might result if others knew the respondent's HIV status (e.g., 'Telling someone I have HIV/AIDS is risky.'). The negative self-image subscale is composed of seven items that address the expression of guilt, shame, and feelings of insufficiency due to having HIV (e.g., 'Having HIV/AIDS makes me feel that I'm a bad person.'). The concern with public attitudes subscale contains six items and measures perceptions of what others think about people with HIV (e.g., 'Most people believe a person who has HIV/AIDS is dirty.'). Responses ranged from 1 (strongly disagree) to 4 (strongly agree). Scores on the individual subscales were computed by taking the mean of the responses for each item, with higher scores indicating a greater perception of stigma. The overall total stigma score and individual subscales evidenced good internal consistency in the current study (Cronbach's alpha: total score = 0.95, enacted stigma = 0.95, disclosure concerns = 0.89, negative self-image = 0.93, concern with public attitudes = 0.89).

Data Analytic Strategy

We used hierarchical regressions to examine the correlates of the four subscales of the HIV Stigma Scale: disclosure concerns, concern with public attitudes, negative self-image, and enacted stigma. The main effects for a variety of demographic variables (i.e., age, educational attainment, employment status, CD4 T-cell count and time since HIV diagnosis) were entered at step 1. We controlled for self-esteem, a theoretically relevant psychological variable (Berger et al., 2001; Bunn et al., 2007) and two relevant coping styles regarding HIV/AIDS-related stigma (disengagement and engagement coping; Varni et al., 2009) at step 2. At step 3 a dichotomous variable (0, 1) for participant sexual orientation was entered, with 1 indicating a heterosexual orientation. This model examined the relationship between sexual orientation and HIV/AIDS stigma after controlling for the variables entered at steps 1 and 2.

Results

Zero-Order Correlations among Theoretically-Relevant Variables

Means, standard deviations, and correlations among predictor and criterion variables are reported in Table 1. Disclosure concerns, concern with public attitudes, negative self-image, and enacted stigma were all inversely related to age (range of observed r 's: $-.19 - .41$; see Table 1). Disclosure concerns was the only stigma subscale related to employment status ($r = -.29, p < .01$), indicating that being employed (rather than unemployed) was related to greater disclosure concerns. Negative self-image was the only stigma subscale related to time since HIV diagnosis ($r = -.25, p < .01$). All of the stigma subscales were inversely related to self-esteem (range of observed r 's: $-.26 - .57$) and positively related to disengagement coping with HIV/AIDS-related stigma (range of observed r 's: $.38 - .53$; see Table 1). Disclosure concerns and negative self-image were the only stigma subscales related to engagement coping ($r = -.26$ and $-.24$, respectively).

Hierarchical Regression Analyses

Table 2 provides a summary of the hierarchical regression analyses. For disclosure concerns, predictor variables entered at step 1 accounted for a significant portion of variance ($\Delta R^2 = .17, p < .01$). Employment status was the only significant contributor at this step ($\beta = -.29, p < .01$), indicating that being employed (rather than unemployed) was related to greater disclosure concerns. Variables entered at step 2 significantly accounted for an additional 17% of the variance ($p < .01$), with disengagement and engagement coping with stigma making significant contributions ($\beta = .30, p < .01$ and $\beta = -.27, p < .01$, respectively). Consistent with prediction, in step 3 sexual orientation accounted for an additional 7% of the variance ($\beta = .26, p < .01$) in disclosure concerns, such that heterosexual men with HIV/

AIDS had greater disclosure concerns ($M = 24.36$, $SD = 4.88$) than did gay men with HIV/AIDS ($M = 21.76$, $SD = 5.59$).

For concern with public attitudes, although predictor variables entered as a whole in step 1 did not account for a significant portion of variance ($\Delta R^2 = .10$, $p = .08$), age, did stand out as a significant predictor ($\beta = -.26$, $p < .01$). At step 2, predictor variables accounted for a significant additional portion of variance ($\Delta R^2 = .19$, $p < .001$), with disengagement coping with stigma being the only significant contributor ($\beta = .37$, $p < .01$). Contrary to expectation, sexual orientation was not a significant predictor ($\Delta R^2 = .01$, $p = .22$) of concern with public attitudes.

For negative self-image, predictor variables at step 1 accounted for 19% of the variance ($p = .001$), with age as the only significant contributor ($\beta = -.36$, $p < .001$). Variables entered at step 2 accounted for an additional 26% of the variance ($p < .001$), with self-esteem ($\beta = -.26$, $p < .05$) and disengagement and engagement coping with stigma ($\beta = .32$, $p < .01$ and $\beta = -.18$, $p < .05$, respectively) making significant contributions. As predicted, the addition of the sexual orientation variable at step 2 did not account for a significant portion of additional variance ($\Delta R^2 = .02$, $p = .08$).

For enacted stigma, predictor variables together at step 1 did not account for a significant amount of the variance ($\Delta R^2 = .08$, $p = .15$). At step 2, predictor variables significantly accounted for an additional 18% of the variance, with the only significant contributor being disengagement coping with stigma ($\beta = .39$, $p = .001$). Consistent with prediction, the addition of the sexual orientation variable at step 2 did not account for additional variance ($\Delta R^2 = .00$, $p = .92$).

Discussion

Although HIV/AIDS is a stigmatizing disease (Herek, 1999; Herek, Capitanio, & Widaman, 2002) that is associated with being gay and with anti-homosexual attitudes (Herek & Capitanio, 1999; Pryor, Reeder, Landau, 1999; Herek & Glunt, 1988; Pryor et al., 1989; Pryor & Reeder, 1993), little is known about how gay and heterosexual men with HIV/AIDS comparatively perceive HIV/AIDS-related stigma. The present investigation served as a first-step in examining sexual orientation as a social vulnerability for experiencing HIV/AIDS-related stigma for gay and heterosexual men with this illness.

Consistent with prediction, heterosexual men with HIV/AIDS reported greater HIV/AIDS disclosure concerns than their gay counterparts. This relationship occurred after controlling for the association with demographic variables (e.g., age, education, and employment status), HIV/AIDS severity markers (e.g., CD4 T-cell count, and time since HIV diagnosis), self-esteem, and coping styles regarding HIV/AIDS-related stigma. This finding indicates that heterosexual men with HIV/AIDS may have more fears and concerns regarding disclosing their HIV status than gay men with HIV/AIDS. Although coping styles specifically in regard to HIV/AIDS-related stigma were controlled for, one plausible explanation for this finding is that gay men may have already experienced and learned how to cope with revealing a stigmatized status (i.e., being gay), and therefore may not be as concerned as heterosexual men are about disclosing their HIV/AIDS status. This explanation is consistent with theorizing which suggests that coping with stigma is a skill that stigmatized people develop as they deal with the negative reactions that other people have to them (Miller & Myers, 1998; Miller & Major, 2000; Miller, Rothblum, Brand, Felicio, & Brand, 1995). When gay men develop HIV/AIDS, they may already have developed skills for coping with the stigma of being gay, which they may be able to adapt to coping with the additional stigma of HIV/AIDS. In contrast, heterosexual men, especially White

heterosexual men who predominate in the current sample, may have relatively little experience with being stigmatized. They therefore may have fewer coping resources to draw on to deal with the stigma they experience due to HIV/AIDS.

In addition, in the U.S., HIV/AIDS historically has been more prevalent among gay men than the general population, and although the face of the disease is changing, the public still associates HIV/AIDS with gay men. Consequently, having HIV/AIDS and being heterosexual may be perceived as surprising by other people, making it uncomfortable for heterosexual men to disclose that they have HIV/AIDS. Moreover, homophobia or negative attitudes towards gays and lesbians may also play a role in heightened disclosure concerns for heterosexual men with this illness, especially if these heterosexual men themselves perceive or possess these attitudes. Here, future work is warranted to examine how the perception and possession of negative attitudes towards gays and lesbians may contribute to the experience of HIV/AIDS-related stigma for heterosexual men with HIV/AIDS.

HIV/AIDS disclosure in general is a complex and difficult process for people with HIV/AIDS. Depending on the characteristics and reactions of people to whom serostatus is disclosed, there may be increases or decreases in social support, mental health symptoms, and behaviors that risk the transmission of the virus (e.g., unprotected sex; Lam, Naar-King, & Wright, 2007; Korner, 2007; Buseh & Stevens, 2006; Bairan et al., 2006; Kalichman, DiMarco, Austin, Luke, & DiFonzo, 2003; Klitzman et al., 2007). Disclosure also plays an important role in adopting or failing to adopt safer sex practices. Given the rise in heterosexually-transmitted HIV diagnoses among women in the U.S., particularly racial/ethnic minority women (Espinoza et al., 2007; CDC, 2007b), disclosure of HIV status by infected heterosexual men is critical and vital for preventing the spread of HIV among female sexual partners. In order to enhance and support HIV/AIDS disclosure, especially to sexual partners of heterosexual men with HIV/AIDS, it may be particularly important to address concerns about disclosure.

Contrary to prediction, heterosexual and gay men with HIV/AIDS did not differ on concern with public attitudes. One explanation for this finding is that both gay and heterosexual men with HIV/AIDS may be equally concerned about how others view people with HIV/AIDS as a group, rather than specific concerns about how people view them as individuals with HIV/AIDS. This explanation is consistent with research across a variety of stigmas that suggest that members of stigmatized groups agree that their *group* is highly stigmatized and discriminated against, but that these persons do not report experiencing high levels of stigma targeting themselves as individuals (Hodson & Esses, 2002; Taylor, Wright, Moghaddam, & Lalonde, 1990). Alternatively, it may be that the experience that gay men have in coping with the stigma of being gay is useful in making the disclosure of their HIV status less of a concern, but gives them no special advantage when it comes to public attitudes about people with HIV/AIDS. Perhaps this is because an important element of negativity toward people with HIV/AIDS is fueled by anti-gay attitudes.

Also as expected, gay and heterosexual men with HIV/AIDS did not differ on reported enacted stigma, but contrary to expectation, heterosexual men did tend to report greater levels of negative self-image due to having HIV/AIDS than gay men with this illness. These findings suggest that experiencing acts of discrimination and rejection due to having HIV/AIDS is not related to sexual orientation but that heterosexual men with HIV/AIDS may be more likely to harbor negative cognitions about them because they have HIV/AIDS than gay men with this illness. As mentioned above, stigmatized people in general are far less likely to report personal individual experiences with discrimination and unfair treatment than they are to report that their group as a whole is treated unfairly. Because other people may behave similarly to someone with HIV/AIDS, regardless of his sexual orientation, experiences of

enacted stigma may be similar for heterosexual and gay men with HIV/AIDS. However, heterosexual men with HIV/AIDS may be more likely to internalize negative attributes related to HIV/AIDS, possibly as a result of associative gay-related stigma due to the common association between being gay and HIV/AIDS.

The results from the current study also expand research on stigma by association to include the possibility that for some stigmas, such as HIV/AIDS-related stigma, assumptions may be made about the individuals' membership in a stigmatized group to which they do not actually belong. Individuals with a devalued attribute (e.g. HIV/AIDS) may anticipate stigma based on the perception that other people may associate them with a stereotyped group (e.g., gay men) to which they do not belong. However, more work is needed to address whether the disclosure concerns of heterosexual men, as well as negative self-perceptions related to having HIV/AIDS are indeed specific to fears that others will perceive them as being gay.

Since we did not ask participants if they thought that others would suspect or perceive that they were gay because of having HIV/AIDS, we cannot be certain that the fear of being perceived as gay explains why heterosexual men had more disclosure concerns than gay men did. A competing hypothesis may be that disclosure concerns arose from participants' fears about being labeled as an injection drug user; another group associated with having HIV/AIDS (CDC, 2007a). However, fears of being labeled as an injection drug user may not necessarily be able to explain why heterosexual and homosexual men differed in disclosure concerns. Future work should therefore examine variables that may serve to mediate or explain the relationship between sexual orientation and disclosure concerns, such as measurements of homophobia or negative attitudes towards gays and lesbians. In addition, in building upon this line of inquiry and work examining HIV/AIDS-related stigma in general, future work may consider how individuals with HIV/AIDS belonging to other minority groups (e.g., African American men and women), groups stereo-typed as having HIV/AIDS (e.g., injection drug users), and groups with multiple stigmatizing attributes (e.g., African American and injection drug user) experience the stigma related to HIV/AIDS.

Another limitation of the present study is that although the ethnic diversity of the present sample was quite similar to the ethnic diversity of people with HIV/AIDS in Vermont (19%), where most of the participants resided, the sample is less ethnically diverse than is the national population of people with HIV/AIDS. Generalizability also is somewhat limited by the relatively small number of heterosexual men who participated in this study. It therefore would be useful in future research to obtain a larger and more ethnically diverse sample with similar numbers of gay and heterosexual men with HIV/AIDS. In addition, future work would benefit from more information about the extent to which participants had actually disclosed their serostatus.

Nonetheless, the current investigation suggests that disclosure of HIV/AIDS status may be more complex for heterosexual men with HIV/AIDS than for gay men with the illness. Further investigation of the predictors and consequences of the disclosure process for heterosexual men with HIV/AIDS is needed in order to facilitate healthy and safe disclosure.

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Table 1
Descriptive Data and Zero-order Relations Between Predictor and Criterion Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	M	SD
<i>Predictor Variables</i>														
1 Age ¹	---	.08	-.02	.03	.13	.38**	-.24**	.07	-.23*	-.29**	-.41**	-.19*	44.30	8.09
2 Education ²		---	-.20*	.16	.08	.01	-.20*	-.04	-.10	-.13	-.02	-.12		
3 Employment ³			---	-.26**	-.00	.05	-.03	.13	-.29**	-.06	-.10	-.07		
4 CD4 T-cell count ⁴				---	.07	.08	-.11	.02	.18	.02	-.08	.08	427.17	305.33
5 Time since HIV diagnosis ⁵					---	.13	-.16	.12	-.13	-.07	-.25**	.11	12.59	6.68
6 Self-esteem ⁶						---	-.59**	.13	-.26**	-.39**	-.57**	-.33**	3.06	.57
7 Disengagement Coping ⁷							---	.04	.38**	.47**	.53**	.41**	2.17	.66
8 Engagement Coping ⁷								---	-.26**	-.09	-.24**	-.03	2.64	.50
<i>Criterion Variables</i>														
9 Disclosure Concerns ⁸										.48**	.48**	.25**	22.55	5.50
10 Concern with Public Attitudes ⁸										---	.52**	.62**	15.13	3.50
11 Negative Self-Image ⁸											---	.40**	14.79	5.61
12 Enacted Stigma ⁸												---	25.47	8.21

Note:

* = $p < .05$,

** = $p < .01$;

¹ Age in years;

² Education coded 1= no school, 2= primary/elementary school, 3= middle school, 4= high school, 5= college/technical school, 6= graduate/professional school;

³ Employment coded 1= employed, 2= unemployed;

⁴ CD4 T-cell count self-reported;

⁵ Time since diagnosis in years (date of participation – date of HIV diagnosis);

⁶ RSE total score (Rosenberg, 1965);

- ⁷ RSQ subscale (Connor-Smith et al., 2000);
- ⁸ HIV Stigma sub-scale (Berger et al., 2004; Bunn et al, 2007).

Table 2

Predictors of Perceived HIV Stigma

	ΔR^2	t	β	sr^2	p
<i>Dependent variable: Disclosure Concerns¹</i>					
Step 1	.17				<.01
Age ²		-1.89	-.18	.04	.06
Education ³		-1.87	-.18	.04	.06
Employment ⁴		-2.91	-.29	.08	<.01
CD4 T-cell count ⁵		1.38	.13	.02	.17
Time since HIV diagnosis ⁶		-1.26	-.12	.02	.21
Step 2	.15				<.001
Self-esteem ⁷		-1.18	-.02	.00	.86
Disengagement Coping with Stigma ⁸		2.73	.30	.07	<.01
Engagement Coping with Stigma ⁸		-3.10	-.27	.09	<.01
Step 3	.07				.001
Sexual Orientation ⁸		3.31	.28	.11	.001
<i>Dependent variable: Concern with Public Attitudes¹</i>					
Step 1	.10				.08
Age		-2.65	-.26	.07	<.01
Education		-1.52	-.15	.02	.13
Employment		-.46	-.05	.00	.64
CD4 T-cell count		.14	.01	.00	.89
Time since HIV diagnosis		-.27	-.03	.00	.79
Step 2	.19				<.001
Self-esteem		-.98	-.12	.01	.33
Disengagement Coping with Stigma		3.26	.37	.10	<.01
Engagement Coping with Stigma		-1.42	-.13	.02	.16
Step 3	.01				.22
Sexual Orientation		1.24	.11	.02	.22

<i>Dependent variable: Negative Self-image¹</i>					
	ΔR^2	<i>t</i>	β	sr^2	<i>p</i>
Step 1	.19				.001
Age		-3.88	-.36	.14	< .001
Education		.36	.04	.00	.72
Employment		-.89	-.09	.01	.38
CD4 T-cell count		-.96	-.09	.01	.34
Time since HIV diagnosis		-1.66	-.16	.03	.10
Step 2	.26				< .001
Self-esteem		-2.47	-.26	.06	< .05
Disengagement Coping with Stigma		3.16	.32	.10	< .01
Engagement Coping with Stigma		-2.19	-.18	.05	< .05
Step 3	.02				.08
Sexual Orientation		1.80	.14	.03	.08
<i>Dependent variable: Enacted Stigma¹</i>					
Step 1	.08				.15
Age		-2.17	-.22	.05	< .05
Education		-1.35	-.14	.02	.18
Employment		-.27	-.03	.00	.79
CD4 T-cell count		.98	.10	.01	.33
Time since HIV diagnosis		1.42	.14	.02	.16
Step 2	.18				< .001
Self-esteem		-.75	-.09	.01	.46
Disengagement Coping with Stigma		3.35	.39	.11	.001
Engagement Coping with Stigma		-.79	-.07	.01	.43
Step 3	.00				.92
Sexual Orientation		-.11	-.01	.00	.92

Note: β = standardized beta weights.

¹ HIV Stigma sub-scale (Berger et al., 2004; Bunn et al. 2007);

² Age in years;

³ Education coded 1= no school, 2= primary/elementary school, 3= middle school, 4= high school, 5= college/technical school, 6= graduate/professional school;

- ⁴Employment coded 1 = employed, 2 = unemployed;
- ⁵CD4 T-cell count self-reported;
- ⁶Time since diagnosis in years (date of participation – date of HIV diagnosis);
- ⁷RSE total score (Rosenberg, 1965);
- ⁸RSQ subscale (Connor-Smith et al., 2000);
- ⁹Sexual Orientation coded as 0 = gay, 1 = heterosexual