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Racial Discrimination and Posttraumatic Stress Symptoms as Pathways to Sexual HIV Risk Behaviors Among Urban Black Heterosexual Men

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Abstract

In light of evidence that racial discrimination and posttraumatic stress symptoms (PTSS) are neither rare nor extraordinary for many Black urban men, we examined the relationship between everyday racial discrimination and sexual HIV risk behaviors in a predominantly low-income sample of 526 urban Black heterosexually-identified men; 64% of whom were unemployed and 55% of whom reported a history of incarceration. We tested the hypothesis that PTSS would mediate the relationship between everyday racial discrimination and sexual risk. Participants in the predominantly low-income urban sample ranged in age from 18 to 45 ($M = 28.80$, $SD = 7.57$). Three multiple regression models were used to test the study's mediational model. As hypothesized, PTSS mediated the relationship between everyday racial discrimination and sexual risk behaviors. Most participants (97%) reported experiences with everyday racial discrimination. Results empirically support the notion of racial discrimination-based traumatic stress as a pathway to Black heterosexual men's increased sexual risk behaviors. Results also highlighted key demographic differences with older men reporting fewer PTSS and sexual risk behaviors compared with younger men. Incarceration was related to both PTSS and sexual risk, underscoring the role that incarceration may play in Black heterosexual men's adverse health outcomes. Our study highlights the need for more qualitative and quantitative research to understand the nature of PTSS in Black heterosexual men and mechanisms such as substance use that may link traumatic experiences and sexual risk. Future research could also assess experiences with childhood sexual abuse, violence, and incarceration to gain a more in-depth understanding of the sources of traumatic stress in Black heterosexual men's lives. We advocate for the development of community-based individual and structural level interventions to help Black heterosexual men in

urban areas develop effective strategies to cope with racial discrimination-based traumatic stress to reduce sexual HIV risk behaviors in Black communities.

Keywords

Racial discrimination; sexual HIV risk behaviors; Black heterosexual men; posttraumatic stress symptoms

The toll of the HIV/AIDS epidemic in U.S. Black communities has been disastrous. Blacks represented just 12% of the population but nearly half (46%) of new HIV cases in 2011 (CDC, 2013). There is a generalized epidemic (i.e., HIV/AIDS prevalence > 1%) (UNAIDS, 2010) among heterosexuals in urban communities that are predominantly Black and disproportionately poor (Denning & DiNenno, 2010; Denning, DiNenno, & Wiegand, 2011). There is also evidence of a growing incidence of HIV among Black heterosexual men. Nationally, Black men accounted for 68% of HIV cases due to heterosexual exposure among men in 2011 (CDC, 2013). Yet HIV prevention research and interventions focused on Black heterosexual men are relatively rare compared with those focused on Black women and Black men who have sex with men (MSM) (Bowleg & Raj, 2012).

Racial discrimination, both the historical legacy of institutionalized discrimination, and its more contemporary interpersonal manifestation, everyday racial discrimination (Williams, Yan Yu, Jackson, & Anderson, 1997), figures prominently in research on African American health (e.g., Williams, Neighbors, & Jackson, 2008), but has been less evident in sexual HIV risk research. *Everyday racial discrimination* (e.g., Williams et al., 1997) denotes the more mundane, interpersonal manifestations of racism (e.g., being followed around stores). Although an abundant empirical literature documents the adverse impact of everyday racial discrimination on Blacks' physical and mental health (Krieger, 1999; Krieger, Kosheleva, Waterman, Chen, & Koenen, 2011), only three studies have focused on racial discrimination and sexual HIV risk. They showed that Black heterosexual men who reported more experiences with racial discrimination also reported more sexual HIV risk (Bowleg et al., 2013; Reed et al., 2013); and that Black youth who perceived more racial discrimination later reported more sexual HIV risk behaviors, compared with youth who perceived less racial discrimination (Roberts et al., 2011). Thus, everyday racial discrimination is an important, albeit understudied, concept for understanding sexual HIV risk.

Trauma is a potentially important pathway to sexual HIV risk for Black heterosexual men. The word "trauma" often evokes the psychological toll of having experienced a rare or extraordinary catastrophic event such as war, violence, or natural destruction (Herman, 1992). Traumatic events are those that "overwhelm the ordinary human adaptations to life" (Herman, 1992, p. 33) and result in physiological, cognitive, emotional, social and behavioral responses to perceived danger (Bloom, 2010). The *Diagnostic and Statistical Manual of Mental Disorders (DSM IV-TR)* (American Psychiatric Association, 2000) clusters Post Traumatic Stress Disorder (PTSD) symptoms into three categories: Re-experiencing (experiencing the traumatic situation again through nightmares, flashbacks and obsessive thoughts); Avoidance (avoiding situations that incite memories of the traumatic event) and Arousal (increased physiological arousal characterized by anxiety, irritability, or

sleep disturbances). Although individuals are typically diagnosed (i.e., categorized) as either having PTSD or not, posttraumatic stress symptoms (PTSS) have also been conceptualized as a continuum of responses to trauma and treated continuously in the psychological literature (e.g., Boney-McCoy & Finkelhor, 1996).

Contemporary trauma theorists highlight the role of more chronic and insidious forms of trauma such as racial discrimination-based trauma (Bryant-Davis & Ocampo, 2005; Carter, 2007; Sanchez-Hucles, 1998). For many urban Black men, traumatic experiences are neither rare nor extraordinary. A small literature documents the traumatic effects of Black men's experiences with pervasive urban violence (Rich, 2010; Rich & Grey, 2005). Evidence also exists that racial discrimination may be related to PTSS across multiple racial minority groups (e.g., Flores, Tschann, Dimas, Pasch, & de Groat, 2010), and that PTSS mediates the relationship between racial discrimination and sexual risk for Mexican American adolescents (Flores, Tschann, Dimas, Pasch, & de Groat, 2010). Other research with Black MSM documents that discrimination-related trauma predicts greater likelihood of unprotected anal intercourse (Fields et al., 2013).

This study is the first to examine the relationship between everyday racial discrimination, PTSS, and sexual risk among urban Black heterosexual men. We hypothesized that PTSS would mediate the relationship between discrimination and sexual risk, such that reported experiences with everyday racial discrimination would be related to more PTSS, and in turn, greater sexual risk (see Figure 1).

METHOD

As part of a mixed methods study on the effects of social structural factors, masculinity ideologies, sexual scripts, and HIV risk behaviors among Black heterosexual men, this study utilized a venue-based probability sampling approach (MacKellar, Valleroy, Karon, Lemp, & Janssen, 1996) to recruit Black heterosexual men from randomly selected venues in Philadelphia, PA. U.S. Census blocks with a Black population of at least 50% were eligible for selection. The response rate was 54%.

A total of 578 study-eligible men completed the Audio Computer Assisted Self Interview (ACASI) at the project's site at [blinded] University. We eliminated data from 42 men who reported no occasions of vaginal or anal sex in the last 2 months, 8 men who reported a sexual orientation status other than heterosexual, and 2 men who reported only anal sex to obtain a final sample size of 526. Participants received a \$50 cash incentive. The Institutional Review Board at [blinded] University, the primary author's former institution, approved all study procedures.

Measures

Everyday Racial Discrimination ($\alpha = .90$)—The 10-item *Day-to-Day Unfair Treatment* instrument measures the frequency of unfair treatment due to racial discrimination in respondents' daily lives (Williams et al., 1997). We revised each item from the original scale to include "because you are Black" at the end of each question. Respondents used a 4-point scale (*Never to Very Often*).

Posttraumatic Symptom Scale–Self-Report (PSS-SR; $\alpha = .91$)—The original 17 items of the PSS-SR assess PTSD according to DSM-IV criteria and assess the severity of PTSD symptoms that respondents have experienced in the last two weeks. As with the DSM-IV, the PSS-SR items cluster into 3 symptoms: Re-experiencing, Avoidance, and Arousal (Foa, Riggs, Dancu, & Rothbaum, 1997; Foa, Cashman, Jaycox & Perry, 1993). We used the 14-item version of the PSS-SR as modified by Boney-McCoy and Finkelhor (1996) as a continuous measure of PTSS. These modifications include the deletion of three trauma-specific items and the absence of directions to participants to refer to a specific traumatic event or stressor. Respondents used a 4-point scale (*Never* to *Very Often*) to respond to questions such as, “How often have you had upsetting thoughts or images that came into your head when you didn’t want them to?”

Dependent variable: Sexual Risk—We used sexual risk behavior items from the National Sexual Health Survey (NSHS) (Center for AIDS Prevention Studies, 1996), a comprehensive measure of a variety of HIV-related and sexual behaviors including items related to condom use with primary and casual partners. Consistent with the NSHS and other researchers (Grinstead, Gregorich, Choi, Coates, & Voluntary HIV-1 Counselling and Testing Efficacy Study Group, 2001), we asked respondents to indicate on a partner-by-partner basis (up to 10 primary and casual partners) how many times they had vaginal sex in the past 2 months, and how many times they used condoms during the same period. From this information, we created a ratio of reported number of vaginal sex occasions reflecting consistent (100%), inconsistent, and never having used condoms in the last 2 months. Based on the sexual risk index created for the National Longitudinal Youth Survey (Murphy, Brecht, Herbeck, & Huang, 2009), we developed a 3-level ordinal index of self-reported sexual risk. Low-risk included men who reported that they were monogamous and used condoms 100% of the time ($n = 81$; 15%). Moderate risk included men who reported that they were monogamous and used condoms inconsistently or never and men who reported that they were not monogamous and used condoms consistently ($n = 309$; 59%). High risk included men who reported that they were not monogamous and used condoms inconsistently or never ($n = 136$; 26%).

Control variables—Covariates included age, marital status (married or domestic partnership = 1; all other categories = 0), and socioeconomic factors. Socioeconomic variables included highest level of education, income, number of times incarcerated (never = 0 to 7 or more times = 4), employment status (employed = 1; unemployed = 0), and receiving some form of public assistance (receiving assistance = 1; no assistance = 0). We examined HIV status as a potential covariate/confounding variable (HIV positive $n = 6$). However, preliminary analyses showed no significant relationships between HIV status and any test variable.

Data Analyses

We used SPSS 20.0 for data analysis and employed Preacher and Hayes’ (2008) INDIRECT macro to test for indirect effects (i.e., mediation). This macro uses product-of-coefficients (regression-based) and bootstrapping methods, and takes into account the role of covariates. Methodologists advocate strongly for both approaches over more traditional mediation

analyses (i.e., causal steps; Baron & Kenny, 1986) that suffer from power constraints and other conceptual limitations (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; MacKinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2008).

Using these methods, the indirect effect is the product of the regression coefficients of the independent variable (IV; racial discrimination) → mediator (PTSS) and the mediator (PTSS) → dependent variable (DV; sexual risk) paths, controlling for covariates (note that unlike more traditional tests for mediation, i.e., causal steps, these methods do not assume, nor require, an initial direct effect of the IV on the DV when no mediators are included). The significance of this indirect effect is tested via bootstrapping, a nonparametric resampling strategy wherein confidence intervals (CIs) of the indirect effect are obtained by repeated sampling from the dataset. In the present study, we used established standards (Preacher & Hayes, 2008) and calculated 95% CIs derived from 5,000 bias-corrected bootstrap estimates for the indirect effect of racial discrimination on sexual risk via PTSS.

RESULTS

Participants

Participants were 526 self-identified Black heterosexual men who ranged in age from 18–45 and reported having sex with women in the last 2 months. Demographic characteristics for the study's variables are presented in Table 1.

Racial Discrimination

The vast majority (97%) of the sample reported everyday racial discrimination ($M = 2.12$; $SD = 0.61$). The three most commonly reported experiences were that, because they were Black, others feared them (88%); they were followed in stores (86%); and people acted as if they were superior to the respondents (85%).

Posttraumatic Stress Symptoms

The majority (91%; $n = 477$) of participants reported PTSS at least some of the time ($M = 1.79$, $SD = 0.59$). The three most commonly reported events were being overly alert or aware of what was going on around them (69%), feeling irritable or having outbursts of anger (67%); and trying to avoid certain activities, situations, or places (63%).

Mediation Analyses

Bootstrapping results revealed a significant indirect effect of racial discrimination on sexual risk through PTSS, controlling for covariates, point estimate of indirect effect = .04 (95% CI = .01 to .08). As Table 2 shows (which presents regression-based results), men who reported more racial discrimination also reported more PTSS (Model 1), $\beta = .36$, $p < .001$. In turn, higher levels of PTSS were associated with greater sexual risk for HIV, above and beyond racial discrimination (Model 2), $\beta = .11$, $p = .02$. Figure 1 highlights the significant paths between discrimination, PTSS, and sexual risk behaviors.

DISCUSSION

This study is the first to empirically demonstrate that everyday racial discrimination is related to PTSS, which in turn are related to reports of higher sexual risk in Black heterosexual men. Results are consistent with extant findings (Bowleg et al., 2013; Reed et al., 2013; Roberts et al., 2011) showing that racial discrimination is an important although understudied predictor of sexual HIV risk. The most noteworthy finding of the research is its empirical support for racial discrimination-based traumatic stress. Reported experiences of everyday racial discrimination were related to PTSS, which in turn were pathways to Black heterosexual men's increased sexual risk. Numerous studies have documented the link between trauma and HIV for women with histories of domestic and sexual violence (e.g., Brown-Peterside, Ren, Chiasson, & Koblin, 2002) and men with histories of childhood sexual abuse (CSA) (e.g., Kalichman, Gore-Felton, Benotsch, Cage, & Rompa, 2004), but no studies have examined how everyday racial discrimination is related to PTSS, and in turn, Black heterosexual men's sexual risk. The finding that the majority of men reported at least some PTSS underscores the need for more research to understand the nature of PTSS in Black heterosexual men and mechanisms, such as substance use, that may link traumatic experiences and sexual risk.

Notably, multiple demographics were related to PTSS and sexual risk. Age was protective in that older men reported fewer PTSS and sexual risk behaviors compared with younger men. There may be some maturation effect whereby older men had more experience coping with trauma compared with younger men. There may also be a cohort effect with younger men being exposed to different types of trauma than older men. Although these results depart from epidemiological research that documents that PTSS and age are often positively correlated among men (Keane, Marshall, & Taft, 2006), they are consistent with research showing that age and psychological distress are inversely related in Black men (Brown et al., 2000). The results about age and sexual risk are consistent with epidemiological research that documents higher HIV incidence among younger men (CDC, 2013). The result that men with more education reported more sexual risk may reflect the fact that men with more education may be exposed to settings in which more racial discrimination is likely (e.g., predominantly White education settings, workplaces) compared with less educated men who live and interact in predominantly Black settings. Although most studies have found that higher socioeconomic status (SES) predicts better outcomes among Black men (Watkins, Walker, & Griffith, 2010), others have found an inverse relationship between SES and well-being among Black men (e.g., Hudson, Neighbors, Geronimus, & Jackson, 2012).

Given the high reported frequency of racial discrimination in this study (97%), there is a need for research to understand the types, timing (e.g., frequency, developmental age) and severity of discrimination that induces PTSS. This empirical knowledge is needed to develop structural and individual level interventions to decrease racial discrimination-based traumatic stress among Black men. Nor are experiences with racial discrimination confined to adulthood. Childhood exposure to racial discrimination may be a chronic source of trauma with a cumulative and adverse impact on health (Sanders-Phillips, 2009). More research on the cumulative effects of racial discrimination-based trauma on health across the lifespan is needed.

Empirical documentation of the types and impact of racial discrimination-based traumatic stress that many Black heterosexual men experience could inform the development and enforcement of local, state, and federal policies to, for example, reduce law enforcement practices such as unwarranted surveillance and search of Black men. Another historical legacy of institutionalized racism is the disproportionately high rates of incarceration among Black men in the U.S. (Alexander, 2010). Incarceration-related experiences such as violence and rape may also induce PTSS (Kupers, 1999). More than half of the study's participants (55%) reported a history of incarceration. Incarceration was related to both PTSS and sexual risk, underscoring the role that incarceration may play in Black heterosexual men's adverse health outcomes.

HIV interventions have historically been designed as stand-alone programs, exclusively focused on HIV risk reduction. Our research suggests the need for more interventions that integrate HIV testing, counseling, and prevention services within existing community-based programs that serve Black male clients (Bowleg & Raj, 2012). There is also a need for interventions to increase coping strategies to buffer against the deleterious impact of racial discrimination-based traumatic stress. Interventions that increase social support may be especially beneficial. Research demonstrates that social support buffers the adverse effects of racial discrimination on Blacks' mental health (Taylor, Chatters, Hardison, & Riley, 2001; Utsey, Lanier, Williams, Bolden, & Lee, 2006), and Black heterosexual men's sexual risk (Bowleg et al., 2013). Also needed are interventions to identify and hone the resilience that many Black men already demonstrate and use effectively to navigate the stress of everyday racial discrimination and threatening urban environments (Malebranche & Bowleg, 2013; Teti et al., 2012).

There are limitations to the research. The study's cross-sectional design does not allow any inferences regarding causality. There is also a potential for social desirability bias; participants may have provided socially desirable responses about self-identification as heterosexual and/or the gender and number of sexual partners. Finally, the study's low response rate (54%) may reflect a selection bias. Prospective participants were approached in the field and screened to determine eligibility; 84% were eligible. To complete the survey, participants had to travel to the project offices in downtown Philadelphia. Although the offices were conveniently located and accessible by various modes of public transportation, screened participants may have felt it was too expensive, inconvenient, or not worth their time to travel to complete the survey. Administering the ACASI in the field directly after screening may have assured a higher response rate and hence, greater generalizability of our findings to other low-income Black heterosexual men in urban settings. Generalizability to other groups of Black heterosexual men (e.g., rural or middle class men), or other populations of Black men (e.g., MSM), remains unknown.

The growing incidence of HIV/AIDS in Black heterosexual men in urban areas with high HIV/AIDS prevalence attests to a dire need for more HIV prevention research and interventions to reduce HIV transmission in Black communities. Everyday racial discrimination and PTSS, as this study demonstrates, are two understudied but important considerations for future theory, research, and interventions. Our work may also be relevant to urban Black MSM who experience traumatic stress through the intersections of racial

discrimination and heterosexism (Bowleg, 2013; Fields et al., 2013; Malebranche & Bowleg, 2013).

The evidence is irrefutable. Whether the focus is HIV/AIDS, homicide, unintentional or intentional injury, cancer, or hypertension, the health of U.S. Black men has long been in crisis. The dearth of HIV prevention research and interventions for Black men is just the most contemporary manifestation of a historic apathy about Black men's health. Our study attests to an urgent need for research to better understand how racial discrimination-based traumatic stress adversely affects sexual risk among Black heterosexual men and Black communities.

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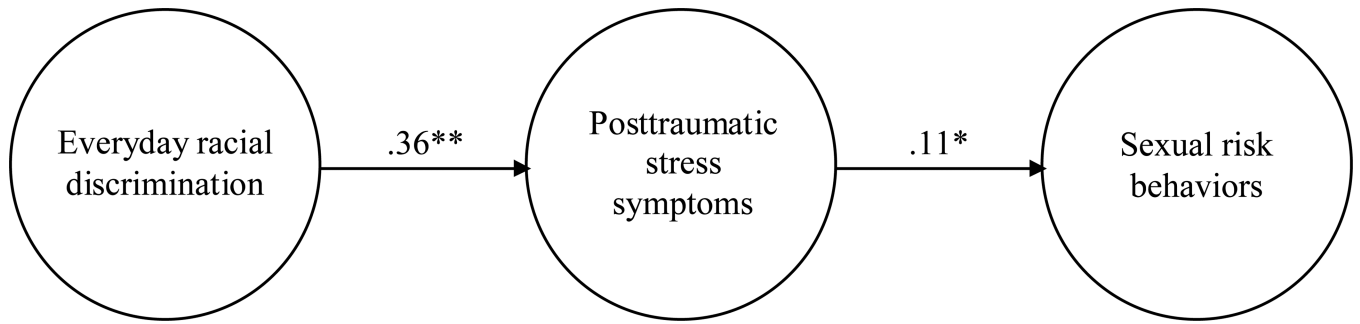


Figure 1.
Mediation Model Predicting Sexual HIV Risk Behaviors
Note. * $p < .05$, ** $p < .001$

Table 1

Descriptive Characteristics of Black Heterosexually-Identified Men (N = 526)

Demographic Characteristics	<i>N</i>	<i>%</i>
Education		
Some high school	90	17
High school graduate or general educational development	241	46
Some college/vocational training/associate of arts degree	165	31
Bachelors degree	22	18
Graduate degree	8	2
Income		
<\$10,000	251	48
\$10,000–\$20,000	67	13
\$20,000–\$30,000	101	19
\$30,000 or more	107	20
Employment status		
Employed	191	36
Unemployed	335	64
Marital status		
Single (Includes separated, divorced, widowed)	385	73
Married or domestic partnership	141	27
Incarceration history		
Yes	290	55
No	236	45
	<i>M</i>	<i>SD</i>
Age (years)	28.80	7.57

Table 2

Everyday Racial Discrimination, Posttraumatic Stress Symptoms, and Sexual HIV Risk Behaviors among Black Heterosexually-Identified Men (showing Standardized Regression Coefficients; N = 526)

Predictor	β
Model 1:	
Racial discrimination → PTSS	
Covariates	
Age	-.14***
Marital status	-.07
Education	.02
Income	.02
Number of times incarcerated	.12**
Employment status	-.10*
Receiving some form of public assistance	.08 [†]
Everyday racial discrimination	.36***
Model R ²	.20
F	16.99***
Numerator <i>df</i> , Denominator <i>df</i>	8, 516
Model 2:	
PTSS → Sexual risk (controlling for racial discrimination)	
Covariates	
Age	-.13**
Marital status	-.04
Education	.08 [†]
Income	.08
Number of times incarcerated	.12**
Employment status	-.01
Receiving some form of public assistance	.05
Everyday racial discrimination	.03
PTSS	.11*
Model R ²	.05
F	3.75***
Numerator <i>df</i> , Denominator <i>df</i>	9, 515

Note.

[†] $p < .07$,

* $p < .05$,

** $p < .01$,

*** $p < .001$