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Intersectional social control: The roles of incarceration and police discrimination in psychological and HIV-related outcomes for Black sexual minority men

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In the era of mass incarceration, Black, gay, bisexual, and other sexual minority men (SMM) are among the groups facing the highest rates of incarceration in the U.S. (Movement Advancement Project & Center for American Progress, 2016, 2017). While there are limited available data on incarceration at the intersection of racial and sexual minority status, recent estimates indicate that the percentage of Black SMM incarcerated (Meyer et al., 2017) is at least 15 times greater than the percentage of these men in the general U.S. population (Foundation for AIDS Research, 2015). Critically, this is likely an underestimate given these rates do not account for men who do not feel safe to identify as SMM in prison (Brewer et al., 2014; Meyer et al., 2017) where anti-SMM violence is commonplace (Ba'ak et al., 2018). Despite these alarming numbers, experiences of oppression that uniquely contribute to incarceration among Black SMM are often rendered invisible as they are aggregated with those of Black heterosexual men or White SMM (Purdie-Vaughns & Eibach, 2008). This is important given recent studies suggest that incarceration is intertwined with health inequities, like HIV (Barskey et al., 2015; Centers for Disease Control and Prevention, 2018; Gough et al., 2010; Khan et al., 2019) and chronic depression (American Psychological

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Association Working Group on Health Disparities in Boys and Men, 2018; Fazel & Danesh, 2002; Wilper et al., 2009), that disproportionately affect Black SMM compared to their White and heterosexual peers (Foundation for AIDS Research, 2015). Moreover, evidence indicates that structural mechanisms like police and law enforcement discrimination may drive and be driven by inequities in incarceration and affect the health of Black men broadly (Bowleg et al., 2020; English et al., 2017), and Black SMM specifically (Movement Advancement Project & Center for American Progress, 2016, 2017). This research notwithstanding, there has been relatively few studies examining the mechanisms and outcomes of the mass incarceration of Black SMM (Harawa et al., 2017; Maulsby et al., 2014) including how incarceration, police and law enforcement discrimination, and arrests are associated with psychological and HIV-relevant outcomes.

Multiple theoretical frameworks include incarceration and anti-Black police discrimination as fundamental and interconnected social determinants of psychological and behavioral health for Black men in the U.S. (Brinkley-Rubinstein, 2013; Xanthos et al., 2010). Additionally, critical race (Delgado & Stefancic, 2017) and queer (Jagose, 1996) theories identify that incarceration has historically operated as an agent of White supremacy, structural heterosexism, and social control of Black men and SMM who are deemed simultaneously inferior and threatening to the U.S. power structure. The experiences of Black SMM are particularly important in this context because, as posited in the intersectionality framework, anti-Black and anti-SMM oppression are mutually constitutive and inextricably intertwined for these men (Bowleg, 2013; Collins, 2002; Crenshaw, 1989). Indeed, the intersection of these forms of oppression has been reflected in the experiences of Black SMM with police and law enforcement throughout U.S. history since their roots in early “slave patrols,” which aimed to prevent the escape or rebellion of Black slaves (Walker, 1980). More recently, the intersection of racism and heterosexism is reflected in the experiences of Black and SMM communities that face hyper-policing, particularly with the inequitable enforcement and prosecution of drug and HIV criminalization laws (Movement Advancement Project & Center for American Progress, 2016, 2017). Perpetrations of police discrimination are likely to be especially impactful for Black SMM who are formerly incarcerated, as evidence indicates experiences of police discrimination are more frequent among formerly incarcerated Black men after they are released from detention (Fazel & Danesh, 2002). Moreover, emerging theoretical literature (Maulsby et al., 2014; Wilson et al., 2014) points to discrimination as a key mechanism predicting re-incarceration and negative psychological and behavioral health outcomes among formerly incarcerated people (Brinkley-Rubinstein, 2013). This is consistent with the ecosocial (Krieger, 2001), minority stress (Brooks, 1981; Hatzenbuehler, 2009; Meyer, 2003), and the biopsychosocial (Clark et al., 1999) theoretical frameworks that indicate discrimination initiates stress processes that can affect social, psychological, and behavioral health inequities among Black SMM. These stress processes involve psychological reactions to discrimination (e.g., anger, fear, hopelessness) and compensatory processes like coping and emotion regulation that ultimately affect health. Taken together, this research suggests that police and law enforcement discrimination, as a form of socially inflicted trauma and control (Krieger, 2001), may be a key mechanism linking incarceration to re-arrest and the epidemiology of psychological and HIV-relevant outcomes for Black SMM.

Empirical studies suggest that incarceration has both direct effects, and indirect effects through discrimination, on psychological and HIV-related outcomes among Black SMM. For example, public health data indicate that HIV seroconversion is more likely among individuals who have been incarcerated, with the highest risk among Black men (Gough et al., 2010). Indeed, recent incarceration and longer incarceration history has been linked to post-release HIV risk among SMM (Khan et al., 2019), a risk which may be even higher among Black SMM than their White SMM peers as a result of racial inequities in policing and arrests (Lim et al., 2011). However, studies examining the incarceration-HIV risk association have been mixed, as results from a large-scale longitudinal study of 1,278 Black SMM found no association between incarceration and HIV risk one year later (Brewer et al., 2014).

Results of studies examining the effects of incarceration on Pre-Exposure Prophylaxis (PrEP) engagement for Black SMM are even less definitive, as past studies have reported no association between incarceration and PrEP awareness and beliefs (Bauermeister et al., 2013), while others show negative associations between incarceration and PrEP-related healthcare (Brinkley-Rubinstein et al., 2018). However, other studies suggest that, as a result of increased access to biomedical HIV information, arrests and incarceration are associated with greater engagement in HIV treatment among Black SMM (Schneider et al., 2017) and greater willingness to use PrEP among Black men generally (Ojikutu et al., 2018). Thus, the association between incarceration and willingness to use PrEP among Black SMM remains unclear (Maulsby et al., 2014).

Regarding psychological health, a wealth of evidence shows that people who have experienced incarceration have disproportionately high levels of psychological difficulties, even after controlling for psychological health at time of imprisonment (Wildeman & Wang, 2017). Studies also suggest that incarceration can be a particularly violent experience for Black SMM, who face a higher likelihood of sexual victimization from inmates than their White and Black heterosexual peers (Beck et al., 2013). Black SMM also face more staff sexual victimization than any other group at the intersection of racial and sexual identities (Beck et al., 2013). Moreover, evidence indicates that Black SMM may be at higher risk of being put in solitary confinement than their counterparts of other racial and sexual identities, which is linked to worse psychological outcomes for incarcerated individuals (Movement Advancement Project & Center for American Progress, 2016).

Critically, an emerging body of evidence indicates that incarceration may affect psychological health and future arrests among Black SMM through its effects on police and law enforcement discrimination (i.e., incarceration → police discrimination → arrests and psychological health; Brewer et al., 2014; Movement Advancement Project & Center for American Progress, 2016, 2017). We define police and law enforcement discrimination as the targeting and/or abuse of people with a perceived stigmatized identity(ies) (e.g., racial, sexual identity) by biased law enforcement officials (English et al., 2017). A recent study found that negative police encounters and police avoidance mediated the association between incarceration history and depressive symptoms among a socioeconomically diverse sample of Black men (Bowleg et al., 2020). Another study found that police and law enforcement discrimination was most common among previously-incarcerated Black men

and was positively associated with depressive symptoms, suggesting a mediated pathway to psychological health (English et al., 2017). This research is critical as emerging evidence indicates that police discrimination is a common experience among Black SMM, and that it is linked to HIV vulnerability (Parker et al., 2018). Regarding potential mediation from prior incarceration to later arrests through police discrimination, evidence indicates racial discrimination may be associated with incarceration history and predict higher likelihood of future arrest and incarceration among Black SMM (Brewer et al., 2014). These studies notwithstanding, discrimination from police and law enforcement is rarely studied among Black SMM (Maulsby et al., 2014). As such, there is little information on how prior incarceration and subsequent police and law enforcement discrimination affects future likelihood of arrests as well as psychological and HIV-related health inequities affecting Black SMM communities (Harawa et al., 2017).

In the present study, we examined associations between incarceration history, police and law enforcement discrimination, recent arrests, and health outcomes including psychological distress, willingness to take PrEP, and sexual HIV risk (HIV Transmission Risk Behavior [TRB]; i.e., sero-different or unknown anal sex without a condom and not on PrEP). In line with theoretical literature positing that incarceration leads to later discrimination and, in turn, re-arrest (Brinkley-Rubinstein, 2013; Nagin et al., 2009), we hypothesized that prior incarceration history would be positively associated with past-year police and law enforcement discrimination which, in turn, would be positively associated with arrest in the past 3 months. Additionally, given research showing that incarceration, police and law enforcement discrimination, and arrests have impacts on HIV TRB (Lim et al., 2011), PrEP engagement (Brinkley-Rubinstein et al., 2018), and negative psychological outcomes (English et al., 2017), we hypothesized that these predictors would be positively associated with HIV TRB and psychological distress and negatively associated with willingness to take PrEP. Finally, informed by theory on the psychosocial impacts of incarceration (Brinkley-Rubinstein, 2013; Wilson et al., 2014), recent empirical evidence (Bowleg et al., 2020), and quantitative approaches to intersectionality research (Bauer & Scheim, 2019), we hypothesized a mediated association in which incarceration history would be positively associated with police and law enforcement discrimination which, in turn, would be positively associated with HIV TRB and psychological distress and negatively associated with PrEP willingness.

Method

We drew the study sample from the baseline data of the Understanding New Infections through Targeted Epidemiology study (UNITE). UNITE is a national longitudinal cohort study examining predictors of HIV seroconversion among sexual minority men (SMM). The study started in 2017 and included HIV-negative or unknown status SMM of diverse racial/ethnic backgrounds, ages, and geographic regions, who indicated some HIV risk behavior in the past 6 months. The study team recruited participants with targeted advertisements on social media (e.g., Facebook) and sexual networking sites/applications (e.g., Adam4Adam, Black Gay Chat). As such, the sample was a purposive sample. Interested potential participants completed a brief online screener that assessed the following eligibility criteria: 1) being at least 16 years old; 2) currently identifying as male (including transgender men);

3) reporting a non-heterosexual identity; 4) reporting HIV negative or unknown status; 5) willingness to complete at-home HIV/STI testing; 6) having a mailing address at which packages could be received in the U.S., including Puerto Rico; 7) allowing their contact information to be shared with distributors for the purposes of testing kit and compensation delivery; 8) reporting any app use to find a potential sex partner in the past six months; and 9) reporting risk for HIV in the past 6 months, which included at least one of the following: (a) an STI diagnosis, (b) condomless anal sex (CAS) with a casual male partner, with an HIV-positive or unknown status main partner, or with an HIV-negative main partner who reports CAS with other male partners, or (c) receiving a prescription for post-exposure prophylaxis (PEP). Participants who reported current PrEP use were only deemed eligible if they reported suboptimal adherence that would place them at risk for HIV seroconversion, defined as missing four or more days of dosing in a row or suboptimal adherence (fair, poor, or very poor) using a validated measure of adherence behavior (Phillips et al., 2017).

Participants and Procedures

In total, 14,775 Black-identified SMM completed screening. 3,982 (27.0%) of these respondents were eligible for the study and provided contact information. Of these, 1,439 (36.1%) unique participants completed the enrollment survey. The analytic sample consisted of the 1,172 participants who identified as Non-Hispanic Black/African American only (i.e., not part of a multiracial identity; $n=1,439$), engaged in between 1 and 364 acts over the past 90 days (outlier cutoff; $n=1,204$), and did not test positive for HIV ($n=1,172$).

Following the screener, participants provided brief informed consent online. Next, participants completed an online survey assessing minority stress, psychosocial variables, and HIV risk. Participants received a \$25 gift card for completing the 30-40 minute survey. The Institutional Review Board of The City University of New York (CUNY) reviewed and approved all study procedures.

Measures

Demographics.—Participants reported sociodemographic information like address (for geocoding), age, race/ethnicity, education, income, and subjective social status (SES) (Adler & Stewart, 2007).

Incarceration History and Recent Arrest.—A single item with a dichotomous Yes/No response scale assessed incarceration history: “Have you ever been incarcerated (prison, jail, or juvenile detention)?” To examine a lagged association between incarceration and later experiences of police and law enforcement discrimination, we used responses to another item, “In what year did you most recently get out?” to recode the dichotomous variable to indicate incarceration history prior to the past year. Another single-item variable with a Yes/No response scale assessed whether the respondent had been arrested in the past 3 months.

Police and Law Enforcement Discrimination.—The 8-item version of the Police and Law Enforcement scale (PLE) is a measure informed by qualitative interviews with Black men and designed to assess their experiences of past-year police and law enforcement

discrimination (English et al., 2017). Sample items include “In the past year, how often have police or law enforcement... stopped and searched you for no reason?,” and “...pulled you over for no reason while you were driving?” Respondents answered each question on a 4 point Likert-type scale from (0=*Never* to 4=*Often*). The 8 PLE items served as indicators of a latent variable in the models described below. The PLE has shown concurrent validity with depressive symptoms and discriminant validity with racial discrimination among a sample of Black men (English et al., 2017). In this study, the PLE demonstrated good internal consistency ($\alpha=.91$).

Psychological Distress.—We modeled a psychological distress latent variable with two indicators: composite depressive symptoms and composite anxiety symptoms variables. We chose this measurement model because we were most interested in the overall psychological distress caused by incarceration and police discrimination and there is robust evidence supporting a higher-order factor model that drives anxiety and depressive symptoms among SMM (Eaton, 2014; Krueger & Eaton, 2015).

Depressive Symptoms. Participants completed the 10-item Center for Epidemiological Studies Depression scale (CES-D)-10 which assesses depressed affect, somatic symptoms, and positive affect over the past week (Cole et al., 2004). Response options ranged from 0 (*Rarely or none of the time*) to 3 (*Most or all of the time*). We calculated the subscale score by reverse-scoring the positive affect items and computing a mean across all ten items. The scale showed good internal consistency in this study ($\alpha=.85$).

Anxiety Symptoms. Participants completed the anxiety items of the Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983) to assess past-week anxiety symptoms. Response options ranged from 0 (*not at all*) to 4 (*extremely*). We calculated the subscale score by computing a mean across its six items. The scale showed good internal consistency in this study ($\alpha=.91$).

PrEP Willingness.—As in past studies of PrEP willingness (Rendina et al., 2017), we measured the construct with a single ordinal item that inquired, “Suppose that PrEP is at least 90% effective in preventing HIV when taken daily. How likely would you be to take PrEP if it were available for free?” Participants responded on a likert-type scale ranging from 0 (I would definitely not take it) to 4 (I would definitely take it) This item has been used to effectively distinguish PrEP willingness and intention among a national sample of SMM in past research (Rendina et al., 2017).

Sexual Behavior.—Participants completed a retrospective summary sex assessment focusing on daily sexual activity during the prior 90 days. For every instance of sexual activity, the survey inquired about the sexual partner (e.g., HIV serostatus), including the types of sexual behavior with them (e.g., anal sex with a condom). Evidence suggests that aggregated recall methods such as this provide an accurate picture of sexual behavior across periods over 30 days as compared to daily methods (Rendina et al., 2015). For the purposes of these analyses, we calculated the total number of sexual acts and the total number of anal sex acts (insertive and receptive) with a sero-different or unknown casual partner with a

penis while not using condoms or PrEP (i.e., HIV TRB). This HIV TRB variable included both insertive and receptive acts.

Covariates.—To isolate the effects of police discrimination from different forms of racial and sexual identity discrimination, we adjusted the models below for these constructs, which we assessed using the race and sexual identity versions of the Everyday Discrimination Scale (EDS) (Williams et al., 1997). The EDS consists of nine items (e.g., “you are treated with less courtesy than other people”) that are rated on a scale from 1 (never) to 6 (almost every day). Thus, frequency index scores range from 9 to 54. We used two separate scales that specifically asked about racial and sexual identity discrimination. Both scales showed good internal consistency with alphas of .94 (race version) and .93 (sexual identity version).

Analysis Plan—Prior to testing the hypothesized model, we ran separate confirmatory factor analyses (CFAs) with *Mplus* 8.6 on the latent PLE and psychological distress variables. We used accepted model fit indices to evaluate the appropriateness of each latent variable specification (Hu & Bentler, 1999).

We tested hypothesized pathways as a structural equation model within *Mplus* (see Figure 1). In this model, we tested direct effects of the dichotomous incarceration history variable, latent police discrimination variable, and dichotomous recent arrest variable and adjusted for the effects of racial discrimination, sexual identity discrimination, age, subjective social status, and transactional sex on the three outcome variables. We specified PrEP willingness as an ordinal outcome and HIV TRB as a count outcome with a zero-inflated poisson distribution to account for the 60% of participants who reported no HIV TRB (i.e., the zero-inflated portion of the model). We also used an offset equal to the log of the total number of sex acts. The effect of this offset is to model the rate of TRB given the overall amount of sex rather than a standard count of each, which can be biased by the number of opportunities individuals had to engage in each act. Because we specified HIV TRB as a count variable, we were unable to examine fit indices as these are not available for models with poisson regressions. We clustered observations by U.S. region (i.e., Northeast, Midwest, South, West) with the CLUSTER command to adjust for regional variations in predictor and outcome variables. To examine police discrimination as a mediator variable we used the MODEL INDIRECT and IND commands, which calculate conventional indirect effects and assess latent response variables underlying categorical mediators (Muthén & Muthén, 2017). We calculated estimates for the indirect pathways with HIV TRB as the outcome manually using the MODEL CONSTRAINT command in line with best practice for mediation models with count outcomes (Muthén, 2011).

Regarding missing data, complete data rates for primary model variables were: 100% for age, SES, transactional sex, racial and sexual identity discrimination, incarceration, recent arrests, and HIV TRB; 99.7% for PrEP willingness; 97% for anxiety symptoms and depressive symptoms; and between 96-97% for the PLE items. In line with the *Mplus* default, we used full information maximum likelihood estimation under the assumption that data were missing at random (MAR)(Willett et al., 1996). This assumption was tenable given there were no differences between participants with and without missing data across

any study variables, and there was no reason to expect systematic differences in our dependent variables based on missingness patterns (Bhaskaran & Smeeth, 2014).

Results

Table 1 includes demographic characteristics of the sample. The majority of participants was gay-identified, single, and had some college education. Overall, this sample is younger, with more formal education, though lower income than other U.S. Black Lesbian, Gay, Bisexual, and Transgender (LGBT) communities (Nationwide rates: $M_{age}=35.3$; high school education or less=49%; unemployment rate=11%; income below 24k=36%; The Williams Institute of the UCLA School of Law, 2019). The majority of the sample reported no prior incarceration (85.9%), and was not arrested in the last 3 months (98.1%). The average number of HIV TRBs was 2.87 ($Mdn=0$). Forty-three percent of participants with complete data on the PLE reported at least one experience of past-year police discrimination. Table 2 provides information on correlations among all variables included in the structural equation model.

Regarding latent variable specification, a CFA indicated that an eight-item one-factor specification of the police discrimination variable fit the data adequately, $\chi^2(19)=167.03$, $p<0.001$; CFI=0.97, TLI=0.96, RMSEA=0.08. Standardized factor loadings ranged from 0.62 to 0.84. These results are consistent with past research with Black men broadly (English et al., 2017). For the psychological distress variable, although we were unable to consult fit statistics since it was an under-identified variable with two indicators, standardized factor loadings were 0.99 (anxiety) and 0.64 (depressive symptoms).

Figure 1 depicts the structural equation model that tested study hypotheses. Prior incarceration was positively associated with police discrimination ($b=0.39$, $SE=0.15$, $p<0.01$), and HIV TRB ($b=0.29$, $SE=0.13$, $p<0.05$) and negatively associated with PrEP willingness ($AOR=0.15$, $SE=0.10$, $p<0.01$). There was not a significant association between prior incarceration and psychological distress ($b=-0.11$, $SE=0.11$, $p=0.32$). Police discrimination was positively associated with psychological distress ($b=0.18$, $SE=0.03$, $p<0.001$) and recent arrest ($AOR=1.78$, $SE=0.19$, $p<0.001$), and negatively associated with PrEP willingness ($AOR=0.89$, $SE=0.02$, $p<0.001$). There was not a significant association between police discrimination and HIV TRB ($b=-0.12$, $SE=0.20$, $p=0.57$). Recent arrest was positively associated with HIV TRB ($b=0.40$, $SE=0.14$, $p<0.01$) and negatively associated with psychological distress ($b=-0.30$, $SE=0.12$, $p<0.01$). There were not a significant association between recent arrest and PrEP willingness ($AOR=2.11$, $SE=1.73$, $p=0.52$).

Regarding associations with model covariates, racial discrimination was significantly and positively associated with psychological distress ($b=0.13$, $SE=0.02$, $p<0.01$) and HIV TRB ($b=0.09$, $SE=0.01$, $p<0.001$); sexual identity discrimination was positively associated with psychological distress ($b=0.20$, $SE=0.03$, $p<0.001$); age was negatively associated with psychological distress ($b=-0.02$, $SE=0.00$, $p<0.01$) and PrEP willingness ($AOR=0.97$, $SE=0.01$, $p<0.001$); subjective SES was negatively associated with psychological distress ($b=-0.12$, $SE=0.03$, $p<0.001$), HIV TRB ($b=-0.09$, $SE=0.04$, $p<0.01$), and PrEP willingness ($AOR=0.93$, $SE=0.01$, $p<0.001$); and transactional sex was positively associated with

psychological distress ($b= 0.21$, $SE=0.05$, $p<0.001$). No other associations with covariates were significant. All model associations are available in the supplemental appendix.

Table 3 shows results from the indirect effects analyses. The specific indirect effects from prior incarceration to recent arrests and psychological distress, through police discrimination, were significant and positive. The specific indirect effect from prior incarceration to PrEP willingness, through police discrimination, was significant and negative. The specific indirect effect from police discrimination to HIV TRB, through recent arrest, was significant and positive. Finally, the specific indirect effect from prior incarceration, to police discrimination, to recent arrest, to HIV TRB was significant and positive.

Discussion

Research examining the caustic effects of incarceration and police violence has often rendered the experiences of Black SMM invisible (Purdie-Vaughns & Eibach, 2008), as few studies investigate how these mechanisms of structural racism (Delgado & Stefancic, 2017) and heterosexism (Jagose, 1996) affect two of the most pressing health crises facing Black SMM: HIV (Centers for Disease Control and Prevention, 2018) and psychological disorders (American Psychological Association Working Group on Health Disparities in Boys and Men, 2018). In fact, much of the extant research focuses on individual risk behavior of Black SMM, rather than structural oppression, as the driver of these inequities (Matthews et al., 2016). In the present study, we found that prior incarceration history was positively associated with later police and law enforcement discrimination, which, in turn, was positively associated with recent arrest. These variables also showed direct and indirect associations with sexual HIV risk, willingness to use PrEP, and psychological distress (See Figure 1 & Table 3). These results are critical given Black SMM are incarcerated at extremely high rates in the U.S. (Movement Advancement Project & Center for American Progress, 2016, 2017) and we found that 43% of participants reported police discrimination within the past year. As such, the present findings provide evidence that incarceration and police discrimination are interconnected and may contribute to HIV and psychological health inequities among Black SMM. Taken together, these results provide preliminary support for structural interventions that address incarceration and police discrimination as primary targets for reducing inequities in HIV and psychological disorders among Black SMM (Blankenship et al., 2006).

Our results indicating that police and law enforcement discrimination mediated the positive pathway from prior incarceration to recent arrest is consistent with recent empirical evidence with Black men generally (Bowleg et al., 2020) and provides support for theories positing an interrelation between incarceration and police discrimination (Brinkley-Rubinstein, 2013; Wilson et al., 2014; Xanthos et al., 2010). These findings highlight the central role that law enforcement bias may play in maintaining the long-term carceral system involvement among Black SMM that undergirds the current system of U.S. mass incarceration, or hyperincarceration (Wacquant, 2010). Critically, our results suggest the association from incarceration to police discrimination and recent arrest has important implications for current HIV inequities since this pathway was positively associated with sexual HIV risk

among these men. This finding is consistent with research showing that incarceration is a risk factor for HIV (Khan et al., 2019; Lim et al., 2011) and highlights the role that police discrimination may play in keeping Black SMM incarcerated and persistently at high risk for HIV.

The present results also indicate that incarceration and police discrimination can affect HIV prevention through their effects on willingness to use PrEP given prior incarceration and police and law enforcement discrimination were negatively associated with PrEP willingness. This is consistent with studies that have suggested that incarceration negatively influences PrEP access and motivation (Brinkley-Rubinstein et al., 2018), and is the first study, to our knowledge, to show a negative association between police and law enforcement discrimination and PrEP willingness. Critically, our results indicate that incarceration and police and law enforcement discrimination among Black SMM are negatively associated with the willingness to use PrEP even when it is free and they know it is over 90% effective at preventing HIV seroconversion. As such, these mechanisms of mass incarceration may reduce the chances of Black SMM engaging in biomedical HIV prevention even in the context of effective education about, and financial access to, PrEP. The mediators linking incarceration and police discrimination to unwillingness to use PrEP should be explored in future research, though a likely explanation may be that incarceration and police discrimination lead to a conscious, and potentially adaptive, avoidance of institutions that have a history of discriminating against Black SMM (Mosley et al., 2017). Overall, our findings suggest that public health research that has focused on individual behavioral prevention and risk factors for HIV (Matthews et al., 2016) may be fundamentally limited because it does not incorporate structural variables like incarceration and police discrimination that systematically target Black SMM and are linked to both HIV risk and prevention (Wilson et al., 2014; Xanthos et al., 2010).

The finding that police and law enforcement discrimination was positively associated with psychological distress is consistent with past research examining police and law enforcement discrimination and depressive symptoms among Black men generally (Bowleg et al., 2020; English et al., 2017). Conversely, we did not find evidence that past incarceration was associated with psychological distress and, surprisingly, found recent arrest was negatively associated with psychological distress. This result may reflect the fact that participants who were arrested within the three months prior to participating in our study likely had a short, if any, detention. As a result, these participants may have been experiencing psychological relief since their release. This interpretation is consistent with recent research indicating that the majority of formerly-incarcerated people show decreasing or stable-low to moderate levels of psychological distress in the first several months post-release (Thomas et al., 2016). Even if there were to be a collateral and temporary benefit linked to a recent arrest, however, our findings do show that arrests were also linked to higher likelihood of sexual risk behavior, which is commonly associated with psychological distress.

The present results are particularly important because we found police and law enforcement discrimination is common among Black SMM as about 43% of participants reported it over the past year. Taken with a past study with predominantly Black heterosexual men that found

similar prevalence over a timeframe 5 times larger (i.e., 5 years) (English et al., 2017) our results suggest that this discrimination may occur with similar or greater frequency among Black SMM specifically. This interpretation is consistent with ethnographic findings (Parker et al., 2018) and policing statistics (Movement Advancement Project & Center for American Progress, 2016, 2017) that show Black and sexual minority men are disproportionately targeted by law enforcement. That the present rates of police and law enforcement discrimination were negatively associated with PrEP willingness, and positively associated with both psychological distress and sexual HIV risk (through arrests), suggests that inequities in police discrimination, chronic depression (American Psychological Association Working Group on Health Disparities in Boys and Men, 2018), and HIV (Centers for Disease Control and Prevention, 2018) may all be associated for Black SMM. The present results are particularly compelling given we adjusted for and found positive associations between these health outcomes and racial discrimination, sexual identity discrimination, socioeconomic position, and transactional sex, which replicated findings from past studies (e.g., Assari et al., 2018; Bauermeister et al., 2015; Ezennia et al., 2019; Jackson et al., 2020; Jeffries et al., 2013; Maulsby et al., 2014; Yang et al., 2019). Collectively, the present results are consistent with the critical race (Delgado & Stefancic, 2017), queer (Jagose, 1996), and social determinants of health (Xanthos et al., 2010) literature that posit police, law enforcement, and incarceration as agents of long-term social control that drive health inequities among Black SMM by affecting healthcare access, risk, and prevention. As such, our findings suggest that strong and enforceable policies to reduce inequities in incarceration and police discrimination targeting Black SMM may result in the reduction of critical health inequities for these men.

Public Health Implications

The present study supports science and advocacy that identifies police and law enforcement discrimination as a threat to the health of Black and SMM communities in the U.S. (American Public Health Association [Policy number: 201811], 2018). In particular, our results identify that incarceration and police discrimination are associated with psychological distress and put Black SMM at double jeopardy for HIV. Namely, we found evidence these aspects of the carceral system both promote HIV risk and prevent access to effective prevention like PrEP. Our finding that past-year police discrimination occurred for 43% of the sample and was positively associated with prior incarceration and later arrest, both of which inequitably affect Black SMM (Movement Advancement Project & Center for American Progress, 2016, 2017), suggests that police discrimination may be a fundamental and multidimensional driver of the vast and persistent HIV inequities among Black SMM communities (Centers for Disease Control and Prevention, 2018). As such, researchers and policy makers committed to reducing HIV inequities for Black SMM may have the most impact by focusing investigations on structural carceral system interventions designed to reduce the effects of racism and heterosexism within its interlocking institutions (Parker et al., 2018). An example of an intervention target could be the repeal of HIV criminalization laws, for which Black men are significantly more likely to be charged than White men (Hasenbush et al., 2015; Movement Advancement Project & Center for American Progress, 2016). Likewise, a critical target for intervention can be the repeal of policies that increase interpersonal police discrimination, such as stop-and-frisk policing, which are associated

with increased discrimination against Black (New York Civil Liberties Union, 2019) and SMM communities (Center for Constitutional Rights, 2012; Movement Advancement Project & Center for American Progress, 2016) relative to their White and/or heterosexual counterparts. Additionally, intervention programs that reduce implicit and explicit intersectional racist and heterosexist biases toward Black SMM (Kahn et al., 2016), and thereby decrease inequities in arrests and incarceration, have the potential to reduce both rates of HIV and psychological difficulties among these men. Finally, given this study suggests that reducing rates of incarceration may be a critical upstream intervention to improve psychological and sexual health among Black SMM, future research may consider the multidimensional health effects of restorative justice and radical prison reform, and police/prison abolition (Coyle & Schept, 2017; Davis, 2003) for Black SMM.

In terms of HIV intervention development and implementation, the present study suggests that organizations tasked with promoting biomedical HIV prevention (i.e., PrEP and Post Exposure Prophylaxis [PEP]), like local health departments, may benefit from considering the psychological effect of using security and police presence at their clinics as this likely deters Black SMM communities that are both highly targeted by police discrimination and highly in need of HIV treatment and prevention resources. Overall, the present study provides preliminary support for calls for multilevel and intersectional anti-racist and anti-heterosexist advocacy and intervention that reduce carceral system discrimination associated with vast inequities in incarceration, HIV, and psychological disorders among Black SMM.

Strengths and Limitations

This is one of the few studies that has examined the effect of incarceration on the psychological and HIV-related behavioral health of Black SMM and the first, to our knowledge, to examine how police and law enforcement discrimination is associated with both incarceration and these outcomes. Additionally, the present sample is a large national sample of Black SMM and, as such, provides a strong foundation for future longitudinal studies examining associations between incarceration, police discrimination, and psychological and HIV-relevant outcomes among Black SMM.

These strengths notwithstanding, several limitations are worth noting. First, most of the associations we examined were cross-sectional and, as such, our ability to make causal inferences is limited without temporal precedence, especially in mediation models (Cole & Maxwell, 2003). Moreover, the association that did incorporate a time lag (i.e., prior incarceration → past year police discrimination → past three months arrest) did have some time overlap in the police discrimination and arrest variables. Additionally, the present examination of incarceration and recent arrest was limited as we did not incorporate information such as number and length of detentions, type of detention facility, whether participants received mental health screening or care during incarceration, and if police discrimination occurred during an incarceration, arrest, or after release. The use of only self-report assessment of incarceration, arrests, and sexual behavior also may have been a limitation, as there is evidence that participants may underreport on sensitive survey questions about these topics (Tourangeau & Yan, 2007). Finally, the demographics of our participants were not entirely representative of Black LGBT communities generally (The

Williams Institute of the UCLA School of Law, 2019) and experienced lower rates of incarceration and arrests than Black SMM in past studies (Brewer et al., 2014). Moreover, part of the inclusion criteria for the overall study included engagement in dating/sexual networking apps. Thus, our results may reflect how incarceration, police discrimination, and arrests operate for relatively younger Black SMM with more formal education and app-engagement, but lower income.

Future Directions

In addition to the future directions previously noted, future research should examine the effect of incarceration and police discrimination among Black sexual minority women, transgender people, and gender nonconforming people. Evidence shows that inequities in incarceration are extreme among these people, and may be more profound than those for sexual minority men (Meyer et al., 2017; Movement Advancement Project & Center for American Progress, 2016, 2017). Future studies can also examine policies that lead to the individual discriminatory behavior by police and law enforcement assessed in this manuscript (Mesic et al., 2018). Additionally, given research showing that Black boys in the U.S. are criminalized early in the lifespan, it will be important to examine the ways in which school and community-level factors contribute to the cycle of discrimination, incarceration, and distress modeled in this study (Goff et al., 2014).

Conclusions

The U.S. system of policing and mass incarceration that inequitably targets Black SMM is a public health emergency (American Public Health Association [Policy number: 201811], 2018). The present results support the need for structural interventions (Blankenship et al., 2006) to reduce health inequities among Black SMM as they indicate incarceration and police discrimination have direct and indirect associations with psychological and HIV-related health among these men. Critically, our findings show that incarceration and later police discrimination are associated with arrests, indicating that the system of mass incarceration in the U.S. is self-reinforcing and may progressively contribute to health inequities among Black SMM over time. The present study supports the urgency of research, advocacy, and policy that address these aspects of the U.S. carceral system that lead to the social control of Black SMM and undermine their health and wellbeing.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Highlights

- 43% of Black sexual minority men experienced police discrimination in the past year
- Police discrimination is positively associated with psychological distress
- Police discrimination and incarceration are negatively linked to PrEP willingness
- Incarceration is positively associated with police discrimination and later arrest
- Incarceration is linked to PrEP willingness and HIV risk through police discrimination

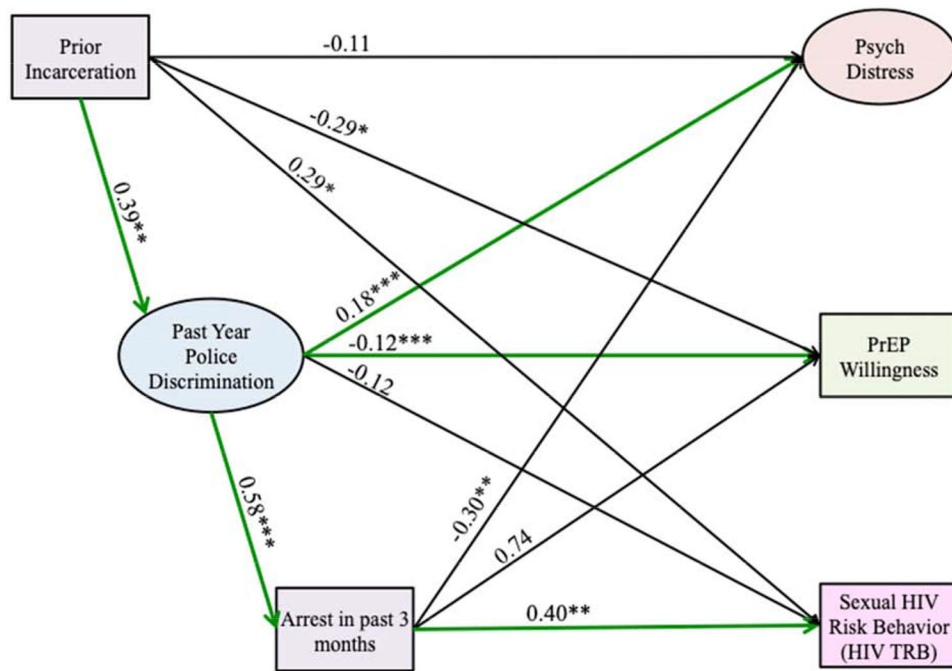


Fig. 1. Unstandardized coefficients for structural equation model examining associations between incarceration, police discrimination, recent arrests and psychological distress, PrEP willingness, and sexual HIV risk.

Note. Sexual HIV Risk Behavior is a zero-inflated poisson distributed count and was offset by the total count of sexual acts. This model is adjusted for racial discrimination, sexual orientation discrimination, subjective social status, age, and transactional sex. Parameter estimates for ordinal outcomes (i.e., PrEP willingness) are *b*'s to be consistent with other parameter estimates. Mediated pathways highlighted in green. *** *p* .001, ** *p* .01, * *p* .05

Table 1.Demographic Characteristics and PrEP and Incarceration Frequencies ($N=1,172$).

	<i>n</i>	%
Sexual Orientation		
Gay	877	74.8
Queer	27	2.3
Bisexual	268	22.9
Formal Education Attainment		
High School Diploma, GED, or less	216	18.4
Some College, Associate's degree, or currently enrolled in college	574	49.0
4-Year College Degree	249	21.2
Graduate School	133	11.3
Income		
< \$20,000	455	38.8
\$20,000-\$49,000	504	43.0
\$50,000-\$74,000	133	11.3
\$75,000	69	5.9
Subjective Social Status		
1-2	34	2.9
3-4	205	17.5
5-6	534	45.6
7-8	365	31.1
9-10	34	2.9
HIV Status		
Negative (confirmed)	797	68.0
Negative (unconfirmed)	291	24.8
Unknown	84	7.2
Relationship Status		
Single	915	78.1
Partnered	257	21.9
Incarceration History		
No	1009	86.1
Yes	163	13.9
Arrest in Past Three Months		
No	1150	98.1
Yes	22	1.9
PrEP Willingness		
I would definitely not take it	17	1.5
I would probably not take it	33	2.8
I might take it	107	9.1
I would probably take it	145	12.4
I would definitely take it	757	64.6

	<i>n</i>	%
Currently on PrEP	101	9.4
	<i>M</i>	<i>SD</i>
Age (Range: 55, <i>Mdn</i> = 28)	30.34	9.44
Number of sexual HIV Risk Behaviors (<i>Mdn</i> = 0)	2.87	8.61

Note. For HIV status, negative (confirmed) refers to those participants who self-reported a negative HIV status and tested negative. Negative (unconfirmed) refers to participants who reported a negative HIV status, but did not complete testing. Positive refers to participants who tested positive. Unknown refers to participants who self-reported Unknown and did not complete testing. The total *n* for income does not equal 100% because participants under 18 were not asked. The participants who were currently on PrEP were not included as part of PrEP willingness variable in the analyses.

Table 2.

Descriptive statistics and correlations among variables included in the structural equation model.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Prior Incarceration	--											
2. Police Discrimination	.12***	--										
3. Recent Arrest	.13***	.15***	--									
4. Anxiety	.01	.22***	.03	--								
5. Depressive Symptoms	.02	.18***	.01	.63***	--							
6. PrEP Willingness	-.07*	-.04	.02	.03	.05	--						
7. Sexual HIV Risk	.06*	.09**	.06*	.03	.08**	-.01	--					
8. Racial Discrimination	.10***	.24***	.07*	.23***	.27***	.02	.09**	--				
9. Sexual Identity Discrimination	.09**	.27***	.07*	.28**	.28***	.02	.13***	.59***	--			
10. Subjective Social Status	-.13***	-.06*	-.05	-.16***	-.22***	-.08**	-.06*	-.11***	-.13***	--		
11. Age	.18***	-.01	.02	-.13***	-.15***	-.16***	.13***	-.06*	-.06*	.17***	--	
12. Transactional Sex	.15***	.14***	.05	.09**	.14***	-.05	.07*	.10***	.13***	-.11***	.01	--
Range	0-1	0-3	0-1	0-4	0-30	1-5	0-102	1-6	1-6	1-10	16-71	0-1
Mean	.14	.26	.02	.76	11.17	4.50	2.87	2.87	2.08	5.75	30.34	.29
SD	.35	.51	.14	.89	6.32	.91	8.61	1.22	1.08	1.64	9.44	.45
α (for non-categorical variables)	--	.91	--	.90	.85	--	--	.94	.93	--	--	--

Note:

*** $p < .001$,

** $p < .01$,

* $p < .05$

All correlations are with observed scores. The estimates between continuous variables are Pearson correlations, correlations between continuous and dichotomous variables are point biserial correlations, correlations between continuous and ordinal variables are point polyserial correlations, correlations between ordinal and other ordinal or binary variables are polychoric correlations, and correlations between binary variables are tetrachoric correlations.

Indirect effects linking incarceration, police and law enforcement discrimination, recent arrest, and psychological and sexual HIV risk behavior (HIV TRB) from model depicted in Figure 1.

Table 3.

	<i>Estimate</i>	<i>Std. Err</i>
Incarceration → Police Discrimination → Recent Arrest	0.23 **	0.08
Incarceration → Police Discrimination → PrEP Willingness	-0.05 ***	0.01
Incarceration → Police Discrimination → Psychological Distress	0.07 *	0.03
Police Discrimination → Recent Arrest → HIV TRB	0.23 ***	0.07
Incarceration → Police Discrimination → Recent Arrest → HIV TRB	0.09 *	0.05

Note.

*** *p* .001,

** *p* .01,

* *p* .05

HIV TRB= Sexual HIV risk behavior