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Sexual minority status and trauma symptom severity in men living with HIV/AIDS

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Abstract Traumatic experiences are common among populations living with HIV; furthermore, the minority stress model indicates that sexual minority group members, such as men who have sex with men (MSM), are more likely to experience negative psychological outcomes after exposure to trauma, given the stress of minority stigma. The current study examined the prevalence of traumatic events and the impact of these events on trauma symptoms in a sample of 113 MSM and 51 men who have sex with women (MSW) who are living with HIV/AIDS. Rates of experiencing trauma were similar for both MSM and MSW. However, MSM, as sexual minority group members, were more likely to report symptoms of trauma and dissociation than MSW. The current study indicates that MSM may experience additional negative psychological outcomes after exposure to trauma. Findings are discussed in the context of implications for HIV prevention with sexual minority group members.

Keywords Sexual minority · Minority stress · Trauma · Dissociation · PTSD · HIV/AIDS

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Introduction

Traumatic experiences are common among people living with HIV, with some studies estimating that over 70% of individuals with HIV will experience two or more traumatic events in their lifetimes (Leserman et al. 2005). It is unsurprising, given these high rates of trauma, that HIV-positive populations also experience higher rates of post-traumatic stress disorder (PTSD) than the general population (Gore-Felton et al. 2001; Gore-Felton and Koopman 2002). Few studies have attempted, however, to identify sociodemographic subgroups within the larger HIV-positive population that might be at increased risk for developing PTSD.

HIV disproportionately affects sexual minority populations, specifically men who have sex with men (MSM). An estimated 48.1% of the 1.1 million adults and adolescents living with HIV in the United States are MSM (CDC 2008), while 53% of the 56,300 new cases of HIV were diagnosed among MSM (CDC 2010). The term "sexual minority" is used here as a broad descriptive category, defined by same-sex sexual behavior but most likely encompassing complex and idiographic constellations of sexual identity (e.g., gay, lesbian, bisexual) and attraction. The terms sexual minority and sexual minority status were chosen to highlight that same-sex sexual behavior and attraction are considered to occur less frequently than heterosexual behavior and attraction. Further, sexual minority status may predispose individuals to experience sexuality-related discrimination. Given the high prevalence of HIV among sexual minority men, it is important that HIV prevention research examine factors that might affect this population's medical and psychosocial functioning.

A growing body of literature has examined the mental health correlates of sexual minority status (e.g., Cochran

and Mays 2001; Cochran et al. 2003). Studies of sexual minority group members have indicated consistently higher reported rates of psychiatric morbidity in those endorsing either lesbian, gay, or bisexual sexual identities or same-sex sexual behavior when compared with their heterosexual counterparts. To explain these higher rates, Meyer (1995, 2003) has proposed a model of minority stress, positing that the additional psychological burden imposed on sexual minority individuals by sexuality-related stigma and discrimination predisposes them to develop mood, anxiety, and substance use disorders. While some studies of minority stress have cited exposure to sexuality-based prejudice and internalization of homophobic or heterosexist beliefs as the mechanism of action leading to these increased rates of psychopathology (e.g., Zamboni and Crawford 2007), other models have examined psychological mediators that may increase the vulnerability of sexual minority populations to negative outcomes following discrimination (for a review, see Hatzenbuehler 2009). Both sets of models imply that, regardless of exact mechanism of action, individuals endorsing sexual minority status are more likely to report symptoms of psychological distress, though since the publication of the DSM-III in 1980, same-sex sexual behavior itself has no longer been identified as pathological (American Psychiatric Association [DSM III] 1980).

In addition to higher rates of psychological distress, sexual minority group members are also more prone to experience certain forms of trauma than heterosexual individuals, including physical, verbal, and sexual abuse by family members (D'Augelli and Grossman 2001), as well as discrimination from peer groups and co-workers after their sexual identities are revealed (D'Augelli et al. 2006; Smith and Ingram 2004). Furthermore, the minority stress model implies that these individuals may experience more negative outcomes post-trauma than their heterosexual peers, resulting from the additive distress engendered by sexual minority status and stressful environmental events (Meyer 2003).

Although few studies have examined the differential impact of traumatic events on sexual minority individuals versus heterosexual individuals, several studies have focused on response to trauma among sexual minority populations. For example, one study showed that internalized homophobia was a stronger predictor of trauma-related symptoms than assault severity in gay-identified men who have survived sexual assault (Gold et al. 2007). Other studies have indicated that hate crimes and assaults related to sexual minority status lead to PTSD at higher rates than similarly violent crimes not linked to sexual minority status (Zhankun 2004). These results indicate that processes unique to gay-identified men and to sexual minority group members more broadly may lead to higher rates of PTSD in this population following a traumatic experience. Further, dissociation encompasses a prominent but rarely assessed set of symptoms in populations exposed to traumatic events. Previous research has indicated higher rates of dissociation in racially and culturally marginalized populations, indicating that processes related to minority status may increase dissociative reactivity to acute and traumatic stress (Douglas 2009).

To date no studies have examined the interface of trauma and sexual minority status in the development of PTSD among individuals living with HIV. The current study sought to examine the prevalence of traumatic events and the impact of these events on trauma symptoms in a sample of men who have sex with men (MSM) and men who have sex with women (MSW) who are living with HIV/AIDS. Given the high rates of trauma observed among men living with HIV (Whetten et al. 2008), we hypothesized that types and rates of trauma experienced would be equivalent and high across samples of MSM and MSW. However, we further hypothesized that HIV-positive men who endorsed same-sex sexual partners would have more negative psychological consequences following exposure to trauma than those who endorsed only opposite-sex partners. We expected to observe this effect for both symptoms of trauma and dissociation, and hypothesized that the effect would be retained even after controlling for demographic characteristics.

Methods

Participants

Approval was obtained from Stanford University's institutional review board to conduct the current study and all participants provided informed consent regarding collection, maintenance, and use of data they provided. Participants consisted of 113 seropositive MSM and 51 seropositive MSW living in the San Francisco Bay Area (total $N = 164$). Participants were recruited as part of a larger study examining a group intervention for individuals with HIV and symptoms of trauma. Criteria for inclusion in the study were: (1) age 18 or older, (2) documentation of an HIV diagnosis, (3) endorsement of recent (i.e., in the last 3 months) sexual activity, (4) evidence, as assessed by self-report, of psychological and behavioral functioning that would permit participation in the intervention groups and (5) report of experiencing at least one hallmark symptom of PTSD (i.e., avoidance, re-experiencing, or hypersarousal). This study had a cross-sectional design and examined data from baseline questionnaires collected before participants were randomized to intervention groups. A total of 167 participants initially presented for a baseline assessment; of

these, 3 participants were excluded from the current sample for providing incomplete data. Participants were paid $25 for attending the baseline assessment.

Measures

Self-report questionnaires were administered via audio computer-assisted self-interview (ACASI) technology. Items were presented to all subjects in the same order. Measures included a questionnaire assessing demographic characteristics and medical status. Participants were asked to report their age at the time of the interview and the years of education they had completed, as well as their race/ethnicity, employment status, and yearly income using a categorical set of responses.

Trauma symptoms were assessed with the Impact of Events Scale-Revised (IES-R; Weiss et al. 1995), a psychometrically valid and reliable 22 item measure that incorporates three subscales of Avoidance, Intrusion, and Hyperarousal symptoms. As previous factor analysis indicated a single factor structure for the measure (Creamer et al. 2003), the three subscales were summed for the current study to create a total score. Items ask participants to rate their distress related to specific symptoms of trauma on a 0 (none) to 4 (extremely) scale. Previous studies have shown that the IES-R can be used as a screening instrument; for this purpose, a clinical cutoff score of 33 appears to provide the best balance of specificity and sensitivity in identifying those who would likely meet diagnostic criteria for PTSD (Creamer et al. 2003). In the current study, the IES-R demonstrated adequate reliability ($\alpha = .94$).

To calculate dissociation symptoms, we used the Dissociation subscale of the Stanford Acute Stress Response Questionnaire (SASRQ; Cardeña et al. 2000). This questionnaire has been normed with populations exposed to a variety of stressful events and the 10 item Dissociation subscale has demonstrated psychometric validity and reliability in each case (Cardeña and Gleaves 2003). Items measure specific dissociative symptoms of numbness, lack of awareness of surroundings, derealization, depersonalization, and amnesia, and ask participants to rate the amount they experienced each symptom on a 0 (low) to 5 (high) scale. An example item is "I felt distant from my own emotions." The Dissociation subscale can provide a total score, ranging from 0 to 50, as well as the dichotomous presence (ratings of 3 and higher) or absence (lower than 3) of specific dissociative symptoms; the dichotomous ratings were used descriptively in this study, while the total score was used as a dependent variable in one hierarchical regression equation. In the current study, the SASRQ-Dissociation subscale demonstrated adequate reliability ($\alpha = .90$).

We assessed prevalence of traumatic experiences in the current sample using the Trauma History Questionnaire (THQ; Green 1996), which asks participants to endorse the types of traumatic events they have experienced and the ages at which the events occurred. The scale assesses 24 different types of trauma ranging from hearing news of a loved one's death to being sexually assaulted. For the current study, following the recommendation of Green (1996), we looked at specific types of trauma experienced and also summed the total number of types of traumatic events that participants had experienced as a proxy for general trauma history. This trauma history scale, which ranged from 0 to 24 types of traumatic events experienced, demonstrated adequate reliability in the current study ($\alpha = .83$).

Sexual minority status was assessed via a Sexual Risk Behavior Assessment Schedule (SERBAS) that has been used in previous studies of sexual and injection drug risk behavior (Weinhardt et al. 2004). This measure asks participants to report on sexual behavior over the last 3 months in general and over the last five partners specifically. A participant was categorized as a "man who has sex with men" (MSM) if he endorsed having had sex with a male partner over the past 3 months. A participant was categorized as a "man who has sex with women" (MSW) if he endorsed having sex with a female partner over the last 3 months and denied having sex with male partners over the last 3 months. This dichotomization of sexual minority status thus captured MSM who might not identify as gay or who might have sexual encounters with both male and female partners.

Data analysis

To examine differences between MSM and MSW, we first conducted chi square tests and independent samples *t*-tests to compare group means on demographic characteristics, types of trauma experienced and report of trauma symptoms. Next we constructed two hierarchical regression equations to test the hypothesized role of sexual minority status in the association between types of trauma experienced and endorsement of trauma and dissociative symptoms. The dependent variables in these models were the total score on the IES-R and the score on the dissociation subscale of the SASRQ. Covariates were entered in three blocks, following procedures outlined in Aiken and West (1991): first, demographic variables were entered into block one to control for variance in trauma and dissociative symptoms due to age, entered as a continuous variable; years of education, entered as a continuous variable; race, dichotomized as White/Caucasian or non-White/Caucasian; and income, dichotomized as having made less than $20,000 in the past year or more than $20,000 in the past

Table 1 Descriptive statistics for demographic variables and scales assessing traumatic experiences and trauma symptoms ($N = 164$)

Demographic variable	Whole sample ($N = 164$)	MSM ($N = 113$)	MSW ($N = 51$)
Race/ethnicity			
Caucasian	62 (37.8%)	44 (38.9%)	18 (35.3%)
African-American	49 (29.9%)	29 (25.7%)	20 (39.3%)
Hispanic/latino	38 (23.2%)	29 (25.7%)	9 (17.6%)
Asian/Asian-American	5 (3.0%)	4 (3.5%)	1 (2%)
Other	10 (6.1%)	7 (6.2%)	3 (5.9%)
Years of education			
8–12	62 (37.8%)	44 (38.9%)	18 (35.3%)
13–16	95 (57.9%)	63 (55.8%)	32 (62.7%)
>16	7 (4.3%)	6 (5.3%)	1 (2.0%)
Income			
Less than $20,000/year	117 (71.4%)	79 (69.9%)	38 (74.5%)
More than $20,000/year	47 (28.6%)	44 (30.1%)	13 (25.5%)
	Whole sample M (SD)	MSM M (SD)	MSW M (SD)
Age	45.16 (7.51)	45.16 (7.67)	45.16 (7.37)
Trauma history (THQ)	7.93 (4.72)	8.06 (4.18)	7.87 (4.97)
Trauma symptoms (IES-R)	35.30 (18.91)	37.72 (18.45)	29.96 (19.00)
Dissociation (SASRQ Dissociation subscale)	17.61 (12.25)	19.44 (11.84)	13.55 (12.29)

year. The latter two variables were dichotomized in this fashion based on the techniques used in previous HIV prevention research (e.g., Sikkema et al. 2009). Next, scores for trauma history were entered in block two, along with dichotomous variables representing any specific types of trauma that differed in rates of endorsement between MSM and MSW. This was done to capture variance in symptoms of trauma and dissociation due to the impact of particular types of trauma. The dichotomous sexual minority status variable was entered in block three to examine contribution of sexual minority status over and above trauma history. All statistical analyses were performed using SPSS 17.0.

Results

Participant characteristics

The mean age for the sample was 45.2 (range 23–67; standard deviation 7.51). Overall, 37.8% of study participants identified as Caucasian ($N = 62$), 29.9% as African American ($N = 49$), 23.0% as Hispanic ($N = 38$), 3.0% as Asian ($N = 5$) and 6.1% as another racial category ($N = 10$). Over one quarter (28.0%) reported a high school diploma or the equivalent, while another quarter (25.6%) reported obtaining a college degree. More than two-thirds (71.4%) reported an income of less than $20,000 per year. Chi-square tests revealed no significant differences between MSM and MSW in any of the demographic variables. See Table 1 for demographic characteristics of the current sample, as well as descriptive statistics for variables of interest.

Trauma and trauma symptoms

In terms of trauma history, rates of experiencing trauma were high across the sample as a whole, with a mean score of 7.93 on the trauma history scale. This score indicated that, on average, each participant had experienced over seven different types of trauma in his lifetime. In addition, 92.1% ($N = 151$) of participants reported experiencing two or more types of traumatic events in their lifetimes. The most commonly reported types of trauma included: being the victim of robbery or attempted robbery, reported by 76.2% of the sample ($N = 125$); receiving news of a loved one's illness or death, reported by 65.9% of the sample ($N = 108$); and being in a serious accident, reported by 54.9% of the sample ($N = 90$). Looking across subsamples, MSM and MSW were not significantly different in terms of reported number of traumatic experiences ($M = 7.87$ and 8.06, respectively; $t = .24$, n.s.). Chi-square analyses were used to examine differences between the subsamples in rates of reporting specific types of

Table 2 Summary of hierarchical regression analyses for trauma and sexual minority status predicting trauma symptoms ($N = 164$)

Variable	Trauma symptoms		
	β Step 1	β Step 2	β Step 3
Step 1: $R^2 = .05$			
Age	−.07	−.06	−.06
Education	.01	−.02	−.03
Income (Less/More than $20,000)	−.11	−.06	−.08
Race (White/Non-White)	.17*	.18*	.18*
Step 2: $\Delta R^2 = .08$**			
Trauma history (THQ)		.31**	.34**
Bereavement		−.04	−.10
Step 3: $\Delta R^2 = .04$**			
Sexual minority status			.21**

Final $R^2 = .17$; *$P < .05$; **$P < .01$

trauma. MSM were significantly more likely to report having experienced the death of a spouse/partner/child ($\chi^2 = 5.14$, $P = .02$) but no more likely to report experiencing any other specific type of traumatic event. Because experiencing the death of a spouse/partner/child, referred to hereafter as bereavement, differed significantly between MSM and MSW, a dichotomous variable representing having experienced bereavement was added to Step 2 of the hierarchical regression equation predicting trauma and dissociative symptoms.

Traumatic symptoms were also high across the sample as a whole. The mean IES-R score for the sample was 35.23, which falls above the recommended clinical cutoff of 33 and indicates that, on average, participants in this study would likely meet diagnostic criteria for PTSD. In fact, 56.1% ($N = 92$) of participants scored above the clinical cutoff on the IES-R. Scores on the IES-R were higher among MSM ($M = 37.72$) than among MSW ($M = 29.96$; $t = -2.47$, $P = .02$). Further, while 47.1% ($N = 24$) of MSW scored above the clinical cutoff, 60.2% ($N = 68$) of MSM scored above the clinical cutoff on the IES-R. However, though more MSM would likely meet diagnostic criteria for PTSD than MSW, this difference in scoring above the clinical cutoff was not statistically significant between subsamples ($\chi^2 = 2.46$, $P = .08$).

Scores on the dissociation subscale of the SASRQ were also higher among MSM ($M = 19.44$) than among MSW ($M = 13.55$; $t = -2.92$, $P = .004$). In terms of specific symptoms, MSM were more likely than MSW to endorse the presence of symptoms of numbness (69.3 vs. 52.8%, respectively; $\chi^2 = 4.26$, $P < .05$), lack of awareness of surroundings (60.5 vs. 43.4%, respectively; $\chi^2 = 4.29$, $P < .05$), derealization (63.2 vs. 43.4%, respectively; $\chi^2 = 5.76$, $P < .05$), and depersonalization (53.5 vs. 32.1%, respectively; $\chi^2 = 6.68$, $P < .01$). There was no difference in presence of symptoms of amnesia (31.6 vs. 24.5%, respectively; $\chi^2 = .87$, $P > .05$).

Association of sexual minority status, trauma and trauma symptoms

Results of the hierarchical multiple regression are shown in Tables 2 and 3. In Step 1, neither the continuous demographic variables of age and education nor the dichotomous variable of income were significant predictors of variance in either trauma or dissociative symptoms. The dichotomous demographic variable of race, by contrast, was a significant predictor of variance in both trauma symptoms ($\beta = .17$, $P < .05$) and dissociation ($\beta = .21$, $P < .01$). However, variables in Step 1 did not predict a significant proportion of variance overall either in trauma symptoms ($R^2 = .04$, $P > .05$) or in dissociation ($R^2 = .06$, $P > .05$). In Step 2, trauma history was associated with rates of trauma symptoms ($\beta = .31$, $P < .001$) and dissociation ($\beta = .25$, $P < .01$). However, bereavement, or having experienced the death of a spouse/partner/child was not significantly associated with either trauma symptoms or dissociation. In Step 3, sexual minority status was associated with trauma symptoms, even controlling for demographic variables and types of traumatic events experienced ($\beta = .21$; $P < .01$); similarly, sexual minority status was associated with dissociation ($\beta = .25$; $P < .001$). After Step 3, the final regression models were significant both for trauma symptoms ($R^2 = .27$, $P < .05$) and for dissociation ($R^2 = .17$, $P < .05$).

Discussion

Regardless of status as MSM or MSW, experiences of trauma were highly prevalent among this sample of men living with HIV. Repeated exposure to trauma has been shown to result in more severe trauma symptoms and a higher likelihood of being diagnosed with PTSD (Breslau et al. 1999); in the current study, men who had experienced

Table 3 Summary of hierarchical regression analyses for trauma and sexual minority status predicting dissociation ($N = 164$)

Variable	Dissociation		
	β Step 1	β Step 2	β Step 3
Step 1: $R^2 = .06$			
Age	−.06	−.05	−.04
Education	−.01	−.03	−.04
Income (Less/More than $20,000)	−.11	−.08	−.11
Race (White/Non-White)	.21**	.22**	.22**
Step 2: $\Delta R^2 = .05$*			
Trauma history (THQ)		.25**	.29**
Bereavement		−.07	−.14
Step 3: $\Delta R^2 = .16$**			
Sexual minority status			.25**

Final $R^2 = .27$; *$P < .05$; **$P < .01$

more types of trauma were likely to report higher scores on a measure of traumatic symptoms. To the extent that PTSD has been shown to impact medication adherence rates (e.g., Meade et al. 2009), treatment utilization (e.g., O'Cleirigh et al. 2009), and disease progression (e.g., Sledjeski et al. 2005), it is important to attend to these high trauma symptom scores in individuals with HIV, particularly in the development and evolution of HIV prevention efforts.

The current study indicates that MSM may experience additional negative psychological outcomes as a result of exposure to trauma. While report of exposure to trauma was not significantly different between subsamples in the current study, MSM reported more symptoms of trauma than MSW. In fact, the mean score for MSM on the IES-R exceeded the recommended diagnostic cutoff for that measure, indicating that the average MSM participant in this study would likely meet diagnostic criteria for PTSD. Though the difference between MSM and MSW in dichotomous rates of diagnosis with PTSD was not significant, given the difference in mean scores of trauma symptoms it is likely that MSM with PTSD may experience more profound and more troubling symptoms. This implies that attending to continuous scores as well as dichotomized diagnoses on measures of trauma symptoms may provide additional information both clinically and in research. However, future studies including larger samples of MSW living with HIV should also examine diagnostic rates of PTSD, to observe whether any differences in diagnostic rates emerge between MSM and MSW in a more highly powered study.

The relationship between sexual minority status and trauma symptoms was also notable in the specific context of dissociation, with MSM significantly more likely to report specific symptoms of dissociation than MSW, as well as reporting higher overall scores on the Dissociation subscale of the SASRQ. This finding mirrors previous research, which has shown that marginalized populations tend to experience higher rates of dissociation than their majority counterparts (Douglas 2009). Rosenmann and Safir (2007) have also suggested that difficulties disclosing sexual minority status may lead some MSM to display dissociative characteristics. Additional research examining dissociation in sexual minority populations is warranted and would benefit from including specific measures of psychosocial variables unique to MSM, including measures of disclosure of sexual minority status.

The only type of trauma significantly more likely to be endorsed by MSM than by MSW was bereavement, or death of a spouse/partner/child. Specific details regarding the participant's relationship to the deceased were not collected. However, as the AIDS epidemic has disproportionately affected the gay and MSM communities (CDC 2010), many MSM do report having experienced the death of a loved one due to AIDS-related complications. While experience of the death of a spouse/partner/child was not itself related to trauma symptoms or to dissociation in the current study, previous studies have shown that psychological distress among MSM can be explained by a process unique to bereavement (Hatzenbuehler et al. 2008). Future studies should assess the process of bereavement, particularly bereavement due to HIV/AIDS, in the development of trauma symptoms in subpopulations of MSM and MSW living with HIV.

The findings reported in the current study illustrate the compounding effect of minority stress on sexual minority participants, as minority status predicted unique variance in both trauma symptoms and dissociation above and beyond exposure to trauma. The minority stress model has been used to explain many of the observed differences in rates of psychopathology between sexual minority and majority members (Meyer 2003). In the current study, the acute trauma of specific life events may have been magnified by the chronic proximal and distal processes contributing to level of minority stress. For example, a man unable to disclose his sexual minority status who then loses a male partner to HIV/AIDS might be unable to access support

from family and friends. Similarly, a man who is assaulted because of his sexual minority status might experience a more negative outcome than a man assaulted in the course of a robbery (Herek et al. 1999). Unfortunately, no measures of minority stress processes, such as internalized homophobia or experiences of discrimination, were included in the current study. Future studies should include such measures in order to parse the relative contribution of minority stress to the link between sexual minority status, traumatic experiences, and trauma symptoms in men with HIV. In addition, longitudinal studies are needed in this area to examine the long-term effects of minority stress as well as the impact of multiple forms of discrimination, such as racial or sexual minority stigma compounded with the stigma of HIV. These findings might be utilized by clinicians treating MSM with HIV and symptoms of trauma and in investigations of the role of dissociation in MSM and other sexual minority populations experiencing minority stress.

Interestingly, race, dichotomized to represent White/Caucasian versus non-White/Caucasian participants, was found to be a significant predictor of trauma symptoms in the current study. A post hoc *t*-test analysis revealed that White/Caucasian and non-White/Caucasian participants did not differ in terms of trauma history scores ($M = 8.43$ and 7.72, respectively; $t = .67$, $P > .05$), implying that racial minority status itself may have uniquely contributed to higher reported trauma scores. This result is consistent with the theoretical frame that minority status engenders chronic and pervasive stress for minority group members. The experience of traumatic events, in addition to this chronic minority stress, is likely to have greater impact and lead to greater endorsement of symptoms of trauma and dissociation among minority group members. This finding is also consistent with previous research showing that racial minority individuals exposed to discrimination report symptoms consistent with post-traumatic stress (Carter et al. 2005) and that racial minority status explains additional variance in trauma symptoms above and beyond trauma history (i.e., combat exposure for racial minority veterans; Loo et al. 2001). Finally, groups stigmatized due to their minority racial or ethnic status are more likely to endorse symptoms of dissociation than majority group members (Douglas 2009). Future studies should more specifically parse the contribution of race and sexual minority status to trauma symptoms in MSM living with HIV, as well as other diverse samples living with HIV where minority stress may be a factor in mental health functioning.

The findings of the current study are of interest to HIV prevention researchers for several reasons. First, trauma history has been associated with increased risk behavior in individuals living with HIV (Gore-Felton and Koopman 2002), and given that risk reduction is a goal of many HIV prevention programs, it is important to assess and account for trauma when designing such programs. The current study indicates that it might be particularly important to assess for both trauma history and trauma symptoms when designing an HIV prevention program targeting MSM, as MSM are likely to experience a greater number of trauma and dissociative symptoms than their MSW counterparts. This also has implications for intervention development that seeks to wed HIV prevention to mental health services, as incorporating treatments for PTSD may be particularly necessary in any attempt to disseminate mental health services to MSM living with HIV.

Findings from the current study should be interpreted in light of several limitations. First, the measures used relied on self-report and are vulnerable to the biases that accompany such methodology. The cross-sectional study design prevents any conclusion regarding temporal precedence or causality. This study unfortunately did not include a specific measure of minority stress processes, such as scales of disclosure of sexual minority status or of sexual minority identity development, and thus used endorsement of same-sex sexual activity as a proxy for minority status. The current study used a cutoff score on a continuous measure to identify participants who would be likely to meet diagnostic criteria for PTSD; future research including a clinician-administered scale to diagnose PTSD would permit conclusions regarding rates of PTSD as a diagnostic category among those living with HIV. Finally, the sample, recruited primarily from community clinics in San Francisco and the surrounding Bay Area, represents a specific subsection of the population of men diagnosed with HIV across the United States. This study should be replicated with additional samples, using a longitudinal methodology and questionnaires specifically assessing minority stress processes, to ensure that the findings are generalizable and valid. Given the significant but relatively small percentage of variance in trauma symptoms (27%) and dissociation (17%) predicted by the regression equations, future studies should also examine additional variables, such as social support or coping mechanisms, that might account for unique variance in response to trauma above and beyond minority stress and exposure to trauma.

In spite of these limitations, this is, to date, one of the first studies to investigate the interaction of sexual minority status, traumatic events, and trauma-related symptoms in a sample of men living with HIV. Our novel findings provide an initial assessment of factors that may differentiate rates of trauma symptoms among subsamples of individuals diagnosed with HIV. Future research should continue to examine the relationships between traumatic experiences, trauma symptoms, and sexual minority status in individuals with HIV, as mental health outcomes have implications for treatment and policy targeting this population.

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