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Sexual Behavior in Sexual Minority Women and Connections with Discrimination

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Abstract This study examined the prevalence and forms of sexual behavior in a sample of sexual minority women (SMW) with a history of experiencing discrimination. One hundred fifty ethnically diverse lesbian, bisexual, queer, and other non-heterosexual-identified cisgender women completed a national online survey. Rates of sexual behavior over the past 6 months were high, including having sex with someone who had had many sexual partners (40.7%), engaging in cunnilingus without protection (64%), and having sex under the influence of substances (56.7%). A canonical correlation found that heterosexist experiences and sexual behaviors had 20.7% overlapping variance. Experiences of heterosexism by individuals in service jobs, strangers, or those in helping professions were tied to engagement in more impulsive sexual behaviors. Multiple linear regressions found that heterosexism explained 19.3% of the variance in impulsive sexual behaviors, 8.6% in sex with uncommitted partners, and 8.8% in intent to engage in sexual behaviors. Despite the high rates of sexual behavior found in this study, a focus on sexual behaviors among SMW has largely been omitted from health research. Based on the current findings, interventions for addressing sexual behaviors in SMW as well as future research directions are discussed.

Keywords Sexual minority women · Heterosexism · Discrimination · Sexual behaviors

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Introduction

In contrast to perceptions that sexual minority women (SMW) are at minimal or low risk of contracting sexually transmitted infections (STIs; Champion, Wilford, Shain, & Piper, 2005), research in this area has provided prevalence rates for a range of STIs affecting SMW (Bauer & Welles, 2001; Fethers, Marks, Mindel, & Estcourt, 2000) and has also identified factors placing SMW at increased risk for STIs compared to heterosexual women (Fethers et al., 2000; Friedman et al., 2003). For example, in a sample of close to 300 women who have sex with women, Bauer and Welles (2001) found that compared to lower female-to-female sexual contact, increased contact was associated with higher odds of lifetime history of STI, controlling for female-male sexual contact. In this sample, women who solely had sexual contact with female partners reported a 13% lifetime prevalence rate of STIs, including chlamydia, genital warts, trichomoniasis, and pelvic inflammatory disease, and 90% of these women reported not getting tested regularly for STIs. Further, Kaestle and Waller (2011) found that bisexual women had higher odds of contracting STIs than women who are exclusively opposite-sex attracted. Similarly, in a large Australian-based sample comparing SMW to heterosexual women on indices of sexual health and sexual behaviors, Fethers et al. (2000) found that bacterial vaginosis and hepatitis C were more common among SMW. Sexual contact with high-risk groups (e.g., those with suspected or unknown HIV infection, injection drug users, gay or bisexual-identified males), as well as higher numbers of sexual exposures, has been found to place SMW at risk for contacting STIs (Bauer & Welles, 2001; Fethers et al., 2000; Friedman et al., 2003).

A vast body of research has examined sexual behavior in sexual minority men (SMM; Marks et al., 2009; Rosser et al., 2009). It is postulated that the HIV epidemic of the 1980s and

early 1990s catalyzed research in this area (Kennedy, Scarlett, Duerr, & Chu, 1995). In comparison to studies of sexual behavior in SMM, research on sexual behavior in SMW has not been as extensively studied, with many studies focusing on a very specific subgroup of this population: SMW that engage in injection drug use (Friedman et al., 2003). Although a number of studies have identified correlates of sexual behavior in SMM, including discrimination (Preston et al., 2004), internalized heterosexism (Newcomb & Mustanski, 2011), and sexual minority-based discrimination (Diaz, Ayala, & Bein, 2004), to the knowledge of the authors, fewer studies have focused on sexual behavior in adult SMW exclusively or have only examined youth samples.

For example, Wright and Perry (2006) examined sexual behaviors among lesbian, gay, and bisexual (LGB) youth and found that youth who had left the home (i.e., moved out) at least once reported greater risky sex acts. Further, having more LGB individuals in their social networks was related to more frequent sexual activity and a greater number of sexual partners. Bontempo and D'Augelli (2002) found that sexual minority girls were more likely to report sexual behaviors (e.g., unprotected intercourse, use of alcohol or drugs prior to intercourse) than heterosexual girls. Further, sexual minority girls who reported high rates of at-school victimization had higher rates of sexual behavior than those who reported low rates of at-school victimization. However, these results from youth samples may not generalize to adult SMW. Indeed, Wright and Perry (2006) found older girls were more likely to engage in sex acts, while 44.9% of participants reported no sexual partners. By contrast, very few studies have examined sexual behavior among SMW or have provided prevalence rates of these behaviors. Lee and Hahm (2012) found that Asian-American SMW were more likely than heterosexuals to have multiple sexual partners, engage in anal sex, have sex after consuming alcohol or drugs, and have a risky sexual partner (e.g., working as a sex worker, diagnosed with HIV, used injection drugs, or not knowing the partner's sexual history).

Although relationships between sexual minority-based stressors and sexual behavior in adult SMW have not been extensively examined from a minority stress perspective, it is reasonable to hypothesize that these relationships might exist. Meyer's (2003) minority stress theory is the predominant model used to explain why sexual minorities evidence poorer mental and physical health relative to heterosexuals, positing that health disparities are due to unique minority stressors and social marginalization. Sexual minority adults experience significantly greater discrimination relative to their heterosexual counterparts (Mays & Cochran, 2001). Twenty percent of sexual minority adults report having been the victim of an anti-gay hate crime, half report verbal harassment due to their sexual orientation, and 10% report employment or housing discrimination (Herek, 2009). Sexual minority stressors are tied to higher rates of anxiety and depression (Mays & Cochran, 2001), posttraumatic stress (Herek, Gillis, & Cogan, 1999), substance use (Hatzenbuehler, McLaughlin, Keyes, & Hasin, 2010), and poor physical health (Lick, Durso, & Johnson, 2013) for sexual minority adults.

SMW may represent an especially vulnerable subpopulation of sexual minorities, contending with experiences of heterosexism and sexism, an idea borne out in intersectionality theory (Szymanski & Owens, 2008), which states that the oppression associated with these identities may have a multiplicative effect. Heterosexism has been defined as an "ideological system that denies, denigrates, and stigmatizes any nonheterosexual form of behavior, identity, relationship or community" (Herek, 1992, p. 89). Further, previous research has suggested that STI risk can differ as a function of both sexual identity and behavior in part because of differences in exposure to victimization (Everett, 2013). This is supported by research demonstrating that sexual minority individuals experience increased rates of sexual victimization (Austin, Roberts, Corliss, & Molnar, 2008; Herek et al., 1999; Jun et al., 2010; Roberts, Austin, Corliss, Vandermorris, & Koenen, 2010), which has also been associated with increased STI risk in young adults (Haydon, Hussey, & Halpern, 2011).

Further, there are well-documented relationships between SMW's experiences of heterosexism and sexism and high levels of psychological distress (Piggot, 2004; Szymanski & Henrichs-Beck, 2014; Szymanski & Kashubeck-West, 2008; Szymanski & Owens, 2008; Lehavot & Simoni, 2011). In addition to drawing links between sexual orientation-based stressors and mental health for SMW, a growing body of research has examined how such stressors may relate to other important psychological phenomena such a coping in SMW (Szymanski & Henrichs-Beck, 2014; Kaysen et al., 2014; Lehavot & Simoni, 2011; Szymanski, Dunn, & Ikizler, 2014). In general, this line of research indicates that maladaptive coping strategies such as rumination, detachment, suppression, internalization, and reactivity are associated with psychological distress in SMW (Szymanski et al., 2014; Szymanski & Henrichs-Beck, 2014). Recent research by Logie, Lacombe-Duncan, MacKenzie, and Poteat (2016) extended this line of research to sexual behavior and found lower adaptive coping was associated with reduced safer sex practices in SMW.

Early research suggests that sexual behavior may represent as a means of coping with stress among gay men in particular (McKusick, Horstman, & Coates, 1985; Logie et al., 2016). Later research with SMM bolsters this finding in demonstrating that victimization predicts engagement in unprotected anal sex and that avoidance coping predicts unprotected anal sex with non-primary sexual partners (Martin & Alessi, 2010). However, very few studies have examined relationships between minority stressors such as discrimination and sexual behavior in SMW (Bontempo & D'Augelli, 2002), and very

few studies have sought to quantify sexual behavior in SMW despite higher rates of STIs in this population than in heterosexual women. This is a critical gap in the research literature given that women who have only had sex with women have been shown to have a 13% lifetime prevalence rate of STIs (Bauer & Welles, 2001), and previous research demonstrating an association between victimization and STI status (Everett, 2013). Therefore, the purpose of the present study is twofold and aims to (a) describe the prevalence and forms of sexual behavior in a sample of SMW and (b) examine associations between discrimination and sexual behavior in SMW.

Methods

Participants

The sample consisted of cisgender women from the USA (n = 150) who identified as lesbian (38.7%), bisexual (32.7%), queer (25.3%), or another non-heterosexual sexual orientation (3.3%). The average age of participants was 31.9 years (SD = 11.95), with a range from 18 to 66 years. The sample was 29.3% White/European-American, 16.7% Asian/Asian-American/Pacific Islander, 26.0% Black/African-American (non-Latino), 12.7% Multiracial/Multiethnic, 11.3% Latino/Hispanic, and 2.7% American Indian/Native American. Of the sample, 30% of participants had a 4-year college degree, 24.7% had some college (no degree), 22.0% had a Master's degree, 6.0% had a high school diploma/GED, 8.0% had a Doctorate degree, and 6.0% had completed grade school.

Materials

Demographics Participants self-reported their age, gender, ethnicity, and highest level of completed education. Sexual orientation was assessed by asking participants "Which sexual orientation best describes you?" with options including heterosexual, bisexual, gay/lesbian, queer, or other.

Heterosexism Experiences with heterosexism were measured using the Heterosexist Harassment, Rejection, and Discrimination Scale (HHRDS; Szymanski, 2006). The scale consists of 14 items across three subscales that assess the frequency of harassment/rejection, work/school, and other heterosexism within the past year. The harassment/rejection subscale contains items assessing constructs such as rejection from friends, family members, verbal insults, and harassment due to sexual minority status. The work/school subscale assesses heterosexist experiences at work or school such as unfair treatment by an employer, boss, and supervisors due to sexual minority status, as well as unfair treatment by teachers or professors. The other subscale assesses unfair treatment by individuals in helping professions (e.g., doctors, nurses, psychiatrists, therapists), in service jobs (e.g., waiters, bartenders, bank tellers), and by strangers due to sexual minority status. Participants respond to items on a 6-point Likert scale from 1 (the event has never happened to you) to 6 (the event occurred almost all of the time [more than 70% of the time]). This scale has been shown to have strong internal consistency in Szymanski's original study in lesbian women (α = .90; Szymanski, 2006). The subscales in Syzmanski's study also demonstrated acceptable internal consistency: harassment/rejection (α = .89), work/school (α = .84), and other (α = .78).

Sexual Behaviors Participants' sexual behaviors were measured using the Sexual Risk Survey (Turchik & Garske, 2009). The Sexual Risk Survey (SRS) consists of 23 items which measure the frequency of various sexual behaviors in the past 6 months. There are five subscales: sexual risk taking with uncommitted partners (number of sex partners, sex with someone the participant does not know well, sex with untested partners), risky sex acts (vaginal sex without a condom, cunnilingus without protection, sex under the influence of substances), impulsive sexual behaviors (unexpected sexual experiences, regretted sexual encounters, leaving social events with someone), intent to engage in risky sexual behaviors (intent of sexual behavior and the intent of engaging in sex), and risky anal sex acts (anal sex without a condom, unprotected anal penetration, analingus without protection). All five subscales in Turchick and Garske's study (Turchik & Garske, 2009) demonstrated acceptable internal consistency (uncommitted partners, α = .88; risky sex acts, α = .80; impulsive sexual behaviors, α = .78; intent to engage in risky sexual behaviors, α = .89; risky anal sex acts, α = .61).

Items from the SRS were transformed following guidelines recommended by Turchick and Garske (Turchik & Garske, 2009) into a series of categories from 0 to 4. A response of "0" was coded as a "0." All responses greater than or equal to 1 were treated for classification purposes as if they made up 100% of the frequencies. The remaining responses were categorized following guidelines provided by Turchick and Garske (Turchik & Garske, 2009): 1 = 40%, 2 = 30%, 3 = 20%, and 4 = 10%. The higher category numbers corresponded to higher frequencies of each behavior. Because the frequencies varied among items, these guidelines could not always be followed exactly. When this occurred, participants who reported a response (e.g., 2) were put into a category. If the next frequency reported by participants (e.g., 3) exceeded the maximum number of participants in the prior group (e.g., 30%) categorized as "2," they were placed into the next category, "3."

Procedure

Online organizations, community groups, and forums that directly cater to racially and ethnically diverse sexual minority women were identified and contacted by researchers via email and were given information on the study for recruitment purposes. Groups, forums, and organizations that target and were comprised primarily of ethnically diverse SMW (e.g., Asian Lesbian Posts, Black Gay Pride for Women, Lesbian Women of Color) were identified to recruit an ethnically diverse sample (see "Participants"). Individuals who were interested in the study were first screened by the study coordinator via email, who confirmed that all interested individuals identified as a SMW. Upon approval for participation, participants were sent a link to the survey via email with a unique code to receive compensation ($15 amazon gift card). All participants gave informed consent before beginning the survey. The only identifying information participants provided was their email address for compensation purposes. Email addresses were forwarded to a financial administrator, who compensated participants via email within a week of completing the study measures. Ethical guidelines were followed, and the host university's Institutional Review Board approved study procedures.

Data Analysis

A correlation matrix was first calculated to examine bivariate associations between the total scores of the heterosexism and sexual behavior subscales. Then, a canonical correlation analysis was conducted to determine the size of the overall relationship between heterosexism and sexual behaviors, as well as to determine which individual variables contributed most highly to that relationship. A canonical correlation analysis calculates canonical correlation coefficients (r), which index of the magnitude of the relationship between two sets of variables. Because the interest of the current study was identifying both the broad and specific connections between two sets of variables (types of heterosexism and categories of sexual behaviors), canonical correlation was the ideal initial analytical technique. This analysis is well-suited to answer most research questions that distill a group of variables into two specific sets. A canonical correlation analysis always gives a number of canonical correlations equal to the number of variables in the smallest variable set. Each successive canonical correlation in the analysis is orthogonal from the previous canonical correlation and decreases in magnitude and in statistical significance. As a result, we will only focus on the canonical correlations in each overall analysis that reach statistical significance. The analysis then calculates canonical loadings for each variable on the overall canonical correlation which are indices of the relative contribution of each individual variable to the overall connection between the variable sets. A cutoff magnitude of .40 is traditionally established for a loading to reach a critical threshold in order to be interpreted.

Five simultaneous multiple linear regression analyses were conducted to examine if the three forms of heterosexism (harassment/rejection, work/school, and other heterosexism) uniquely predicted each of the five forms of sexual behavior (uncommitted partners, risky sexual acts, impulsive sexual behaviors, intent to engage in risky sexual behaviors, and risky anal sex acts). These regressions add to the canonical correlation analysis by allowing an examination of the unique contributions of the three types of heterosexism to each specific category of sexual behavior, yielding a more fine-grained analysis than the canonical correlation. Although it would be extremely unlikely that the regressions would yield contradictory findings to the canonical correlation analysis, they would likely reinforce—but extend—those from the canonical correlation. Finally, two exploratory multivariate analyses of variance (MANOVAs) were run to determine whether lesbian, bisexual, and women who identified as queer or another sexual orientation differed in their levels of reported heterosexism or sexual behaviors. In these analyses, sexual orientation (lesbian, bisexual, queer/other) was the independent variable, and the three heterosexism subscales (MANOVA 1) or the five sexual behavior subscales (MANOVA 2) were the dependent variables.

Results

Frequencies of Sexual Behaviors

Means of the heterosexism items are presented in Table 1, and frequencies of sexual behaviors for the 23 items of the SRS are shown in Table 2. In particular, 83.33% of participants reported a sex partner in the past 6 months. Cunnilingus without protection was fairly common in the current sample, with 64% reporting this behavior. Particularly noteworthy was sex under the influences of substances, which was reported by over half of participants. Anal sex acts were reported, with 13.33% reporting unprotected anal penetration and 14% reporting anal sex without a condom. Leaving a social event with someone or having sex with a partner that the participant did not know well was also reported, with 20% of participants engaging in these behaviors.

Correlation Matrix

A correlation matrix showing the relationships between the total subscale scores of the heterosexism and sexual behavior measures can be found in Table 3. Sexual acts with uncommitted partners were positively associated with harassment/rejection, work/school, and other heterosexism. Impulsive

Table 1 Means and standard deviations of HHRDS items

Item	Mean (SD)
How many times have you been treated unfairly by teachers or professors because you are an LGBTQ individual?	1.66 (0.95)
How many times have you been made fun of, picked on, pushed, shoved, hit, or threatened with harm because you are an LGBTQ individual?	1.73 (1.14)
How many times have you been rejected by family members because you are an LGBTQ individual?	2.58 (1.53)
How many times have you been rejected by friends because you are an LGBTQ individual?	1.94 (1.05)
How many times have you heard ANTI-LGBTQ remarks from family members?	3.27 (1.55)
How many times have you been verbally insulted because you are an LGBTQ individual?	2.2 (1.23)
How many times have you been treated unfairly by your employer, boss, or supervisors because you are an LGBTQ individual?	1.81 (1.10)
How many times have you been treated unfairly by your co-workers, fellow students, or colleagues because you are an LGBTQ individual?	2.07 (1.07)
How many times have you been treated unfairly by people in service jobs (by store clerks, waiters, bartenders, waitresses, bank tellers, mechanics, and others) because you are an LGBTQ individual?	1.93 (1.08)
How many times have you been treated unfairly by strangers because you are an LGBTQ individual?	2.36 (1.26)
How many times have you been treated unfairly by people in helping jobs (by doctors, nurses, psychiatrists, caseworkers, dentists, school counselors, therapists, pediatricians, school principals, gynecologists, and others) because you are an LGBTQ individual?	2.01 (1.18)
How many times were you denied a raise, a promotion, tenure, a good assignment, a job, or other such thing at work that you deserved because you are an LGBTQ individual?	1.55 (0.97)
How many times have you been treated unfairly by your family because you are an LGBTQ individual?	2.83 (1.51)
How many times have you been called heterosexist or transphobic names like dyke, lezzie, faggot, queer, tranny, or other names?	2.24 (1.16)

Items are on a 6-point Likert scale from 1 (the event has never happened to you) to 6 (the event occurred almost all of the time [more than 70% of the time])

sexual behaviors were positively related to harassment/rejection, work/school, and other heterosexism. Intent to engage in sexual acts was positively associated with harassment/rejection, work/school, and other heterosexism. Anal sex acts were

Table 2 Rates of sexual behavior

Item	% > 0	Median of >0	SD of >0
1. Number of behavioral sexual partners	66.66	1	2.89
2. Left social event with someone	20.00	2	8.85
3. Sexual behavior with acquaintance	24.66	2	2.28
4. Intent of sexual behavior	28.66	3	3.27
5. Intent of engaging in sex	27.33	2	5.46
6. Unexpected sexual experience	42.66	2	2.03
7. Regretted sexual encounter	28.66	2	3.21
8. Number of sex partners	83.33	1	5.33
9. Vaginal sex without a condom	43.33	9	36.12
10. Vaginal sex without birth control	32.00	9	32.73
11. Fellatio without a condom	34.00	10	53.19
12. Cunnilingus without protection	64.00	10	34.63
13. Anal sex without a condom	14.00	2.5	12.50
14. Unprotected anal penetration	13.33	5	32.55
15. Analingus without protection	17.33	3	7.62
16. Sex with uncommitted partners	32.00	1	1.91
17. Sex with someone did not know well	22.66	2	2.18
18. Sex under the influence of substances	56.66	4	26.68
19. Sex before discussing risk factors	27.33	2	3.33
20. Partners with many past partners	40.66	2	8.52
21. Sex with untested partners	28.00	1	1.70
22. Sex with partner did not trust	20.00	1	3.06
23. Partners with other current partners	30.00	2	8.10

Table 3 Overall correlation matrix

	1	2	3	4	5	6	7
1. Harassment/rejection							
2. Work/school	.675**						
3. Other discrimination	.660**	.756**					
4. Uncommitted partners	.200*	.218**	.292**				
5. Risky sex acts	.113	.067	.097	.271**			
6. Impulsive sex behaviors	.370**	.373**	.415**	.593**	.206*		
7. Intent	.177*	.213**	.296**	.407**	.01	.513**	
8. Anal	.171*	.161*	.167*	.373**	.342**	.360**	.163*

*$p < .05$; **$p < .01$

also positively associated with harassment/rejection, work/school, and other heterosexism. Generally all sexual behaviors were positively associated with each other (except for risky sex acts and intent), as were the three forms of heterosexist discrimination.

Canonical Correlation

The first canonical correlation was performed to assess the relationship between the three indices of heterosexism and five categories of sexual behavior. The first canonical correlation was .445 (20.7% overlapping variance), $\lambda = .778$, $\chi^2 (15) = 36.313$, $p = .002$, which is considered a medium effect size according to Cohen (1998). The second canonical correlation was .164 (2.69% overlapping variance), $\lambda = .969$, $\chi^2 (8) = 4.485$, $p = .811$. The third canonical correlation was .061 (.37% overlapping variance), $\lambda = .996$, $\chi^2 (3) = .537$, $p = .911$. The second and third canonical correlations were not statistically significant and therefore were not interpreted further. Standardized canonical coefficients were calculated to compare the contributions of each variable to the overall first canonical correlation (Fig. 1).

The standardized coefficients for sexual behaviors showed that impulsive sexual behaviors (−.858) had the largest loading, and on the heterosexism side of the equation, other heterosexism (−.659) had the largest loading. All of the other heterosexism and sexual behavior variables loaded below the conventional cutoff of .40. These results suggest that individuals who experience other heterosexism have higher rates of impulsive sexual behaviors.

Multiple Linear Regressions

The first simultaneous multiple linear regression found that the three forms of heterosexism explained 8.6% of the variance in sexual acts with uncommitted partners [$F(3, 146) = 4.553$, $p = .004$]. Other heterosexism was a unique predictor [$\beta = .291$, $p = .023$], but harassment/rejection [$\beta = .016$, $p = .890$] and work/school [$\beta = -.012$, $p = .924$] were not.

The second linear regression found that heterosexism explained 1.5% of the variance in sexual acts [$F(3, 146) = .740$, $p = .530$]. Harassment/rejection [$\beta = .105$, $p = .369$], work/school [$\beta = -.058$, $p = .668$], and other [$\beta = .071$, $p = .591$] were not unique predictors.

The third linear regression explained 19.3% of the variance in impulsive sexual behaviors [$F(3, 146) = 11.646$, $p < .001$]. Other heterosexism was a unique predictor of impulsive sexual behaviors [$\beta = .261$, $p = .031$], but harassment/rejection [$\beta = .137$, $p = .199$] and work/school heterosexism [$\beta = .089$, $p = .464$] were not.

The fourth linear regression explained 8.8% of the variance in intent to engage in sexual acts [$F(3, 146) = 4.694$, $p = .004$]. Other heterosexism was a unique predictor [$\beta = .323$, $p = .012$], but harassment/rejection [$\beta = -.027$, $p = .809$] and work/school heterosexism [$\beta = -.013$, $p = .919$] were not.

The fifth linear regression explained 3.5% of the variance in anal sex acts [$F(3, 146) = 1.769$, $p = .156$]. Harassment/rejection [$\beta = .093$, $p = .422$], work/school [$\beta = .042$, $p = .753$] and other heterosexism [$\beta = .074$, $p = .572$] were not unique predictors.

Exploratory Analyses

Two exploratory MANOVAs were run to determine whether participants differed in their levels of reported heterosexism or sexual behaviors as a function of sexual orientation (lesbian, bisexual, or queer/other). The first MANOVA with the three heterosexism subscales as the dependent variables was not significant, Pillai's Trace = .058, $F(6, 292) = 1.45$, $p = .194$, $\eta^2 = .029$. Similarly, the second MANOVA with the five sexual behavior subscales as the dependent variables was not significant, Pillai's Trace = .098, $F(10, 288) = 1.48$, $p = .145$, $\eta^2 = .049$.

Discussion

To date, few studies have explored links between heterosexism and sexual behavior in adult SMW, despite a wide body of

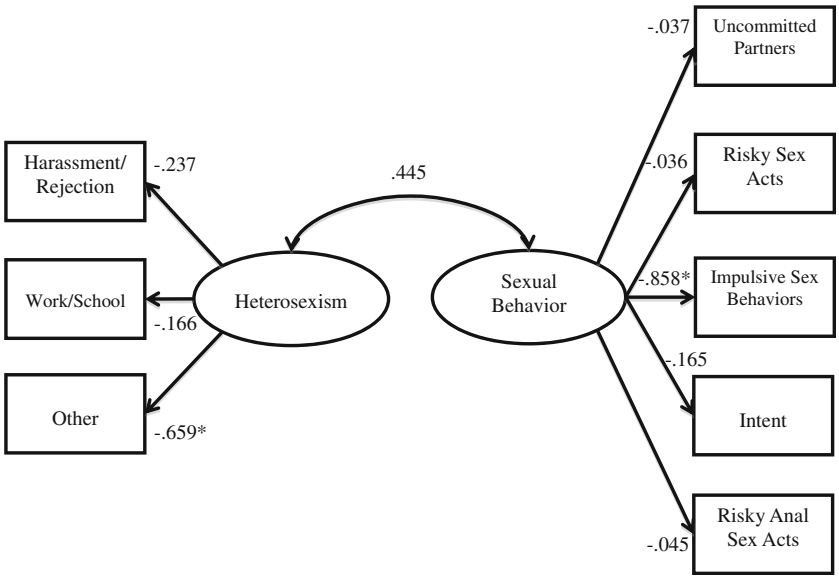

Fig. 1 Canonical correlation between heterosexism and sexual behavior

literature examining these associations in SMM. In the current study, rates of sexual behavior over the past 6 months were reported, the most prominent of which included having sex with someone who had had many sexual partners (40.66%), and having sex under the influence of substances (56.7%). A canonical correlation found that heterosexist experiences and sexual behaviors had 20.7% overlapping variance. Specifically, experiences of heterosexism by individuals in service jobs, strangers, or those in helping professions were tied to engagement in more impulsive sexual behaviors. Multiple linear regressions found that heterosexism explained 19.3% of the variance in impulsive sexual behaviors, 8.6% in sex with uncommitted partners, and 8.8% in intent to engage in sexual behaviors.

Frequencies of Sexual Behaviors in the Past 6 Months

The current study is among very few others (Lee & Hahm, 2012; Bailey, Farquhar, Owen, & Whittaker, 2003; Diamant, Schuster, McGuigan, & Lever, 1999; Marrazzo, Coffey, & Bingham, 2005) to qualify or quantify sexual behavior in SMW and, to our knowledge, represents the first to do so in a diverse sample of SMW with respect to race/ethnicity and sexual identity (i.e., includes, lesbian, bisexual, and queer women). Given that the literature on sexual behavior in SMW is scarce, the prevalence of engagement in various sexual behaviors for this population is unclear. For instance, Diamant et al. (1999) examined SMW's engagement in sex with male partners specifically, potentially reinforcing heteronormative sexual relations. By contrast, our study examined sex more broadly (i.e., without distinguishing between male and female partners), and results indicated that over a 6-month period, over 80% of SMW engaged in sexual behavior. Similarly, while past research has looked at specific same-sex sexual behaviors most common among SMW (Bailey et al., 2003), this research did not attempt to classify sexual behavior in regard to its putative riskiness. Nearly two-thirds of participants reported cunnilingus without protection. Bailey et al. (2003) similarly reported that protective barriers such as dental dams were rarely used during sex between women. The current findings echo previously reported perceptions among SMW that condoms are unnecessary, as SMW often do not feel they are at risk for complications such as STIs (Marrazzo et al., 2005). Additionally, over half of participants reported sexual behavior under the influence of substances. This prevalence rate is much higher than the 33.8% found by Lee and Hahm (2012) in a sample of adult Asian-American SMW. Future research should examine potential reasons for this disparity.

Anal sex acts were reported among the sample. Analingus without protection was reported by 17.3%, anal sex without a condom by 14.0%, and unprotected anal penetration by 13.3%. Lee and Hahm (2012) reported that 20.1% of their sample had ever experienced anal sex in their lifetime, a bit higher than rates reported in this sample, although use of protection was not assessed. Marrazzo et al. (2005) noted that analingus was reported across age groups in their study on SMW and was reported less commonly than oral-vaginal contact.

Heterosexism and Sexual Behavior in SMW

The other heterosexism subscale of the HHRDS (Szymanski, 2006) consists of three items that assess unfair treatment based on sexual minority status from individuals in service jobs (e.g., waiters, store clerks), strangers, and individuals in helping professions (e.g., doctors, therapists). In the canonical correlation, this subscale of the HHRDS had the largest loading

and was the only subscale above the conventional cutoff point of .40. Further, in the multiple linear regressions, this subscale was uniquely associated with sex with uncommitted partners, impulsive sexual behaviors, and intent to engage in sexual behaviors. Taken together, these results suggest that this is a particularly salient form of heterosexism for SMW.

Of particular importance in this subscale may be heterosexism from individuals in helping professions, such as doctors or other health care professionals. Fear of disclosing one's sexual orientation to a health care provider has been documented as a common problem among SMW (Hitchcock & Wilson, 1992), which may prevent SMW from receiving appropriate STI screenings or information regarding safe sexual practices. In addition, in a qualitative study by Marrazzo et al. (2005), SMW participants indicated a need for health care providers to be more sensitive and better educated about their sexual health. Fuzzell, Fedeso, Alexander, Fortenberry, and Shields (2016) noted that sexual minority youth desires inclusivity, which can be achieved by avoiding assumptions about a patient's sexual orientation or sexual behaviors, as well as using gender-neutral language.

It has also been found that SMW are less likely than their heterosexual counterparts to have health insurance and have more difficulty obtaining health care, which may prevent some SMW from having contact with medical professionals in the first place (Diamant, Wold, Spritzer, & Gelberg, 2000). The same study also noted that within the previous 2 years, heterosexual women were more likely to have undergone a breast examination or a Papanicolaou test than SMW, demonstrating a disparity in preventative and sexual health care services. Risk perceptions may also influence SMWs' decision to seek health care: Marrazzo et al. (2005) found that participants viewed STI risk reduction behaviors as concerns for heterosexual women as opposed to SMW, which may be a contributing factor to the reduced rate in these routine health screenings in SMW.

Clinical Implications

The majority of the literature on sexual behavior in sexual minority populations has focused on SMM. Indeed, a review of the literature only yielded a few interventions addressing sexual behavior specifically in SMW. Logie et al. (2014) and Logie, Lacombe-Duncan, Weaver, Navia, and Este (2015) utilized a group-based psychoeducational prevention intervention for HIV and STIs in SMW and found lower sexual risk practices and sexual discrimination, as well as increased STI knowledge and barrier use self-efficacy 6 weeks later. Another intervention by Marrazzo et al. (1998) aimed to reduce unprotected digital-vaginal contact using a computer-based self-assessment, which significantly increased glove use among lesbian women. Due to previous research suggesting SMW are at a higher risk for some STIs (Bauer & Welles, 2001), additional programs addressing these behaviors in this population can be seen to be of high importance.

Primary care represents a viable setting for addressing sexual behavior in SMW. One finding of the current study is that a relatively large number of SMW report male-female sexual behavior. As such, physicians should inquire both about the types of sexual behaviors that SMW are engaging in and also about the gender of sexual partners. SMW may be engaging in sexual behaviors with partners of different genders and may lack safer sex resources (e.g., dental dams, lube, globes) as well as education around risk factors inherent in these practices and means of protecting against negative outcomes such as STIs. These safer sex resources should be accessible at health clinics at low or no cost. In a similar vein, information on rates of female-female sexual behavior, such as unprotected cunnilingus and sex under the influence of alcohol (behaviors that occurred at high rates in the present study), should be disseminated to primary care doctors in order to prompt discussion around and promote health interventions aimed at educating SMW about STI risk associated with these behaviors.

Health interventions are particularly needed given the paucity of safe sex information geared toward SMW, especially when considering the evidence demonstrating that SMW are at a higher risk for certain STIs (Fethers, et al., 2000; Friedman et al., 2003; Bauer & Welles, 2001). These types of interventions should target faulty perceptions that SMW engaging in female-to-female sexual behavior are not at risk for STIs, such as HIV and HPV (Champion et al., 2005; Marrazzo et al., 2005; Mayo Clinic, 2014) for both physicians and patients in order to dismantle cognitive barriers to practicing safe sex among SMW. Indeed, research has found that health care providers may falsely believe that sexual minority women do not require sexual health screenings or education (Fishman & Anderson, 2003; Marrazzo et al., 1998).

At a societal level, the present study also calls for structural interventions aimed at reducing heterosexism. This may include wielding research data on the negative impact of heterosexism on sexual minorities to advocate for legislation protecting this population and creating interventions to reduce heterosexism for health care providers and individuals across services industries, as well as promoting alliances with heterosexuals in order to foster greater social acceptance of sexual minorities. The findings from the current study as well as a study by Logie et al. (2016) suggest that sexual stigma may influence sexual behavior in SMW, although further research in this area is necessary.

Finally, results of the present study suggest that connections between heterosexism and the intent to engage in sexual behavior, sex with uncommitted partners, and impulsive sexual behaviors may be additional ripe targets for intervention. For example, at the individual level, mental health interventions aimed at promoting adaptive means of

coping with sexual orientation-based discrimination may be particularly helpful.

Limitations and Future Directions

Despite the diversity of the current sample, limited sample size prevents the ability to examine differences among racial/ethnic groups. Although some studies have used ethnically diverse samples of SMM to examine indices of sexual behavior (Diaz et al., 2004), this avenue of research has not been pursued in SMW, suggesting this may be an important future direction for research. Further, it is important to note that the present study utilized a convenience sample that belonged to public groups focusing on sexual minority issues. It is possible that their experiences with heterosexism and sexual behaviors may not generalize to all SMW. Future research will be required to extend these findings to the population at large.

Due to the associations between experiences of heterosexism by individuals in service jobs, strangers, or those in helping professions and sexual behaviors in SMW, further studies should be conducted to examine potential explanations for these relationships. It is possible that sexual behaviors are being used as a maladaptive coping mechanism to deal with experiences of heterosexism, although longitudinal research using cross-lagged panel designs may better be able to infer causality in this relationship. In a similar vein, future studies should also examine potential moderators and mediators of the association between heterosexism and sexual behaviors in SMW, such as coping styles and mental health.

Future research should seek to quantify and expand on sexual behavior in relation to HIV and STI contraction among SMW. This may serve to clarify what adequate protection against HIV and STIs entails (e.g., barrier use). This is important given the growing body of research on STI and HIV contraction in SMW. For example, anywhere from 24 to 51% of lesbian women have had bacterial vaginosis (Fethers et al., 2000; Marrazzo et al., 2001; Edwards & Thin, 1990; McCaffrey, Varney, Evans, & Taylor-Robinson, 1999). Although uncommon, there are also reports of female-to-female HIV contraction particularly in activities that involve blood (Kwakwa & Ghobrial, 2003; Troncoso, Romani, Carranza, Macias, & Masini, 1995). However, risk for contracting certain STIs (e.g., chlamydia, gonorrhea) in SMW still needs to be further explored. As noted by Marrazzo (2004), SMW should be tested for chlamydia, until data suggest that chlamydia is not contracted through female-to-female sexual behavior. As the SRS does not operationally define protection, however, this is a limitation of the current study.

An additional important limitation of the study is that sex or gender of the partner for the sexual behaviors reported was not assessed. As a result, the data are somewhat limited in order to comprehensively gauge the riskiness of the sexual behavior. For example, unprotected vaginal or anal sex with a biologically male partner holds different risks from the sex acts under the same term with a biologically female partner. These diverse sexual practices and associated risks were not taken into account when assessing sexual risk. However, the sex or gender of participants' sexual partners was not assessed for several reasons. The Sexual Risk Scale was psychometrically validated without asking participants to specify the sex or gender of their partners, so we did not want to alter the psychometrics of the scale in an unknown way that could invalidate it. This issue is particularly salient given the diversity of sexual orientations represented in our sample (e.g., lesbian, bisexual, queer, other) and the sometimes less-traditional nature of romantic relationships in sexual minority women (e.g., open relationships, polyamory). Gender may also be important when considering women's power in sexual situations. It may be true that SMW who experience heterosexism would be more vulnerable to pressured or coerced sexual risk, particularly with male partners. Therefore, future research should also take this into account.

In addition, the minority stress model (Meyer, 2003) examines sexual stigma specifically, which is a related but separate construct than heterosexism. Although the current study was informed by the minority stress model, sexual stigma consists of many elements, such as internalized, enacted, and perceived stigma, which are not incorporated into the concept of heterosexism. As such, future research should examine sexual stigma within a minority stress framework.

Finally, the exploratory comparisons by sexual orientation of participants' reported experiences with heterosexism or sexual behavior rates were not significant. One problem with these comparisons is that the term "queer" is a newer term of self-identification and can encompass both women who otherwise might have only female partners (traditionally "lesbian" behavioral expressions) or both female and male partners (traditionally "bisexual" behavioral expressions). As noted above, future research should more extensively collect information on the sex of participants' partners, which could then be used as cleaner independent variables to compare participants on levels of experiences with heterosexism or rates of sexual behaviors.

Conclusions

Despite various shortcomings in the current study, this is among the few studies to find an association between heterosexism and sexual behaviors in an ethnically diverse sample of SMW. Interventions addressing education for health care service providers and among SMW may be useful, as well as interventions to assist SMW to cope with heterosexist experiences.

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflicts of interest.

Informed Consent Informed consent was obtained from all individual participants included in the study.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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