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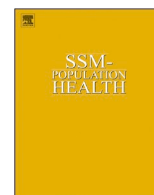

Police harassment and psychosocial vulnerability, distress, and depressive symptoms among black men who have sex with men in the U.S.: Longitudinal analysis of HPTN 061

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ABSTRACT

The mental health impact of exposure to police harassment is understudied, particularly among Black men who have sex with men (BMSM), a group at elevated risk of exposure to such discrimination. This study aimed to identify the associations among BMSM between recent police harassment and psychosocial vulnerability, psychological distress, and depression measured six months later. Data come from the HIV Prevention Trials Network (HPTN) 061 Study, a cohort study of BMSM recruited in 6 U.S. cities (Atlanta, GA, Boston, MA, Los Angeles, CA, New York, NY, San Francisco, CA, and Washington DC). Participants completed baseline, 6-month follow-up, and 12-month follow-up interviews. A convenience sample of 1553 BMSM was recruited between July 2009 and October 2010 of whom 1155 returned for a follow-up interview 12 months later. Accounting for previous police interaction, poverty, psychopathology, drug use, and alcohol use, we estimated associations between recent police harassment reported at the 6 month follow-up interview and 12 month outcomes including psychosocial vulnerability (elevated racial/sexual identity incongruence), psychological distress (being distressed by experiences of racism and/or homophobia), and depression. About 60% of men reported experiencing police harassment between the baseline and 6-month interview due to their race and/or sexuality. Adjusted analyses suggested police harassment was independently associated with a 10.81 (95% CI: 7.97, 13.66) point increase and 8.68 (95% CI: 6.06, 11.30) point increase in distress due to experienced racism and distress due to experienced homophobia scores, respectively. Police harassment perceived to be dually motivated predicted disproportionate levels of distress. Police harassment is prevalent and associated with negative influences on psychosocial vulnerability and psychological distress among BMSM. Reducing exposure to police harassment may improve the psychosocial health of BMSM.

1. Introduction

Mental health is an important public health outcome that is linked to physical health (Brådvik, 2018; Vaccarino et al., 2018). For example, adverse mental health outcomes are associated with sexually transmitted infections (STIs) and HIV because of the reinforcing nature of

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mental health, alcohol use, poly-drug use, sexual risk taking, and low engagement in medical care for chronic conditions (Chandler et al., 2019; Leserman, 2008). The effect of adverse mental health outcomes on STIs and HIV acquisition and transmission risk is particularly concerning among Black men who have sex with men (BMSM), a group with high levels of mental health conditions. In one sample, 33% of BMSM reported having been diagnosed with depression, 30% reported symptoms that met the threshold of probable depression, and 33% reported symptoms that met the threshold of probable anxiety (Graham, Aronson, Nichols, Stephens, & Rhodes, 2011), compared to seven percent of adults in the general population with depression (National Institute of Mental Health, 2019), nine percent with depressive symptoms (Ettman et al., 2020), and 16% with anxiety symptoms (Terlizzi & Villarroel, 2020). This population is at elevated risk for STIs and HIV (Hess et al. n.d.; Purcell et al., 2012), given the high risk of adverse mental health outcomes including distress, anxiety, and depression experienced in this group (Batchelder, Safren, Mitchell, Ivardic, & O'Cleirigh, 2017; Graham et al., 2011). Improved research on factors driving adverse mental health of BMSM is of critical public health importance.

Encounters with the police, which BMSM have a disproportionate risk of experiencing (Center for American Progress & Movement Advancement Project, 2016, p. 194; Mallory, Sears, Mallory, & Sears, 2015), may be an important population-level driver of adverse mental health outcomes including distress and depression in this population (Geller, Fagan, Tyler, & Link, 2014). Discrimination is pervasive in the criminal justice system with racial and ethnic minorities stopped by the police at disproportionately high rates (Fagan, Geller, Davies, & West, 2010). In a study of traffic stops conducted in Durham, North Carolina, the odds that a stopped male driver was Black were 20% higher when the traffic stop occurred during daylight, when police officers could ascertain the driver's race, compared to traffic stops that occurred in darkness (Taniguchi et al., 2016). Data from police stops in New York City found that among medium height and weight men, Black men had 24% increased odds and Hispanic men 21% increased odds of being frisked/searched than white men (Milner, George, & Allison, 2016). Among minority—as opposed to White—populations, police interactions are more commonly perceived as illegitimate, characterized by aggressive physical contact and harsh language, and initiated by the police (including police stops) as opposed to resulting from traffic accidents or resident-initiated interactions (including reporting a crime) (Davis, Whyde, & Langton, 2018; Geller, 2017). Similarly, individuals who are perceived by law enforcement to be sexual minorities are stopped at disproportionate rates and are treated disrespectfully, possibly because police view them as transgressing gender norms (Center for American Progress & Movement Advancement Project, 2016, p. 194; Mallory et al., 2015). In particular, 48% of lesbian, gay, bisexual, and transgender violence survivors who interacted with the police reported police misconduct (Center for American Progress & Movement Advancement Project, 2016, p. 194). The stress of a police stop, coupled with abusive and insulting language, may cause a stress response, compound stigma, and lead to depressive symptoms (Brunson & Weitzer, 2009; Geller et al., 2014). In the general population, being stopped by the police is associated with increased risk of adverse mental health outcomes, including psychological distress, depression, post-traumatic stress disorder (PTSD), and anxiety, as well as psychosocial vulnerability indicators of hopelessness, feelings of injustice, dehumanization, and distress (Brunson & Weitzer, 2009; Devylder et al., 2017; Geller et al., 2014; McLeod, Heller, Manze, & Echeverria, 2020).

While research on the effects of police encounters on BMSM is limited, studies in other populations demonstrate the negative mental health impacts of police exposure and encounters. Sewell, Jefferson, and Lee (2016) found robust associations between residence in heavily policed neighborhoods and men's psychological distress (Sewell et al., 2016). Geller et al. (2014) found that among young men recruited from "high-stop" neighborhoods in New York City, increasing numbers of police stops was associated with increasing risk of anxiety when controlling for criminal involvement and other confounders, and greater police intrusion — including being asked to show identification, being frisked or searched, and being threatened with or experiencing use of force — was linked to increased anxiety scores (Geller et al., 2014). In their systematic review, McLeod et al. (2020) found police interaction was consistently associated with a higher prevalence of poor mental health (McLeod et al., 2020). While there are no studies of the effects of police harassment on BMSM in particular, as police contact is a consistent stressor for BMSM (Center for American Progress & Movement Advancement Project, 2016, p. 194; Mallory et al., 2015), it may play an important role in the mental health of this population.

The conceptual framework of intersectionality suggests that BMSM may be particularly vulnerable to discrimination and the stresses of police exposure due to their dual minority status (Crenshaw, 1989). Individual characteristics, such as race or sexual orientation, have impact on lived experiences, but collectively these identities have an even greater impact beyond the sum of their parts due to existing power structures (Steele, Collier, & Sumerau, 2018). Members of multiple minority groups often experience unique forms of stigma and discrimination beyond those experienced by members of either single minority group (Crenshaw, 1989; Steele et al., 2018). BMSM impacted by criminal justice involvement and/or police harassment, because of where their identity lies on the intersection of multiple marginalized groups, indeed may experience even more discrimination and negative downstream effects than White men who have sex with men or Black men who have sex with women only, including due to racism and homophobia in the criminal justice system along with a long history of police violence and harassment of Black men as well as sexual minority populations. As such, studying the impacts of policing on the mental health of BMSM is particularly important and provides insight that cannot be obtained by looking at singularly marginalized groups. To date, while research has highlighted the negative influence of policing on mental health, and the high levels of policing of BMSM, the impacts of policing on the mental health of BMSM specifically has not yet been sufficiently investigated. Further, given that most prior studies on policing and health have been cross-sectional with limited ability to control for confounding (though see (McFarland, Geller, & McFarland, 2019)) there is a need to examine the role of policing on health using a longitudinal data source with rigorous methods to improve causal inference.

The objective of the current study is to address gaps in the extant literature by examining the longitudinal association between experiences of police harassment due to race singly, sexual identity singly, and dually due to race and sexual identity and mental health in a large multicity cohort of urban BMSM. Specifically, we assess the relationship between self-reported past six-month police harassment and subsequent indicators of psychosocial vulnerability, distress, and depressive symptoms.

2. Methods

Data came from the HIV Prevention Trials Network (HPTN) 061 Study, a longitudinal study that aimed to assess the feasibility and acceptability of a multi-component STI/HIV prevention intervention, described in detail elsewhere (Koblin et al., 2013). In brief, HPTN 061 recruited Black, African American, Caribbean, African, or multi-ethnic Black individuals who identified as a man or male at birth, were at least 18 years of age, reported at least one instance of condomless anal intercourse with a man in the prior six months, and lived in Atlanta, GA, Boston, MA, Los Angeles, CA, New York, NY, San Francisco, CA, or Washington D.C. Participants were recruited and participated in an audio computer-assisted self-interview (ACASI) that assessed social, structural, behavioral, and network STI/HIV determinants between July 2009 and October 2010. The interview was performed again six months after baseline and finally 12 months after baseline for a total of three rounds of interviewing. Of the 1553 BMSM who completed a baseline interview, our analytic sample includes only those who returned for the

12-month follow up interview (N = 1155). The institutional review board of all participating institutions approved this study.

2.1. Measures

2.1.1. Exposures

At the six-month follow-up interview, participants reported their past six-month experience with police harassment motivated by racism and sexuality. These two questions were part of a larger series of questions that began with the prompt, "This section asks about experiences that some people have as they go about their daily lives. You will be asked if you have had a particular experience because of your race and if so, how much it bothers you. Then you will be asked if you have had that experience because of your sexuality, and if so, how much it bothers you." We use the responses to the following to prompts, "being harassed by police or law enforcement due to my race" and "being harassed by police or law enforcement due to my sexuality." To each of those prompts, participants were offered the following response options: has never happened to me; has happened to me, but it doesn't bother me at all; has happened to me, but it only bothers me a little; has happened to me, and it bothers me somewhat; has happened to me, and it bothers me a lot; has happened to me, and it bothers me extremely. These items were used to create two measurements of police harassment: a binary measure of any police harassment due to racism and/or homophobia and a three-level categorical measure of experienced police harassment (no police harassment, police harassment due to racism only or homophobia only, and police harassment due to both).

2.1.2. Outcomes

At the 12-month follow-up interview, participants were asked a series of questions designed to capture their psychosocial vulnerability, psychological distress, and depression symptomology.

Psychosocial vulnerability. Psychosocial vulnerability due to racial/sexual identity incongruence was measured through five items, coded 0 (strongly disagree) to 5 (strongly agree), whereby higher scores indicate greater incongruence between racial and sexual identities. Items include: I cannot imagine a loving sexual relationship between two Black men; Black men who are attracted to other men only make it more difficult for Black people in general. Individuals with scores greater than or equal to the median ($\geq$5) were classified as having elevated psychosocial vulnerability due to racial/sexual identity incongruence.

Psychological distress. The Racism and Life Experience Scales- Daily Life Experiences (RaLES-DLE) scale captures the extent to which daily racism microaggressions cause distress due to experiences of racism (Harrell, 2016). For each of the 20 items on the scale, participants were asked how much they were bothered by each racially-motivated occurrence in the prior six months. Items include: being ignored, overlooked, or not given service; overhearing or being told an offensive joke or comment. When asked about those same 20 items in relation to their sexuality, the scale indicates distress due to experiences of homophobia. Score could range from 0 to 100. Individuals with scores greater than or equal to the median ($\geq$22 for racism, $\geq$18 for homophobia) were classified as having high levels of psychological distress.

Depressive symptoms. The Center for Epidemiologic Studies Depression Scale (CES-D) was used to measure depressive symptoms (Radloff, 1977). Twenty items, scored from 0 to 3 reflecting the frequency with which the symptoms occurred in the prior week, were used to measure total depressive symptomology. Participants with a score of 16 or greater were considered to have symptoms indicative of major depression.

2.1.3. Covariates

All covariates were measured at the baseline interview. Covariates included are age, city of study site, having had sex with men and women versus sex with men only, gender identity, attaining greater than a high school education versus less than or equal to a high school education, lifetime history of ever having insufficient income, currently having unstable housing, current social support score adapted from the social support scale from the Human Population Laboratory survey (Berkman & Leonard Syme, 2017), past six-month Alcohol Use Disorders Identification Test (AUDIT) score (Babor, Higgins-Biddle, Saunders, & Monteiro, Maristela, 2001), weekly marijuana use, past six-month hard drug use, lifetime history of criminal justice involvement (police harassment and incarceration), violence exposure (having ever been hit, threatened with violence, or threatened at knife or gunpoint due to race and/or sexuality), distress due to experiences of racism RaLES-DLE score (Harrell, 2016), distress due to experiences of homophobia score, internalized homophobia score (Herek, Cogan, Gillis, & Glunt, 1997), and CES-D depression score (Radloff, 1977).

2.2. Statistical analyses

Missing baseline covariates and six-month follow-up exposure data were imputed 40 times using predictive mean matching (van Buuren, 2018). To assess associations between police harassment indicators and psychosocial vulnerability, distress, and depressive symptoms, we estimated unadjusted and adjusted risk ratios (RRs) and the associated covariance matrices using Poisson regression with a robust variance estimator in each of the 40 datasets and then combined these results to produce a single final unadjusted and adjusted RR and 95% CI using PROC MIANALYZE. For analyses with continuous outcomes, we conducted linear regression in the 40 datasets and combined those 40 estimates to produce a final unadjusted and adjusted result. Data cleaning and imputation were performed in R version 3.5.1 (R Foundation for Statistical Computing, Vienna, Austria). SAS version 9.4 was used for analysis (SAS Institute, Cary, NC).

3. Results

Participants included in this analysis were between 18 and 68 years of age. Approximately half of respondents had at least a high school level education. Over half of respondents reported ever having had insufficient income, and 8.8% reported currently having unstable housing. Almost two-thirds of respondents had health insurance at the time of study enrollment and 60% reported ever having been incarcerated. Twenty percent of respondents were HIV-positive and 17.2% had an STI at the time of study enrollment (Table 1).

3.1. Experiences of police harassment

Overall, roughly 60% (N = 622) of the sample reported police harassment due to racism and/or homophobia between the baseline and six-month interview. Approximately 14% (N = 142) reported police harassment due to their race only, only one percent (N = 12) reported experiencing police harassment due to their sexuality only, and nearly 45% (N = 464) reported police harassment for both reasons (Table 1). These values do not sum to 622 because four people reported police harassment due to their race but declined to answer about police harassment due to their sexuality.

Police harassment was more commonly reported among transgender (78.3%) versus cisgender (58.7%) participants and among men who have sex with men and women (71.1%) versus men who have sex with men only (51.1%). Men who reported being harassed by the police were less likely to have completed a high school level education than men who did not report harassment by the police (RR: 0.86 (0.78, 0.95)), were less likely to have reported a having sufficient income (RR: 0.78 (0.70, 0.86)), and were less likely to have stable housing (RR: 0.77 (0.68, 0.87)). Men living in Boston (RR: 1.26 (1.06, 1.50)) and San Francisco (RR: 1.39 (1.18, 1.63)) were more likely to report police harassment and men living in Washington D.C. (RR: 0.84 (0.68, 1.04)) were less likely to report police harassment compared with 061 respondents from Atlanta (the referent). Men who were harassed by the police were more likely to

Table 1
Baseline demographics of BMSM and associations with police harassment reported 6 months later, 2009–2010.[a]

Baseline Demographics	Distribution of Sample	Percent Experience Police Harassment at 6-Months by Sample Characteristics (i.e. exposed)	Unadjusted Prevalence Ratio (95% CI[b])
	N = 1155	N = 622	
	No. (%)	%	
Age			
18-20	72 (6.2)	57.6	Ref
21-30	324 (28.1)	54.8	0.95 (0.75, 1.21)
31-40	199 (17.2)	57.1	0.99 (0.77, 1.28)
41-50	396 (34.3)	64.1	1.11 (0.88, 1.40)
51-60	148 (12.8)	63.4	1.1 (0.85, 1.42)
61 and up	15 (1.3)	50.0	0.87 (0.47, 1.59)
Missing	1	–	–
Ethnicity			
Non-Hispanic	1066 (92.4)	59.5	Ref
Hispanic	88 (7.6)	61.3	1.03 (0.86, 1.23)
Missing	1	–	–
Gender identity			
Cisgender	1103 (95.7)	58.7	Ref
Transgender	50 (4.3)	78.3	1.33 (1.13, 1.57)
Missing	2	–	–
Sexual identity			
MSMO[c]	669 (58.0)	51.1	Ref
MSMW[d]	485 (42.0)	71.7	1.40 (1.27, 1.55)
Missing	1	–	–
Education			
Less than HS	585 (50.7)	64.2	Ref
High School or more	568 (49.3)	55.1	0.86 (0.78, 0.95)
Missing	2	–	–
Sufficient income			
Yes	529 (45.8)	51.6	0.78 (0.70, 0.86)
No	625 (54.2)	66.3	Ref
Missing	1	–	–
Stable housing			
Yes	1053 (91.3)	58.0	0.77 (0.68, 0.87)
No	101 (8.8)	75.5	Ref
Missing	1	–	–
City			
Atlanta, GA	216 (18.7)	55.2	Ref
New York, NY	255 (22.1)	57.6	1.04 (0.88, 1.24)
Washington, D.C.	165 (14.3)	46.2	0.84 (0.68, 1.04)
Boston, MA	159 (13.8)	69.6	1.26 (1.06, 1.50)
Los Angeles, CA	207 (17.9)	57.8	1.05 (0.87, 1.25)
San Francisco, CA	153 (13.3)	76.6	1.39 (1.18, 1.63)
Missing	0	–	–
Health Insurance			
Yes	698 (60.5)	61.0	Ref
No	456 (39.5)	57.4	0.94 (0.85, 1.04)
Missing	1	–	–
Ever Incarcerated			
Yes	683 (60.2)	66.7	1.37 (1.22, 1.53)
No	452 (39.8)	48.7	Ref
Missing	20	–	–
HIV Serostatus			
Negative	906 (80.0)	61.7	Ref
Positive	227 (20.0)	52.9	0.86 (0.75, 0.99)
Missing	22	–	–
Current STI			
No	816 (82.8)	60.2	Ref
Yes	169 (17.2)	51.5	0.86 (0.73, 1.00)
Missing	170	–	–

[a] Sample of 1155 participants who were present at the 12-month follow-up interview.
[b] CI: confidence interval.
[c] MSMO: sex with men only.
[d] MSMW: sex with men and women.

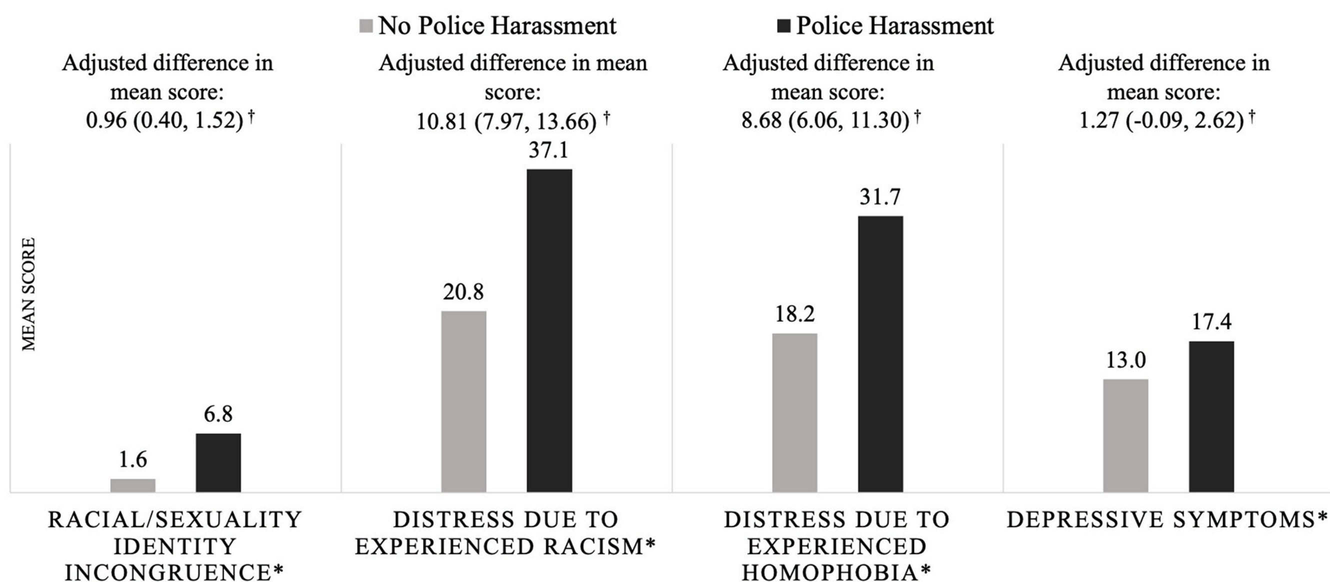

Fig. 1. Police harassment and psychosocial vulnerability, distress, and depressive symptoms among 1155 BMSM.

have had a prior history of incarceration (RR: 1.37 (1.22, 1.53)) and were less likely to be infected with HIV/STI (RR: 0.86 (0.75, 0.99)) (Table 1).

3.2. Police harassment and psychosocial vulnerability

Men who reported harassment by the police had markedly higher racial/sexuality identity incongruence scores than men not harassed by the police (score harassed: 6.8 vs score not harassed:1.6) and in adjusted models police harassment remained associated with this outcome (adjusted mean difference in score: 0.96 (95% CI: 0.40, 1.52)). (Fig. 1). In addition, men who reported being harassed by the police were 1.2 times as likely to have a high racial/sexuality identity incongruence score (adjusted risk ratio (aRR): 1.24 (1.03, 1.50)). Individuals who were harassed due to racism only or homophobia only were no more likely to have high racial/sexuality identity incongruence scores than individuals not harassed by the police, but individuals harassed by the police for both reasons were significantly more likely to have high racial/sexuality identity incongruence versus those with no recent history of police harassment (aRR: 1.32 (1.08, 1.61)) (Table 2).

3.3. Police harassment and distress

In unadjusted and adjusted analyses, police harassment was associated with distress due to experienced racism score (score harassed: 37.1 vs score not harassed: 20.8, adjusted mean difference in score: 10.81 (7.97, 13.66)) and experienced homophobia score (score harassed: 31.7 vs score not harassed: 18.2, adjusted mean difference in score: 8.68 (6.06, 11.30)). (Fig. 1). Individuals who reported being harassed by police were 60% more likely to have high distress due to experienced racism scores (aRR: 1.63 (1.32, 2.02)). Men who reported being harassed by the police were more than one and a half times as likely to have high distress due to experienced homophobia scores (aRR: 1.57 (1.28, 1.91)). Police harassment due to racism only or homophobia only was associated with high distress due to experienced racism (aRR: 1.59 (1.21, 2.10)) while police harassment due to racism and homophobia appeared to be somewhat more strongly associated with high distress due to experienced racism (aRR: 1.65 (1.32, 2.06)). While police harassment due to racism only or homophobia only appeared to predict high distress due to experienced homophobia (aRR: 1.30 (0.98, 1.72)), being doubly exposed to police harassment due to racism and homophobia was associated with further elevations in risk of the outcome (aRR: 1.67 (1.36, 2.06)) (Table 2).

3.4. Police harassment and depressive symptoms

Depression scores were higher (17.4 vs 13.0) among the men who were harassed by the police than among men not harassed by the police. After adjustment the association was attenuated and no longer statistically significant (adjusted mean difference in score: 1.27 (−0.09, 2.62)) (Fig. 1). Further, police harassment was associated with symptoms indicative of major depression in unadjusted models (RR: 1.41 (1.14, 1.75)), but again results were attenuated in the adjusted models (aRR: 1.10 (0.87, 1.39)). While being exposed to police harassment motivated by only racism or homophobia was not associated with an increased risk of depressive symptoms compared to not being exposed to police harassment, being doubly exposed to police harassment motivated by racism and homophobia was associated with depressive symptoms in the unadjusted model (RR: 1.52 (1.21, 1.90)) but results were attenuated in the adjusted model (aRR: 1.17 (0.91, 1.49)) (Table 2).

4. Discussion

In a geographically diverse sample of BMSM, 60% reported they had been harassed by the police in the prior six months; this police harassment was largely perceived to be due to racism, or due to both racism and homophobia. In multivariable analyses including baseline mental health status, we observed police harassment was independently associated with an approximate 60% increase in the risk of distress. Further, police harassment perceived to be due to both racism and homophobia predicted even further elevations in risk of distress. These results hence provide evidence to suggest that police harassment may not only contribute to adverse mental health outcomes of racial and sexual minority men, but create additive health risks for men who are both racial and sexual minorities.

Our study is among the first to extend the literature on aggressive

Table 2
Bivariate and multivariate associations between police harassment and psychosocial vulnerability, distress, and depression among 1155 BMSM.

	Crude RR[a] (95% CI)	Adjusted RR[a,b] (95% CI)
Racial/sexuality identity incongruence (≥median)		
Police Harassment in the Past Six Months		
No	1	1
Yes	1.55 (1.30, 1.85)	1.24 (1.03, 1.50)
Police Harassment in the Past Six Months		
No police harassment	1	1
Police harassment due to racism or homophobia only	1.24 (0.95, 1.62)	1.04 (0.79, 1.37)
Police harassment due to both racism homophobia	1.66 (1.38, 1.99)	1.32 (1.08, 1.61)
Distress due to experienced racism (≥median)		
Police Harassment in the Past Six Months		
No	1	1
Yes	1.91 (1.57, 2.32)	1.63 (1.32, 2.02)
Police Harassment in the Past Six Months		
No police harassment	1	1
Police harassment due to racism or homophobia only	1.78 (1.37, 2.32)	1.59 (1.21, 2.1)
Police harassment due to both racism homophobia	1.95 (1.59, 2.4)	1.65 (1.32, 2.06)
Distress due to experienced homophobia (≥median)		
Police Harassment in the Past Six Months		
No	1	1
Yes	1.74 (1.45, 2.10)	1.57 (1.28, 1.91)
Police Harassment in the Past Six Months		
No police harassment	1	1
Police harassment due to racism or homophobia only	1.29 (0.98, 1.7)	1.30 (0.98, 1.72)
Police harassment due to both racism homophobia	1.92 (1.58, 2.33)	1.67 (1.36, 2.06)
Depressive symptoms		
Police Harassment in the Past Six Months		
No	1	1
Yes	1.41 (1.14, 1.75)	1.10 (0.87, 1.39)
Police Harassment in the Past Six Months		
No police harassment	1	1
Police harassment due to racism or homophobia only	1.13 (0.82, 1.55)	0.94 (0.67, 1.31)
Police harassment due to both racism homophobia	1.52 (1.21, 1.9)	1.17 (0.91, 1.49)

[a] RR: Risk Ratio.
[b] Adjusted for: age, city of residence, less than or equal to high school education, ever having had insufficient income, currently having unstable housing, being a man who has sex with men and women (MSMW), gender identity, hard drug use, weekly marijuana use, history of incarceration, AUDIT alcohol score, having experienced violence, distress due to experiences of racism, distress due to experiences of homophobia, experiences of police harassment, internalized homophobia score, CES-D depression score, and social support score.

policing to document a disproportionately high prevalence of police harassment and its deleterious effects on mental health among BMSM, a population with intersecting racial and sexual identities that appears to place them at even greater risk. Our findings are consistent with the prior literature in other populations (Brunson & Weitzer, 2009; Devylder et al., 2017; Geller et al., 2014; McLeod et al., 2020). This present study adds to the body of literature indicating that frequent and intrusive police interaction, especially that which is perceived to be discriminatory, may lead to negative psychosocial outcomes among BMSM.

Notably, our finding of increased depression risk among those who had been harassed by the police was fully explained by regression-adjustment for confounding factors, a finding which deviates from prior research (Devylder et al., 2017). This deviation may be explained by methodological differences such as survey timing, measurement choice, or the selection of adjustment factors. Alternatively, police contact may simply contribute to depressive symptoms in general population samples but not among BMSM, a population facing high depression risk due to multiple non-criminal justice factors.

We found geographic variation in reported police harassment: participants in Boston and San Francisco were more likely to report police harassment than participants in Washington D.C. and Atlanta. Notably, Washington D.C. and Atlanta have much larger Black populations relative to their total population than do Boston and San Francisco (United States Census Bureau, n.d.). These racial breakdowns are also reflected in the police departments of these cities (Governing the States and Localities, 2015). It is possible that Black individuals living in cities with greater racial diversity and police departments with greater number of Black officers are protected from experiences of racial profiling by police. However, HPTN 061 is not comprised of representative samples of each city and the sampling strategies are different in each city, precluding direct comparison. Thus, this finding may be a result of the sampling method rather than demonstrating differences in police harassment by city.

We found that Black men who experienced police harassment due to both their race and sexuality faced additive risk of adverse mental health outcomes that exceeded the risk faced by men who experienced police harassment due to only one of these identities or did not report police harassment due to either of these identities. There is a growing body of research confirming that individuals with multiple minority identities experience forms of discrimination beyond that of either of their individual minority identities (Bowleg, 2012). While we do not compare men with multiple minority identities to those with only one, we find here that among men with multiple minority identities, men who experience discrimination motivated by two of their minority identities experience worse mental health outcomes than men experiencing harassment motivated by only one minority identity or who do not report experiencing harassment motivated by either identity.

The study has several limitations. First, approximately one quarter of participants were not present at the 12-month follow-up assessment. We note that 25% of participants are missing at 12 months and that there are multiple reasons for loss to follow-up, including death, incarceration, and discontinued interest in the research study. However, we found that individuals who were present for the 12-month follow-up were similar to those missing at the 12-month follow-up across several baseline demographic and psychosocial characteristics. Another limitation is that

while our study includes BMSM across multiple cities, our results may not be representative of BMSM in rural areas, including the southern U. S. Even within these six urban cities, sampling was non-representative; HPTN 061 intentionally selected BMSM at high risk of HIV transmission through a convenience sample. Though non-representative, by demonstrating that police harassment is quite common and associated with elevated risk of adverse psychosocial outcomes in this sample, our findings point to the need for continued research on the effects of criminal justice exposure among racial and sexual minority individuals. These findings also indicate a need for research on police harassment and violence across multiple cities to facilitate comparisons of police practices and increase variation in police harassment. Our study relied on self-reported perceptions of police harassment and psychosocial vulnerability, distress, and depression symptomatology outcomes, which may be impacted by social desirability bias and same-source bias. Moreover, both the exposure and outcomes are subjective and thus may be correlated, perhaps as a function of personality type. Finally, at the time of writing, these data are a decade old. While the national consciousness of police harassment and killing of Black Americans has increased since the Black Lives Matter movement began in 2013, data suggest that actual police harassment and killings have not dramatically changed. While the data are old, the results are timely. These findings on the prevalence and implications of police harassment of BMSM add to the national conversation about reforming and defunding police departments.

5. Conclusions

Our findings provide evidence that police harassment is highly prevalent among one of the largest longitudinal cohort of BMSM in the United States. Moreover, our findings of psychological distress among those reporting police harassment (and the additive risks of distress among those attributing this harassment to both their racial and sexual identities) are among the first based on longitudinal data in any population. These findings have important implications for healthcare providers working with BMSM at high risk of HIV infection, who may need to understand the unique contributions of police contact to the physical and mental health wellbeing of their patient populations. Literature on system avoidance among justice-involved populations suggest that threat of police harassment may prevent BMSM from seeking treatment and counseling (Brayne, 2014). Thus, a more comprehensive and integrated approach to care is needed to address the needs of BMSM.

Our results also suggest that the growing calls for police reform and professionalism (President's Task Force on 21st Century Policing, 2015), and recent reforms and accountability measures introduced in many cities (Cole, Collins, Finn, & Lawrence, 2017; Kelly, Childress, & Rich, 2015), stand not only to reduce racial bias in policing and the associated health consequences, but to also mitigate the health risks faced by sexual minorities and those with multiple minority statuses. Improvements to officer training – particularly training related to implicit bias, cultural responsiveness, and procedural justice – have the potential to consider the unique circumstances of these populations, and provide officers the tools to recognize and address their biases (President's Task Force on 21st Century Policing, 2015). In so doing, police departments have the potential to not only build trust among the diverse communities they serve, but actively contribute to population health.

Ethical statement

For the original HPTN 061 study, institutional review board approval was obtained from all participating institutions: Emory University IRB #2- Biomedical IRB (Committee A), Fenway Community Health IRB #1, University of California, Los Angeles - South General Campus IRB, Columbia University Medical Center IRB, New York Blood Center IRB, San Francisco General Hospital Committee IRB #2, and George Washington University Medical Center IRB. This secondary data analysis of de-identified data was exempt from review by the New York University institutional review board.

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Availability of data and materials

The data that support the findings of this study are available upon request from The HIV Prevention Trials Network (https://www.hptn.org/research/studies/hptn061/accesstostudydata) but restrictions apply to the availability of these data. These restrictions preclude the authors from sharing the de-identified datasets or placing them in a public database.

CRediT authorship contribution statement

Molly Remch: Methodology, Formal analysis, Writing - original draft. **Dustin T. Duncan:** Writing - original draft. **Amanda Geller:** Writing - original draft. **Rodman Turpin:** Writing - original draft. **Typhanye Dyer:** Writing - original draft. **Joy D. Scheidell:** Methodology, Writing - review & editing. **Charles M. Cleland:** Software, Writing - review & editing. **Jay S. Kaufman:** Methodology, Writing - review & editing. **Russell Brewer:** Writing - original draft. **Christopher Hucks-Ortiz:** Writing - review & editing. **Willem van der Mei:** Software, Data curation. **Kenneth H. Mayer:** Writing - review & editing. **Maria R. Khan:** Conceptualization, Methodology, Writing - original draft.

Declaration of competing interest

The authors have no conflicts of interest to disclose.

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