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PSYCHOSOCIAL HEALTH DISPARITIES AMONG BLACK BISEXUAL MEN: EFFECTS OF SEXUALITY NONDISCLOSURE AND GAY COMMUNITY SUPPORT

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Abstract

BACKGROUND—Compared with Black gay men, Black bisexual men experience psychosocial health disparities, including depression, polydrug use, physical assault, and intimate partner violence (IPV). Black bisexual men are also less likely to disclose their sexuality, which may result in them receiving less sexual minority community support, exacerbating psychosocial health disparities. We assessed relationships between bisexual behavior, bisexual identity, sexuality nondisclosure, gay community support, and psychosocial morbidities among Black men who have sex with men (MSM).

METHODS—Between 2014–2017, survey data were collected from Black MSM ≥18 years old (n=4430) at Black Pride events in six U.S. cities. We differentiated between bisexual-identified men reporting past-year sex with men and women (bisexual MSMW: 8.4%); gay-identified men reporting sex with men only (gay MSMO: 73.1%); gay MSMW (8.0%); and bisexual MSMO (8.4%). Multivariable regressions contrasted these groups by psychosocial morbidities, sexuality nondisclosure, and gay community support. Structural equation models assessed total, direct and indirect effects.

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RESULTS—Compared with gay MSMO, bisexual MSMW and gay MSMW were significantly more likely to report polydrug use, depression symptoms, IPV, physical assault, sexuality nondisclosure, and lack of gay community support. Lack of gay community support had significant indirect effects on the relationships between bisexual behavior and psychosocial morbidity ($p<.001$) and between bisexual identity and psychosocial morbidity ($p<.001$). Sexuality nondisclosure had significant indirect effects on relationships between bisexual behavior ($p<.001$), bisexual identity ($p<.001$) and lack of gay community support.

DISCUSSION—Psychosocial health disparities experienced by Black bisexual men are associated with both bisexual behavior and bisexual identity. Interventions decreasing biphobia will facilitate opportunities for protective sexuality disclosure and access to sexual minority community support.

Keywords

Male bisexuality; Black/African-American; psychosocial health; social support; sexuality disclosure

INTRODUCTION

In the United States, bisexual men experience severe and enduring psychosocial health disparities when compared to both their straight and their gay counterparts (Dodge, Sandfort, & Firestein, 2007; Friedman & Dodge, 2016; M Reuel Friedman, Ron Stall, et al., 2014). These psychosocial health disparities have been documented among men who behave bisexually and men who identify bisexually, in both community-based and nationally representative samples, and include higher rates of intimate partner violence (IPV), depression symptoms and other mood disorders, physical assault, substance use, and transactional sex involvement (Bostwick, Boyd, Hughes, & McCabe, 2010; Dodge et al., 2007; Dyer, Regan, Pacek, Acheampong, & Khan, 2015; M Reuel Friedman, Steven P Kurtz, et al., 2014; M Reuel Friedman, Ron Stall, et al., 2014; McCabe, Hughes, Bostwick, West, & Boyd, 2009; Pathela & Schillinger, 2010; Walters, Chen, & Breiding, 2013). Mechanisms theorized to be responsible for these disparities include substantial perceived and enacted stigma and discrimination from both straight and gay and lesbian communities related to the expression of bisexual identities and behaviors (Friedman & Dodge, 2016; M Reuel Friedman, Brian Dodge, et al., 2014; Herek, 2002). This stigma has been termed biphobia and enacted as “double discrimination,” reflecting discrimination from both sexual majority and sexual minority communities. Biphobia has been associated with the omission of bisexual people from the dominant monosexual social fabric, resulting in feelings of alienation, marginalization, and invisibility among bisexual people (Dodge, Schnarrs, Reece, Goncalves, et al., 2012; Dodge, Schnarrs, Reece, Martinez, et al., 2012; Ross, Dobinson, & Eady, 2010).

To avoid experiencing stigma and discrimination from others, bisexual men are less likely than their gay peers to disclose their identities and/or behaviors to family, friends, and health care providers (Bernstein et al., 2008; Kalichman, Roffman, Picciano, & Bolan, 1998; Solorio, Swendeman, & Rotheram-Borus, 2003; Wheeler, Lauby, Liu, Van Sluytman, & Murrill, 2008). Importantly, bisexuals in the U.S. have reported living in a “double closet,”

where they must be vigilant about not disclosing their heterosexual behavior to gay and lesbian friends and family or their homosexual behavior to heterosexual friends and family (McLean, 2001; Zinik, 1985). Perhaps as a sequelae of nondisclosure, bisexually-behaving men report lower levels of overall social support than men who have sex with men only (Dyer et al., 2013; Friedman, Coulter, et al., 2016). As a result of experiencing stigma, marginalization, and discrimination from gay communities, bisexually-identified men may be less attached to gay communities (Dodge, Schnarrs, Reece, Goncalves, et al., 2012; Dodge, Schnarrs, Reece, Martinez, et al., 2012) and therefore may experience less sexual minority community support. Sexual minority (specifically, gay) attachment and support has been theorized and demonstrated to buffer mental health conditions arising from stressors experienced by gay men related to the stigma, marginalization, and discrimination they experience from straight communities (Sattler, Wagner, & Christiansen, 2016; Stall, Friedman, & Catania, 2008). Because men who are bisexual (whether in behavior, in identity, or both) may experience additional stigma from gay communities (M. Reuel Friedman et al., 2014), and because physical communities dedicated to bisexuals often do not exist (Dodge, Schnarrs, Reece, Martinez, et al., 2012; Friedman & Dodge, 2016; W. L. Jeffries, 2014; Ross et al., 2010), it is likely that bisexual men have difficulty accessing sexual minority support relevant to their lived experiences.

Bisexual men who identify as Black have also been shown to experience psychosocial health disparities compared with Black gay men, including transactional sex, substance use, and depression (Dyer et al., 2013; Latkin et al., 2011; Spikes et al., 2009). Heightened cultural expectations of heteronormativity within Black communities-at-large can create substantial emotional conflict for Black men who are attracted to other men, and may encourage behaviors, including both sex with women and sexuality nondisclosure, that insulate them from perceptions of homosexuality and bisexuality (Bowleg, 2013; Wilson, 2008). Black bisexual men have been found less likely to disclose same-sex behavior compared with White bisexual men (McKirnan, Stokes, Doll, & Burzette, 1995; Shearer, Khosropour, Stephenson, & Sullivan, 2012). Among Black bisexually-behaving men, higher internalized homophobia has been associated with lower disclosure of same-sex behavior to female partners and lower uptake of HIV testing (Shoptaw et al., 2009). Sexual behavior disclosure in this community has been described as existing along a continuum, influenced by trust, shared history, and concerns about stigma and violent reactions (David J Malebranche, Arriola, Jenkins, Dauria, & Patel, 2010).

Despite the consistency of findings demonstrating psychosocial vulnerabilities among Black bisexual men in the U.S., research has typically concentrated on either men who behave bisexually or men who identify as bisexual, rather than assessing both behavior and identity concomitantly. This is relevant chiefly because bisexual identity and behavior, while typically correlated, have been shown to be somewhat discordant in U.S.-based samples, generally with lower proportions of men identifying as bisexual than behaving bisexually, including among Black men (Goodenow, Netherland, & Szalacha, 2002; Matthews, Blosnich, Farmer, & Adams, 2014; Myers et al., 1997; O'Leary, Purcell, Remien, Fisher, & Spikes, 2007; Pathela & Schillinger, 2010; Xia et al., 2006). For these reasons, existing research has not identified whether health disparities among Black bisexual men are to a greater degree associated with bisexual *identity*, with bisexual *behavior,* or with their

combination. This is particularly important to understand among Black men, mainly because relatively higher proportions of Black MSM behave bisexually than do White MSM (Binson et al., 1995; Friedman, Stall, et al., 2016; Millett, Malebranche, Mason, & Spikes, 2005). We have noted that bisexually-behaving men report receiving lower *overall* social support than men who have sex with men only; while researchers have theorized that bisexual men receive less support from gay communities than their gay counterparts (Friedman & Dodge, 2016), this theory has not yet been empirically tested. If this is indeed true, it is important to empirically assess whether the psychosocial health disparities that bisexual men face is a function of their relative lack of gay community support, as has been theorized in the application of syndemic theory to bisexual men (Friedman & Dodge, 2016).

We assessed the following three research questions in this study. First, are psychosocial health disparities among Black bisexual men (compared with Black gay and other men who have sex with men) related to bisexual identity, to bisexual behavior, or to both? Second, is bisexuality associated with nondisclosure of sexuality and in turn, lower receipt of gay community support? Finally, does gay community support mediate the relationship between bisexuality and psychosocial health disparities? To assess these research questions, we conducted multivariable regression and structural equation models using a four-year, serial cross-sectional sample of Black MSM across six cities in the United States.

METHODS

Sample

Data came from the Promoting, Our Worth, Equality, and Resilience Study (POWER). Between 2014–2017, POWER employed time-location sampling (TLS) (Raymond & McFarland, 2009) to recruit men and transgender women who have sex with men. Participants were sampled at Black Pride events in six cities: Atlanta, GA; Detroit, MI; Houston, TX; Memphis, TN; Philadelphia, PA; and Washington, DC. Individuals were eligible to participate if they: (1) were assigned male sex at birth; (2) reported having a male sexual partner in their lifetime; and (3) were 18 years or older. This study only includes the sub-sample of those who: (1) self-identified as “Black” or “African American”; (2) had a current gender identity of “male”; and (3) reported past-year anal sex with other men.

Participants completed an anonymous, computer-assisted self-interview (CASI) on an electronic tablet. Participants took approximately 20 minutes to complete this survey. To prevent duplication of participants in our sample, we asked participants a series of questions to create a unique identifier code (Hammer et al., 2003). Anyone with a duplicate questionnaire within a data collection cycle had only their first response included in the current study. A total of 5858 surveys were completed. We identified and excluded: 301 duplicated individuals; 11 intersex individuals; 51 participants with missing or unconfirmed age data; 244 individuals who did not identify as Black or African-American; 167 transgender individuals; 654 individuals who either did not report sex with males in their lifetimes or reported no anal sex with male partners in the past year, or whose past-year sexual behavior data was wholly missing. This resulted in a sample size of 4430 sexually active Black men.

All study procedures were approved by the [redacted for review] Institutional Review Board.

Measures

Sociodemographics—Participants self-reported data on race, Hispanic or Latino ethnicity, age, annual income, educational attainment, and sexual identity. Sexual identity responses allowed for: gay/same gender loving; heterosexual or "straight;" bisexual; other; and don't know. City and year sampled were included as covariates in multivariable models. Ethnicity, low-income status (annual income <$10,000), and age (40 years and older) were treated as dichotomous covariates in multivariable models. We used a two-step question to assess gender identity of respondents (sex assigned at birth, followed by current gender identity). Analyses were limited to cismale respondents.

Bisexual behavior—Participants were asked, "Have you ever had sex (anal or oral) with a male partner?" Participants who responded "yes" were then asked, "Have you had anal sex with a man in the past year?" Participants were also asked, "Have you ever had vaginal or anal sex with a woman?" with those responding "yes" also being asked "In the past 12 months, with how many different women have you had vaginal or anal sex?" Participants who reported one or more male anal and one or more female anal or vaginal sexual partners in the past year were classified as men who had sex with men and women (MSMW) in analyses; those that reported one or more male anal sex partners in the past year, but no female vaginal or anal sex partners in the past year, were classified as men who had sex with men only (MSMO).

We grouped participants into eight categories based on sexual behavior and identity responses: gay-identified MSMO; bisexual-identified MSMO; heterosexual-identified MSMO; other-identified MSMO; gay-identified MSMW; bisexual-identified MSMW; heterosexual-identified MSMW; and other-identified MSMW.

Intimate partner violence—Respondents were asked, "In the past year, have you been in a relationship with a partner who has ever hit, kicked, slapped, beaten or in any other way physically assaulted you?" This measure was coded as a dichotomous (yes vs. no) variable in analyses.

Polydrug use—Respondents were asked whether they ever used a series of substances (marijuana, poppers, crack cocaine, powder cocaine, methamphetamines, heroin, prescription opiates not prescribed to them, and "party" drugs MDMA, ecstasy, and GHB). Participants who responded "yes" were then asked how often they used each of any of the substances in the past three months: less than monthly; at least once a month; 2–3 times a month; weekly; 2–3 times a week; and daily or almost daily. Participants who self-reported using two or more of any of these substances at least once per month were classified as polydrug users, coded as a dichotomous (yes vs. no) variable in analyses.

Depression symptoms—The CES-D-10 assessed self-report of depression symptoms, using a cut-off of 10 to indicate depression symptoms (Andresen, Malmgren, Carter, & Patrick, 1994). This was used as a dichotomous variable in analyses.

Physical assault—Participants were asked, “In the past year have you been physically assaulted (hit, kicked, beat up or in any other way physically harmed)?” This was coded as a dichotomous (yes vs. no) variable in analyses.

Sexuality nondisclosure—To assess sexuality nondisclosure, participants were asked, “How many of your [family members/heterosexual friends/coworkers/church members/ neighbors] are aware of your sexuality/sexual orientation?” These five domains were assessed separately, with the following response options for each: none; some; most; all; don’t know; refuse; and non-applicable. Responses were aggregated to dichotomously differentiate between participants reporting no sexuality disclosure vs. any sexuality disclosure.

Gay community support—To assess gay community support, participants were asked, “To what degree do you feel you receive support from the gay community?” Response options were: none; a little; somewhat; a lot; don’t know; and not applicable. This was recoded as a dichotomous variable (any support vs. no support) in analyses, excluding missing, don’t know, and not applicable responses.

Statistical analysis

First, we conducted chi-square analyses to assess differences in sociodemographics between MSMW and MSMO. Then, we conducted a short series of multivariable logistic regressions to assess differences in psychosocial health, sexuality non-disclosure, and lack of gay community support between gay-identified MSMO (referent) and the other seven behavior and identity categories. (Due to small numbers, findings for heterosexual-identified and other-identified men are presented in regression tables but not discussed.) Based on results from these regressions, a structural equation model was built to examine pathways between bisexual behavior and psychosocial health conditions. Following previous research on bisexually-*identified* older adults (Fredriksen-Goldsen, Shiu, Bryan, Goldsen, & Kim, 2016), we built a comprehensive model assessing total, direct, and indirect pathways between bisexual *behavior*, socioeconomic status, sexuality nondisclosure, lack of gay community support, and psychosocial morbidity. In this model, latent variables were created for socioeconomic status (constituted from annual income and educational attainment, both of which bisexual men report disparately low levels of, but which are often too multicollinear to dually assess as covariates in multivariable regression models) and psychosocial morbidity (constituted from IPV, physical assault, depression symptoms, and polydrug use). We conducted sensitivity analyses for absolute model fit, applying a threshold of <.08 for standardized root mean square residual (SRMR) before interpretation of results (Hu & Bentler, 1998). A parallel post-hoc analysis examined pathways between bisexual *identity* and psychosocial morbidity. Because we sought to test predefined theoretical models, we did not compare relative fit indices across iterative models. Based on information from our chi-square results and previous research on bisexual health disparities (Fredriksen-Goldsen et al., 2016; M Reuel Friedman, Steven P Kurtz, et al., 2014; M Reuel Friedman, Ron Stall, et al., 2014; W. L. t. Jeffries & Dodge, 2007; Maulsby, Sifakis, German, Flynn, & Holtgrave, 2012), SEM models adjusted for age, socioeconomic status, Hispanic ethnicity, and city and year sampled; multivariable models adjusted for age, low-

income status, Hispanic ethnicity, and city and year sampled. Because we pooled data across cities and years, analyses did not adjust for TLS probability weights. Analyses were conducted using Stata (StataCorp. 2015. Stata Statistical Software: Release 14. College Station, TX: StataCorp LP).

RESULTS

Sociodemographics

A total of 4430 sexually-active, Black MSM ≥ 18 were included in analyses. Table 1 shows sociodemographic differences between MSMO (n=3666) and MSMW (n=764). Significant differences were found between these groups in city sampled (x^2=63.18; p<0.001); age (x^2=24.15; p<0.001); annual income (x^2=60.62; p<0.001); and educational attainment (x^2=91.05; p<0.001). There were no significant differences between proportions of MSMW and MSMO reporting Hispanic or Latino ethnicity or year sampled. There were significant differences between MSMW and MSMO in sexual identity (x^2=754.66; p<0.001), with greater heterogeneity in sexual identity among MSMW. For this reason, in subsequent analyses we differentiated between gay MSMO (n=3239; 73.1% of the total sample); gay MSMW (n=355; 8.0%); heterosexual MSMO (n=13; 0.3%); heterosexual MSMW (n=24; 0.5%); bisexual MSMO (n=370; 8.4%); bisexual MSMW (n=370; 8.4%); other MSMO (n=43; 1.0%); and other MSMW (n=15; 0.3%). One participant (an MSMO) did not respond to sexual identity questions and was excluded from sexual behavior/identity analyses.

Psychosocial health outcomes

There were differences in reported frequencies of each psychosocial health outcome across sexual behavior and identity groups (Table 2). Compared with gay-identified MSMO, MSMW of every sexual identity category reported higher rates of depression symptoms, IPV, physical assault, polydrug use, lack of gay community support, and sexuality nondisclosure. Additionally, compared with bi-identified MSMO, MSMW of every sexual identity category reported higher rates of depression symptoms, IPV, physical assault, and polydrug use, though their rates of sexuality nondisclosure and lack of gay community support were similar. In contrast, bi-identified MSMO reported frequencies of IPV, physical assault, polydrug use, and depression symptoms similar to gay-identified MSMO, although they reported sexuality nondisclosure and lack of gay community support at higher rates.

In multivariable logistic regressions adjusting for age, income, Hispanic ethnicity, and city and year sampled (Table 3), gay MSMW (aOR=3.67; 95% CI: 2.60, 5.17) and bi MSMW (aOR=2.70; 95% CI: 1.89, 3.85) were more likely than gay MSMO to report polydrug use. Compared with gay MSMO, gay MSMW (aOR=2.75; 95% CI: 2.15, 3.51) and bi MSMW (aOR=1.82; 95% CI: 1.41, 2.37) were more likely to report intimate partner violence. Gay MSMW (aOR=1.60; 95% CI: 1.25, 2.04) and bi MSMW (aOR=1.61; 95% CI: 1.27, 2.05) were more likely than gay MSMO to have a CES-D-10 score consistent with depression symptoms. Gay MSMW (aOR=2.78; 95% CI: 2.14, 3.60) and bi MSMW (aOR=2.05; 95% CI: 1.56, 2.68) were also more likely than gay MSMO to report being physically assaulted in the past year. There were no significant differences between bisexual MSMO and gay MSMO in polydrug use, IPV, physical assault, or depression symptoms. However, gay

MSMW (aOR=2.16; 95% CI: 1.65, 2.82), bisexual MSMW (aOR=1.87; 95% CI: 1.42, 2.46), and bisexual MSMO (aOR=1.95; 95% CI: 1.48, 2.56) were all significantly more likely to report receiving no gay community support compared with gay MSMO. In addition, gay MSMW (aOR=2.38; 95% CI: 1.70, 3.33), bisexual MSMW (aOR=2.68; 95% CI: 1.94, 3.72), and bisexual MSMO (aOR=2.32; 95% CI: 1.66, 3.25) were all more likely than gay MSMO to report total sexuality nondisclosure.

Structural equation models

Our structural equation model examining pathways between bisexual *behavior* and psychosocial health conditions had an SRMR of 0.027, indicating good model fit. Figure 1 depicts total and indirect effects pathways between bisexual behavior, sexuality nondisclosure, lack of gay community support, and psychosocial morbidity. In this model, all pathways were significant, except for the total effects path between sexuality nondisclosure and psychosocial morbidity, and the total effects path between lack of gay community support and psychosocial morbidity (marginally significant at p=0.07; data not shown).

Table 4 shows total and indirect effects of the path from bisexual behavior to psychosocial morbidity, mediated by lack of gay community support. Total effects of bisexual behavior on psychosocial morbidity were robust (β= 0.14 ±0.01; p<0.001). Lack of gay community support accounted for 18.3% (95% CI: 14.1%, 21.2%) of the total effect between bisexual behavior and psychosocial morbidity, constituting a significant indirect effect on this relationship (β= 0.03 ±0.01; p<0.001). Table 4 also shows total and indirect effects of the path from bisexual behavior to lack of gay community support, mediated by sexuality nondisclosure. Though there were significant total effects between MSMW status and lack of gay community support (β= 0.10 ±0.01; p<0.001), sexuality nondisclosure accounted for 59.6% (95% CI: 56.7%, 65.2%) of this effect, constituting a significant indirect effect on this relationship (β= 0.06 ±0.01; p<0.001).

Our structural equation model examining pathways between bisexual *identity* and psychosocial health conditions had an SRMR of 0.025, indicating good model fit. Figure 2 depicts total and indirect effects pathways between bisexual identity, sexuality nondisclosure, lack of gay community support, and psychosocial morbidity. Table 4 also shows total and indirect effects of the path from bisexual identity to psychosocial morbidity, mediated by lack of gay community support. Total effects of bisexual identity on psychosocial morbidity were significant (β= 0.04 ±0.01; p<0.01). Lack of gay community support accounted for 34.9% (95% CI: 32.4%, 46.3%) of the total effect between bisexual identity and psychosocial morbidity, constituting a significant indirect effect on this relationship (β= 0.01 ±0.00; p<0.001). Table 4 also shows total and indirect effects of the path from bisexual identity to lack of gay community support, mediated by sexuality nondisclosure. Though there were significant total effects between bisexual identity and lack of gay community support (β= 0.08 ±0.01; p<0.001), sexuality nondisclosure accounted for 58.2% (95% CI: 55.0%, 65.4%) of this effect, constituting a significant indirect effect on this relationship (β= 0.04 ±0.01; p<0.001).

DISCUSSION

Our findings related to the psychosocial health disparities experienced by bisexual Black men are notable for four key reasons. First, they suggest that within Black MSM, psychosocial health disparities including polydrug use, intimate partner violence, physical assault, and depression symptoms are associated with both bisexual behavior and with bisexual identity. Second, our findings demonstrate that bisexual Black men (whether behaviorally or identified) are less likely to disclose their sexualities to others, which contributes to explaining the relationship we observed between bisexual behavior and gay community support deficits. Third, disentangling sexual behavior and sexual identity in our models demonstrates a unique way to identify health inequities in LGBT sub-populations and better target those groups most at risk; our results, which indicate high relative psychosocial morbidities among gay-identified MSMW and bi-identified MSMW, but not bi-identified MSMO, indicate that interventions tailored to men with recent histories of bisexual behavior may be most impactful. Finally, our results demonstrate that gay community support is an important mediating factor in the relationships between bisexual behavior, bisexual identity, and psychosocial health disparities.

Our results related to sexuality nondisclosure confirm previous findings in the literature that bisexual men (including those who are bi-identified, those who behave bisexually, and those who both identify and behave bisexually) are less likely than other MSM to disclose their sexuality to friends, family, and others, suggesting that they may be particularly impacted by cultural stigma regarding sexual minority identity (Bernstein et al., 2008; Kalichman et al., 1998; Solorio et al., 2003; Wheeler et al., 2008). Black bisexually-behaving men experience multiple, intersecting stigmas that include both racial and sexual minority status, and often additional stigma related to substance use, mental health, HIV status, and poverty (W. L. Jeffries, 2014). In this context, choosing not to disclose one's sexuality can be a self-protective act that helps men insulate themselves against perceived negative reactions by not coming out to others (W. L. Jeffries, 2014; David J Malebranche et al., 2010). However, our findings suggest that, by not disclosing their sexuality, bisexual men's access to social support from other sexual minorities – which been theorized and demonstrated to buffer the relationship between sexual minority status and negative mental health outcomes (Eisenberg & Resnick, 2006; Herrick et al., 2013; Stall et al., 2008; Ueno, 2005) – may be restricted. We note that, particularly among Black bisexual men, sexuality nondisclosure should not be viewed in and of itself as inherently problematic, as in many instances disclosure could in fact subject men to reduced social support in other areas of their lives, and could also contribute to further violence victimization, including intimate partner violence (Dodge, Jeffries IV, & Sandfort, 2008; W. L. Jeffries, 2014).

Rather than focusing on bisexual men's nondisclosure as a target for behavioral change, we highlight the importance of providing space where men who wish to disclose can do so in a safe and affirming environment, and the necessity for designing and testing interventions that decrease cultural biphobia in both straight and lesbian and gay communities. A lack of a safe and affirming environment and the social supports therein likely promote sexuality nondisclosure and, in turn, may help explain bisexual men's comparatively higher rates of depression and substance use (Dodge et al., 2007; M Reuel Friedman, Ron Stall, et al., 2014;

W. L. Jeffries, 2014): they may simply experience social contexts that are antagonistic to their sexual expression. Men who are bisexual in behavior, identity, or both, experience double discrimination (stigma from gay and straight communities), and this additional marginalization may dissuade them from coming out (Dodge et al., 2008; Dodge, Schnarrs, Reece, Goncalves, et al., 2012; M Reuel Friedman, Brian Dodge, et al., 2014). However, we also draw attention to a well-documented paradox: Bisexual men who may otherwise be enacting self-protectively by not coming out may then be subject to the cultural preconception that they are acting secretively, and may then be villainized as being on the "Down Low," wherein their sexuality is reduced to pathology (Ford, Whetten, Hall, Kaufman, & Thrasher, 2007; D. J. Malebranche, 2008; Saleh & Operario, 2009). Designing efficacious interventions that help decrease cultural biphobia, both in sexual minority and sexual minority communities, will likely facilitate bisexual men's access to crucial social support from both sexual majority and minority communities by removing key barriers to their sexuality disclosure (Dodge, Schnarrs, Reece, Martinez, et al., 2012). For example, social marketing interventions designed to decrease homophobia in communities-at-large, such as the Acceptance Journeys model (Hull et al., 2017; Hull, Gasiorowicz, Hollander, & Short, 2013), may be modified and adapted to decrease biphobia in both sexual majority and sexual minority communities. Our findings demonstrate that social support from gay communities is a key deficit for Black bisexual men, contributing substantially to psychosocial health inequities; interventions that lead to greater inclusion and cohesion within sexual minority communities will likely contribute to the improvement of psychosocial health outcomes among their most marginalized members.

There are several important limitations to this analysis. First, the sample derives from participants attending Black Pride events in six major U.S. cities, and for this reason may not be representative of Black gay and bisexual men in the United States. Bisexual men (whether by identity or behavior) were not purposively sampled; recruitment strategies centered on Center for Black Equity events likely under-sampled men who were not affiliated with Black gay communities, such as heterosexually-identified MSMW. Our indicator for gay community support is a one-item measure that has, to our knowledge, not been previously validated. Further research is needed to expand on our measure of gay community support to include instrumental, emotional, and structural supports, and to discern levels of support from lesbian, gay, bisexual, and trans communities, both individually and collectively. We chose to analyze a past-year recall window of bisexual behavior, rather than a lifetime window, to better align with the time period in which we assessed psychosocial morbidities; additionally, to establish consistency across sexual behavior groups, we constrained our analytic sub-sample to only those men who reported past-year anal sex with men, as the survey instrument did not assess past-year oral sex with women. Our findings therefore may not be generalizable to men who had past-year oral sex with women, or to men who had lifetime experiences of sex with women. While we measured violence victimization, we did not measure perpetration, and so cannot provide a broad context for the violence enacted and endured by study participants. Finally, because this study used data from a cross-sectional design, we were unable to establish causality between our variables of interest—for example, we cannot definitively conclude that disclosure precedes support (i.e., social causation), only that these two variables are highly

correlated. It is plausible, for example, that substance use or poorer psychosocial health precedes nondisclosure and alienation from the gay community (i.e., social selection). However, our theoretical model and directionality were based on prior empirical and theoretical support (Fredriksen-Goldsen et al., 2016; Friedman & Dodge, 2016; Schrimshaw, Siegel, Downing Jr, & Parsons, 2013). – Though the mediation model that we conducted on bisexual behavior demonstrated effects of only marginal significance between the mediator and outcome variable, contrary to theoretical recommendations of classic mediation (Baron & Kenny, 1986), we detected a significant and substantial proportional contribution to the outcome by the mediator, as indicated by contemporary mediation theory (Hayes, 2009; Zhao, Lynch Jr, & Chen, 2010).

There is a profound need for intervention design, development, implementation, and evaluation tailored to bisexual Black men, particularly those who behave bisexually. Interventions that focus on safely facilitating sexuality disclosure among Black bisexual men will likely lead to higher levels of sexual minority community support for these men, which will in turn help to reduce their profound psychosocial health disparities. Adapting and scaling up HIV-related interventions for Black bisexual men that have been shown to have positive effects on social support may also contribute to reducing rates of IPV, polydrug use, physical assault, and depression symptoms in these communities (Operario, Smith, Arnold, & Kegeles, 2010). Community-level initiatives to recognize, affirm, and build bisexual communities, to reduce biphobia in lesbian and gay communities, and to reduce biphobia in “straight” communities-at-large will be necessary in order for Black bisexual men to feel like they belong, to be able to express who they are to others, and to fulfill the human need for social support.

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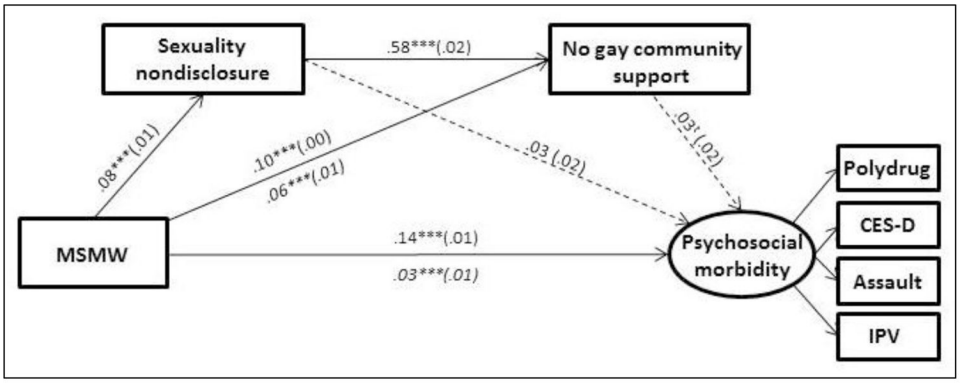

Figure 1.

Structural equation model showing total and indirect effects pathways between bisexual behavior, sexuality nondisclosure, lack of gay community support, and psychosocial comorbidities among sexually active Black men in the POWER study, 2014–2017. t=p<.10; *=p<.05; **=p<.01; ***=p<.001. Path coefficients and standard errors (parenthesized) are shown for total effects pathways. Dashed lines indictate non-significant (p>.05) total effects pathways. Italicized path coefficients and standard errors (parenthesized) are shown for indirect effects pathways. Models adjusted for year, city, age>39, Hispanic ethnicity, and socioeconomic status. Covariate paths and path coefficients and latent path coefficients are suppressed for interpretability. SRMR=0.027.

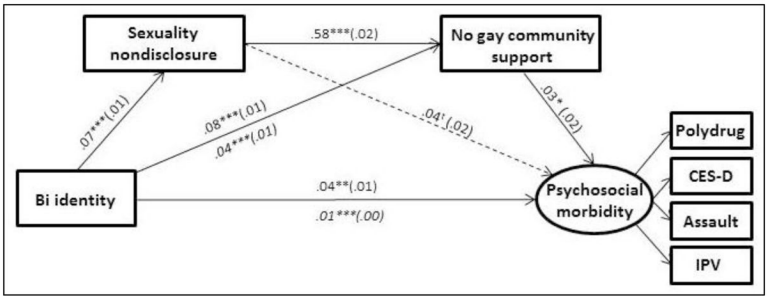

Figure 2.

Structural equation model showing total and indirect effects pathways between bisexual identity, sexuality nondisclosure, lack of gay community support, and psychosocial comorbidities among sexually active Black men in the POWER study, 2014–2017. t=p<.10; *=p<.05; **=p<.01; ***=p<.001. Path coefficients and standard errors (parenthesized) are shown for total effects pathways. Dashed lines indictate non-significant (p>.05) total effects pathways. Italicized path coefficients and standard errors (parenthesized) are shown for indirect effects pathways. Models adjusted for year, city, age>39, Hispanic ethnicity, and socioeconomic status. Covariate paths and path coefficients and latent path coefficients are suppressed for interpretability. SRMR=0.025.

Table 1

Sociodemographics of MSMO and MSMW in the Black Pride Survey, 2014–2017 (n=4430)

Sociodemographics	Subcategory	MSMW (764)	MSMO (3666)	Chi-square
Ethnicity	Hispanic/Latino	31 (4.1%)	116 (3.2%)	1.57
City	Philadelphia	115 (15.1%)	507 (13.8%)	63.18***
	Houston	153 (20.0%)	815 (22.2%)	
	Washington, D.C.	130 (17.0%)	810 (22.1%)	
	Detroit	153 (20.0%)	376 (10.3%)	
	Atlanta	201 (26.3%)	1098 (30.0%)	
	Memphis	12 (1.6%)	60 (1.6%)	
Year				5.85
	2014	210 (27.5%)	1092 (29.8%)	
	2015	257 (33.6%)	1239 (33.8%)	
	2016	195 (25.5%)	950 (25.9%)	
	2017	102 (13.4%)	385 (10.5%)	
Age				24.15***
	18–19	29 (3.8%)	104 (2.8%)	
	20–24	194 (25.4%)	961 (26.2%)	
	25–29	206 (27.0%)	1140 (31.1%)	
	30–34	119 (15.6%)	590 (16.1%)	
	35–39	49 (6.4%)	304 (8.3%)	
	40 or older	167 (21.2%)	567 (15.5%)	
Income				60.62***
	<$10,000	212 (27.7%)	642 (17.5%)	
	$10,000–$29,999	196 (25.7%)	957 (26.1%)	
	$30,000–$49,999	148 (19.4%)	1038 (28.3%)	
	$50,000–$69,999	90 (11.8%)	538 (14.7%)	
	$70,000–$89,999	69 (9.0%)	269 (7.3%)	
	$90,000 or more	37 (4.8%)	169 (4.6%)	
	Did not respond	12 (1.6%)	53 (1.4%)	
Educational attainment				91.05***
	Never attended school	33 (4.3%)	82 (2.2%)	
	1st–8th grade	25 (3.3%)	43 (1.2%)	
	9th–11th grade	45 (5.9%)	73 (2.0%)	
	12th grade or GED	182 (23.8%)	705 (19.2%)	
	Some college,	260 (34.0%)	1353 (36.9%)	
	Associate's degree, or Technical degree			
	Bachelor's degree	150 (19.6%)	908 (24.8%)	
	Any post graduate studies	64 (8.4%)	466 (12.7%)	
	Did not respond	5 (0.7%)	36 (1.0%)	
Sexual identity				754.66***
	Gay/Same Gender Loving	355 (46.5%)	3239 (88.4%)	

Sociodemographics	Subcategory	MSMW (764)	MSMO (3666)	Chi-square
	Heterosexual or "straight"	24 (3.1%)	13 (0.4%)	
	Bisexual	370 (48.4%)	370 (10.1%)	
	Other	15 (2.0%)	43 (1.2%)	
Did not respond	0 (0%)	1 (<1%)		

Table 2

Frequencies of psychosocial health outcomes across sexual identity and behavior categories among sexually active Black men in the POWER study, 2014–2017 (n=4429).

Outcome	Gay MSMO	Bi MSMO	Straight MSMO	Other MSMO	Gay MSMW	Bi MSMW	Straight MSMW	Other MSMW
Polydrug use (past 3 months)	142 (4.4%)	19 (5.1%)	1 (7.7%)	1 (2.3%)	53 (15.0%)	44 (11.9%)	5 (20.8%)	1 (6.7%)
Intimate partner violence (past year)	480 (14.8%)	48 (13.0%)	2 (15.4%)	8 (18.6%)	116 (32.8%)	92 (24.9%)	5 (20.8%)	4 (26.7%)
Depression symptoms	706 (21.9%)	98 (26.6%)	6 (46.2%)	7 (16.7%)	113 (32.3%)	121 (33.2%)	12 (52.2%)	4 (26.7%)
Physically assaulted (past year)	391 (12.1%)	53 (14.4%)	1 (7.7%)	8 (18.6%)	99 (28.0%)	84 (22.8%)	6 (25.0%)	4 (26.7%)
No gay support reported	406 (12.6%)	82 (22.3%)	3 (23.1%)	10 (23.8%)	83 (23.6%)	79 (21.5%)	5 (25.0%)	8 (53.3%)
No sexuality disclosure reported	205 (6.3%)	50 (13.6%)	1 (7.7%)	5 (11.6%)	48 (13.6%)	55 (14.9%)	6 (25.0%)	6 (40.0%)

Table 3

Multivariable logistic regressions of psychosocial health outcomes across sexual identity and behavior categories among sexually active Black men in the POWER study, 2014–2017 (n=4429).

Outcome	Gay MSMO	Bi MSMO	Straight MSMO	Other MSMO	Gay MSMW	Bi MSMW	Straight MSMW	Other MSMW
Polydrug use (past 3 months)	REF	1.13	1.50	0.45	**3.67**	**2.70**	**4.33**	1.06
	(1.0)	(0.69, 1.86)	(0.19, 11.63)	(0.06, 3.40)	**(2.60, 5.17)**	**(1.89, 3.85)**	**(1.48, 12.63)**	(0.12, 9.46)
Intimate partner violence (past year)	REF	0.81	0.89	1.32	**2.75**	**1.82**	1.39	1.85
	(1.0)	(0.59, 1.12)	(0.19, 4.04)	(0.61, 2.82)	**(2.15, 3.51)**	**(1.41, 2.37)**	(0.49, 3.90)	(0.61, 5.61)
Depression symptoms	REF	1.23	2.36	0.67	**1.60**	**1.61**	**2.92**	1.11
	(1.0)	(0.96, 1.58)	(0.73, 7.61)	(0.29, 1.54)	**(1.25, 2.04)**	**(1.27, 2.05)**	**(1.23, 6.94)**	(0.33, 3.76)
Physically assaulted (past year)	REF	1.14	0.49	1.66	**2.78**	**2.05**	2.26	2.33
	(1.0)	(0.83, 1.56)	(0.07, 3.65)	(0.78, 3.56)	**(2.14, 3.60)**	**(1.56, 2.68)**	(0.83, 6.11)	(0.78, 6.96)
No gay support	REF	**1.95**	1.98	**2.24**	**2.16**	**1.87**	2.30	**7.77**
	(1.0)	**(1.48, 2.56)**	(0.56, 7.02)	**(1.10, 4.55)**	**(1.65, 2.82)**	**(1.42, 2.46)**	(0.91, 5.80)	**(2.79, 21.67)**
No sexuality disclosure reported	REF	**2.32**	1.21	2.09	**2.38**	**2.68**	**5.05**	**10.14**
	(1.0)	**(1.66, 3.25)**	(0.17, 8.61)	(0.82, 5.36)	**(1.70, 3.33)**	**(1.94, 3.72)**	**(1.94, 13.12)**	**(3.44, 29.92)**

Odds ratios adjusted for Hispanic ethnicity, city, year, annual income <$10,000, and age>39. 95% confidence intervals in parentheses reflect robust standard errors. Bold results indicate significant differences (p<.05) from reference category (gay-identified men who have sex with men only).

Table 4

Total and indirect effects in pathways between bisexual behavior, psychosocial morbidities, sexuality nondisclosure, and lack of gay community support among bisexually-behaving and bisexually-identified Black men in the POWER study (n=4430).

Model 1: Effects of MSMW status (predictor) on psychosocial morbidity (outcome), mediated by lack of gay community support(mediator)	**β**	**S.E. (β)**	**z**	***P*- value**	**95% CI(lower)**	**95% CI(higher)**	**Percentage(95% CI)**
Total effects	0.14	0.01	10.10	<0.001	0.12	0.17	
Indirect effects (mediator-adjusted model)	0.03	0.01	5.17	<0.001	0.02	0.04	
Percentage of total effect mediated by lack of gay community support							18.3% (14.1%, 21.2%)
Effects of MSMW status (predictor) on lack of gay community support (outcome), mediated by sexuality nondisclosure (mediator)							
Total effects	0.10	0.01	6.57	<0.001	0.07	0.13	
Indirect effects (mediator-adjusted model)	0.06	0.01	8.39	<0.001	0.04	0.07	
Percentage of total effect mediated by sexuality non-disclosure							59.6% (56.7%, 65.2%)
Model 2: Effects of bisexual identity (predictor) on psychosocial morbidity (outcome), mediated by lack of gay community support (mediator)	**β**	**S.E. (β)**	**z**	***P*- value**	**95% CI (lower)**	**95% CI (higher)**	**Percentage (95% CI)**
Total effects	0.04	0.01	3.05	0.002	0.02	0.07	
Indirect effects (mediator-adjusted model)	0.01	0.00	3.73	<0.001	0.01	0.02	
Percentage of total effect mediated by lack of gay community support							34.9%(32.4%,46.3%)
Effects of bisexual identity (predictor) on lack of gay community support (outcome), mediated by sexuality nondisclosure (mediator)							
Total effects	0.08	0.01	5.18	<0.001	0.05	0.10	
Indirect effects (mediator-adjusted model)	0.04	0.01	6.50	<0.001	0.03	0.06	
Percentage of total effect mediated by sexuality non-disclosure							58.2% (55.0%, 65.4%)

Structural equation models adjusted for year, city, socioeconomic status, Hispanic ethnicity, and age>39. Path coefficients are presented with standard errors. SRMR=0.027 for Model 1; SRMR=0.025 for Model 2.