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Can community consciousness be a bad thing? A moderated mediation analysis of heterosexism, mental health, and body appreciation in sexual minority men

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Abstract

This study examined the connections among heterosexism, mental health, body appreciation, and community consciousness in sexual minority men. Participants (N = 89) completed a national online survey. Simultaneous multiple regression found that heterosexism explained 9.4% of the variance in body appreciation and 25.8% of the variance in mental health; mental health accounted for 28.0% of the variance in body appreciation. Within these models, harassment/rejection heterosexism was a unique positive predictor of mental health and a unique negative predictor of body appreciation; depression was a unique negative predictor of body appreciation. A moderated mediational model found that depression mediated the relationship between harassment/rejection heterosexism and body appreciation, but only in men who endorsed high community consciousness. Intervention research might benefit from helping sexual minority men explore the ways in which body image is affected by heterosexism and mental health, as well as the ways that contemporary Western gay communities might contribute to these connections.

Keywords

Body satisfaction; sexual minority men; heterosexism; mental health; community consciousness; USA

The minority stress model asserts that members of sexual minority groups experience stress as a result of their marginalised position(s) in society (Meyer 2003). Relative to their heterosexual counterparts, sexual minority men are at increased risk for encountering difficulties associated with their stigmatised status. Indeed, such men are disproportionately exposed to prejudicial events and are victims of overt discrimination, harassment, and rejection on a regular basis (Meyer 2013). In a large US population-based sample of gay and bisexual men examining the 6-month cumulative incidence of anti-gay prejudice, 36% of participants reported experiencing verbal harassment due to their sexual orientation, 11.2% reported discrimination, and 4.8% reported physical violence (Huebner, Rebchook, and Kegeles 2004). Another study investigating victimisation experiences in gay and bisexual men revealed that 28% have been victims of a hate crime based on sexual orientation since age 16, and 16% had experienced this crime within the past 5 years (Herek, Gillis, and

Cogan 1999). Finally, in a US nationally representative survey of gay, lesbian, and bisexual adults, 49.2% of respondents had experienced verbal abuse, 20% experienced personal or property crime, and 11.2% experienced housing or employment discrimination, with gay men experiencing the highest rates of harassment (Herek 2009). This finding was similar to that from previous literature demonstrating that gay and bisexual men were more likely to experience antigay victimisation than sexual minority women (Herek, Gillis, and Cogan 1999).

Heterosexism & mental health

The minority stress that gay and bisexual men experience creates a stressful environment that leads to an increased risk for mental health problems (Meyer 1995; Meyer 2013). Meyer (2013) provides meta-analytic evidence demonstrating that gay and bisexual men have a higher prevalence of psychological disorders than heterosexuals, and postulates that this is the result of widespread heterosexist discrimination. Sexual minority individuals report experiencing more discrimination than heterosexuals, and this discrimination is associated with reduced quality of life and psychiatric morbidity (Mays and Cochran 2001). Homosexually active men exhibit higher prevalence rates of major depression and panic attacks than other men (Cochran and Mays 2000). In a large US school-based study exploring emotional distress and discrimination in high school students, LGBT individuals reported significantly higher depressive symptoms, suicidal ideation, and self-injurious behaviours compared to their heterosexual counterparts. Perceived discrimination on the basis of sexual orientation accounted for increased emotional distress among men, but not for women (Almeida et al. 2009). Further, research indicates gay and bisexual men who experience heterosexist discrimination show more adverse mental health effects, and greater levels of sexual minority stress yield greater effects on mental health symptoms (Herek, Gillis, and Cogan 1999; Meyer 2013; Kimmel and Mahalik 2005). For example, in a community sample of gay men, men who experienced high levels of minority stress (i.e., internalised homophobia, stigma, and prejudice) were two to three times more likely to report psychological distress (Meyer 1995). Recent discrimination in the workplace is linked to poorer health outcomes, limited functionality, and a decrease in psychological well-being in sexual minority men (Bauermeister et al. 2014). Overall, experiences of heterosexism are especially relevant to mental health outcomes.

Heterosexism & body appreciation

Heterosexist discrimination is also related to greater body image concerns among gay and bisexual men. A cross-sectional investigation exploring the relation among minority stress and body image demonstrated that internalised homophobia, stigma, and antigay physical attacks were all significantly associated with both body image dissatisfaction and masculine body ideal distress (Kimmel and Mahalik 2005). Gay and bisexual men who report high levels of internalised homophobia exhibit high levels of body image distress (Brennan, Craig, and Thompson 2012), and research demonstrates that childhood harassment for gender nonconformity is related to body shame, body surveillance, and internalisation of sociocultural standards of appearance in sexual minority men (Beren et al. 1996; Wiseman and Moradi 2010; Watson and Dispenza 2015; Strong et al. 2000). As such, body image

problems are much more prevalent in samples of gay men than in samples of heterosexuals (Beren et al. 1996).

Compared to heterosexuals, sexual minority men score higher on measures of body dissatisfaction and drive for thinness, and have been shown to consider their appearance to be more central to their sense of self (Silberstein et al. 1989; Yager et al. 1988). Researchers argue that gay men may be more prone to body dissatisfaction when they internalise homophobic attitudes and harbour greater anticipation of being stigmatised for their minority status (Williamson 1999). Gay men who have been victims of an antigay attack might desire a stronger physique in order to feel safer and more protected against future attacks (Kimmel and Mahalik 2005). Conversely, some gay and bisexual men might over-conform to traditional masculine norms of muscularity as a way to combat stereotypes that gay and bisexual men may be less masculine (Kimmel and Mahalik 2005; Pope, Phillips, and Olivardia 2000).

The fact that sexual minority men experience elevated levels of body dissatisfaction is concerning, as negative body image often prompts an individual to engage in weight modification practices to lose weight, and these practices can include extreme and ineffective measures (Stice 2002). Body dissatisfaction is the strongest and most consistent predictor of eating disorder symptoms, and as with other populations, negative body image creates a vulnerability to disordered eating in homosexual men (Thompson et al. 1999; Hespers and Jansen 2005). Walloch, Cerezo, and Heide (2012) propose that since gay and bisexual men often experience harassment and rejection as a result of their sexual orientation, they might engage in disordered eating and exercise behaviours as means to obtain an idealised male body that is accepted by society and inhibits heterosexist violence. Indeed, gay men are 4 to 5 times more likely than heterosexual men to engage in eating disorder behaviours, and it is estimated that approximately 20% of gay men meet the criteria for a clinical eating disorder (Andersen 1999; Harvey and Robinson 2003). Overall, US research consistently demonstrates that gay and bisexual men are disproportionately represented in eating disorder populations and exhibit higher levels of disordered eating attitudes and behaviours than heterosexual men (Bosley 2011; Walloch, Cerezo, and Heide 2012).

Heterosexism, mental health, & body appreciation

Low body appreciation is linked with a number of affective disturbances, including depression and anxiety (Olivardia et al. 2004; Stice 2002). Research consistently demonstrates that heterosexual populations display a strong association between negative affect and low body esteem, yet research investigating this link in gay and bisexual men is still emerging. However, some literature does suggest that in gay and bisexual men, higher levels of body image distress is associated with higher levels of depression (Brennan, Craig, and Thompson 2012). Experimental research demonstrates that affective disturbances are linked with an increased risk for body dissatisfaction (Baker, Williamson, and Sylve 1995; Taylor and Cooper 1992). Indeed, body dissatisfaction and disordered eating pathology are problems for gay and bisexual men who experience negative psychological states regarding

their sexual identity (Siconolfi et al. 2009). Thus, depression may heighten the effect of heterosexism on the experience of body appreciation.

Community consciousness: A potential moderator

Greater affiliation with gay communities may actually *increase* risk of affective disturbances and body dissatisfaction (Bosley 2011; Kassel and Franko 2000; Beren et al. 1996). This is a particularly important construct to take into account in the digital age, as gay men may have greater opportunities for community connection online now than they did in the past (Engler et al. 2008). Like heterosexual men, gay men are concerned about their body in terms of strength and athletic ability (Siever 1994), but contemporary gay communities place greater emphasis on male appearance than heterosexual culture, leading many gay men to experience heightened levels of distress surrounding their appearance (Smolak and Murnen 2001). The appearance focus in the gay community is especially unique, as it endorses both a thin and muscular body ideal (Tiggemann, Martins, and Kirkbride 2007). As such, body image disturbance in sexual minority men involves both drive for thinness and drive for muscularity. Therefore gay community consciousness—or the subjective experience of connection to the LGBT community that gay and bisexual men feel due to their shared sexual orientation and common sense of oppression by a heterosexual society—might be associated with different body image concerns for men of varying weights (Herek & Glunt, 1995). Indeed, gay community identification is associated with greater drive for muscularity for men with high BMIs, and greater body dissatisfaction for men with low BMIs (Doyle and Engeln 2014).

The exaggerated emphasis on male appearances among US gay men promotes a constant demand to look attractive and muscular (Harvey and Robinson 2003; Epel et al. 1996). The intense appearance focus in western gay cultures might even foster body dissatisfaction and disordered eating behaviours in community members who are not as image conscious (Harvey and Robinson 2003). Gay men engage in significantly greater amounts of body comparison than heterosexual men, and physical comparison has been positively related to developing bulimic attitudes and behaviours (Williamson 1999). Moreover, men unable to meet the physical standards of contemporary gay cultures are at risk for being marginalised by their peers (Padva 2002). On the other hand, men who achieve an ideal body type are given high status within gay communities, yet can face envy and be viewed as unintelligent or promiscuous (Drummond 2005). Taken together, previous literature demonstrates that involvement in contemporary Western gay communities might expose individuals to detrimental appearance ideals and increase community members' vulnerability to affective disturbances and body dissatisfaction (Drummond 2005; Beren et al. 1996).

Purpose of the current study & hypotheses

Research investigating heterosexist discrimination as a social stressor related to body dissatisfaction among sexual minority men is still in its infancy, and the potential meditational or moderational effects of mental health and gay community consciousness have yet to be explored. Therefore, the purpose of this study was to examine the patterns of connections among heterosexism, mental health, body appreciation, and community

consciousness in sexual minority men. It was hypothesised that 1) heterosexism will predict mental health symptoms; 2) mental health symptoms will predict body appreciation; 3) mental health symptoms will mediate the effect of heterosexism on body appreciation; and 4) community consciousness will moderate the indirect effect of heterosexism on body appreciation through depression such that the effect is stronger for sexual minority men who have higher levels of community consciousness.

Methods

Participants

Participants (N = 89) were recruited as part of a larger US national online survey of sexual minority experiences. Data were automatically removed from the survey if there was evidence of false responding from a computer programme (i.e., completion time of less than 20 minutes or greater than 24 hours), impractical response patterns (e.g., selecting the first response for every item), or if participations did not accurately answers at least 4 of 6 (66.6%) randomly placed validation questions (e.g., “Please select *strongly agree* for this item”). This automated deletion procedure was used due to the high likelihood of acquiring false responses when conducting online research involving incentives and the requirement by Virginia Commonwealth University's information security officer's requirement in order to prevent fraudulent use of state funds. As a result, the exact number of deleted responses is unknown. Individuals were eligible for the study if they were 18 years old and identified as gay, bisexual, queer, or an “other” non-heterosexual sexual orientation.

Participants had a mean age of 30.8 ($SD = 10.30$). With respect to sexual orientation, participants identified as gay (60.7%), bisexual (25.8%), queer (11.2%), and other (2.2%). The racial/ethnic composition of the sample was 28.1% White/European-American (non-Latino), 27.0% Asian/Asian-American/Pacific Islander, 22.5% Black/African-American (non-Latino), 7.9% Latino/Hispanic, 4.5% American-Indian/Native-American, and 10.1% Multiracial/Multiethnic. The majority of participants pursued education beyond high school: 27.0% some college (no degree), 7.9% 2-year/technical degree, 37.1% 4-year college degree, 18.0% master's degree, and 3.4% doctorate degree, with 6.7% having a high school degree/GED or lower.

Measures

Participants completed a set of questionnaires assessing experiences with heterosexism, symptoms of depression and anxiety, body image, and community consciousness. Demographic information was collected through a researcher-created questionnaire.

Heterosexist Harassment, Rejection, and Discrimination Scale (HHRDS)—

Experiences of heterosexism were assessed with the HHRDS (Szymanski 2006), a 14-item self-report questionnaire consisting of three factors: Harassment/Rejection, Workplace/School Discrimination, and Other Discrimination. For the present study, the term “lesbian” was substituted with the phrase “an LGBTQ individual” to comprehensively evaluate numerous forms of heterosexism experienced by community members. Responses were measured on a 6-point rating scale (ranging from 1 = *the event has never happened to you* to

6 = *the event happened almost all of the time*), and participants were instructed to indicate the number that best describes events in the past year. Examples of items on the HHRDS include: “How many times have you been made fun of, picked on, pushed, shoved, hit, or threatened with harm because you are an LGBTQ individual?” and “How many times have you been treated unfairly by your employer, boss, or supervisors because you are an LGBTQ individual?” Szymanski (2006) reported the internal consistency for the HHRDS total scale at .90. Cronbach's alphas for the subscales were .89 (Harassment/Rejection), .84 (Workplace/School Discrimination), and .78 (Other Discrimination). Evidence of validity was demonstrated by correlations of the HHRDS with measures psychological distress, membership in an LGB group, and conflict regarding sexual orientation (Szymanski, Chung, and Balsam 2001).

Hopkins Symptoms Checklist 25 (HSCL-25)—Depression and anxiety symptoms were assessed using the HSCL-25 (Derogatis et al. 1974; Hesbacher et al. 1980). The HSCL-25 is a 25-item self-report questionnaire consisting of 10 items measuring anxiety and 15 items measuring depression. Individuals were asked to indicate how often each symptom bothered or distressed them over the past week. Responses were quantified on a 4-point rating scale (ranging from 1 = *not at all* to 4 = *extremely*), with higher scores indicating greater symptoms. Examples of items from the anxiety subscale include: “feeling fearful” and “feeling tense or keyed up.” Examples of items from the depression subscale include: “feeling hopeless about the future” and “blaming yourself for things.” Evidence of validity was demonstrated by correlations of the HSCL-25 with medical doctor's global assessment of psychological distress and other measures of emotional symptoms (Hesbacher et al. 1980).

Body Appreciation Scale (BAS)—Body appreciation was measured using the BAS (Avalos, Tylka, and Barcalow, 2005), a 13-item self-report questionnaire that assesses the extent to which individuals evaluate their body positively. Participants respond with a 5-point rating scale (ranging from 1 = *never* to 5 = *always*), and participants were instructed to select the answer that best described how they felt about their body. Examples of items on the BAS include: “I feel good about my body,” and “I do not focus a lot of energy being concerned with my body shape or weight.” Avalos, Tylka, and Barcalow (2005) reported that the BAS yields internally consistent scores ($\alpha = .94$). The BAS has demonstrated good construct and convergent validity with measures of female and male body dissatisfaction (Tylka and Andorka 2012).

Community Consciousness Scale (CCS)—The degree to which an individual felt part of the LGBTQ community was evaluated with the CCS (Herek and Glunt 1995), a 6-item self-report measure. For the present study, the term “LGBTQ” was used to reflect one's connection to the overall community, as opposed to “gay/bisexual men,” as the LGBTQ community is larger than just gay/bisexual men. Responses were measured on a 5-point rating scale (ranging from 1 = *strongly disagree* to 5 = *strongly agree*), with higher scores reflecting high community consciousness. Participants were asked to select the answer that best describes how they feel. Examples of the items on the CCS include: “I feel a bond with other people who are LGBTQ,” and “If we work together, LGBTQ people can solve the

problems facing us.” Herek and Glunt (1995) report that the CCS produces internally consistent scores ($\alpha = .76$).

Procedure

Participants were recruited through various Internet forums and groups as part of a national survey on SMM. Information regarding recruitment for a study assessing the health of LGBTQ individuals was emailed to national and regional LGBTQ organisations (e.g., National Gay Men's Advocacy Coalition, The Center Orlando) and online LGBTQ social and community groups (e.g., LGBT People of Color Yahoo Group), with a particular focus on organisations catering to LGBTQ individuals of color in order to increase sample racial/ethnic diversity. Comparable details were posted to online social and community groups' message boards, and information was submitted to group moderators for groups that did not permit non-member posting. If approved, study description and contact information were posted to message boards or sent out to the listserv.

Interested individuals were told in the recruitment flyer to email the research coordinator who screened subjects to determine whether they met study criteria. The research coordinator replied by email to all potential participants' emails, asking them to explain how they felt they met the criteria listed in the flyer for participation in the study. Individuals were not allowed to participate if they did not respond, provided illogical responses, did not meet inclusion criteria (being at least 18 years of age and a sexual minority man), or appeared to be a computer program. Eligible individuals were provided with a link and access code via email to the REDCap (Research Electronic Data Capture) website to complete the measures. Upon completion, participants were compensated with a \$15 electronic Amazon.com gift card. All individuals consented to participation in the study under the Institutional Review Board approved guidelines.

Statistical analyses

Assumption checks were run for skewness and kurtosis, as well as multicollinearity, on all primary study variables. In order to identify the patterns of connections among heterosexism, mental health, body appreciation, and gay community consciousness, a series of hypothesis-based multiple regressions were performed. The first regression included the three subscales of the Heterosexist, Harassment, Rejection, and Discrimination Scale (HHRDS; Harassment/Rejection, Work/School, and Other) as predictor variables and the Body Appreciation Scale (BAS) as the criterion variable. The next regression included the three subscales of the HHRDS as predictors and the Hopkins Symptoms Checklist 25 total score (HSCL-25; mental health) as the criterion variable. The final regression included the two subscales of the HSCL-25 (Depression and Anxiety) as predictor variables and the BAS as the criterion variable. A simple mediation using the Hayes (2013) PROCESS macro (model 4) first examined the pattern of relationships that had emerged among the primary variables under scrutiny in the prior series of regressions whereby the strongest unique predictors from the regressions were chosen for mediational model using 5000 bootstrapping samples. Next, tests of moderated mediation (model 15; Hayes 2013) were performed to examine the conditional effect of the mediation model as a function of community consciousness. A correlation matrix was created in order to identify the bivariate

connections among all primary variables in the current study. Finally, a power analysis was conducted to determine achieved power based on the effect size and sample size of the current study.

Results

Assumption checks

The vast majority of skewness and kurtosis values were very close to or below 1.0, indicating the general normality of all primary variables in the current study. The only exception was work/school heterosexism which slightly surpassed this threshold for skewness (1.29) and kurtosis (2.45). Because only this variable had values just above the threshold, its original structure was retained. In terms of multicollinearity, no variables were correlated higher than the traditional .70 cutoff, except for anxiety and depression ($r = .79$; Table 1). However, a high correlation between these two variables would be expected, especially since they are two subscales from the HSCL-25. Nonetheless, the regression including these two predictors should be interpreted with an appropriate degree of caution if a unique effect of one of the predictors does not emerge.

Hypothesis-based multiple regressions

In the first regression analysis, the three HHRDS subscales explained 9.4% of the variance in body appreciation [$F(3, 85) = 2.94, p = .038$]. Harassment/Rejection was independently associated with body appreciation [$\beta = -.29, p = .049$], such that greater experiences with harassment/rejection heterosexism were associated with lower body appreciation. However, the Work/School [$\beta = -.15, p = .288$] and Other [$\beta = .14, p = .349$] subscales were not uniquely associated with body appreciation.

In the second regression analysis, the three HHRDS subscales explained 25.8% of the variance in mental health [$F(3, 85) = 9.84, p < .001$]. Harassment/Rejection was independently associated with mental health symptoms [$\beta = .36, p = .006$], such that greater harassment/rejection heterosexism was associated with greater mental health symptoms. However, the Work/School [$\beta = .17, p = .190$] and Other [$\beta = .04, p = .773$] subscales were not unique predictors.

In the third regression analysis, the two HSCL-25 subscales accounted for 28.0% of the variance in body appreciation [$F(2, 86) = 16.74, p < .001$]. Both Depression [$\beta = -.76, p < .001$] and Anxiety [$\beta = .34, p = .025$] were uniquely associated with body appreciation. While greater depression was related to lower body appreciation, lower anxiety was associated with reduced body appreciation. However, it is important to note that the unique effect of anxiety on body appreciation, which was in the opposite direction as what would be expected, was almost statistically non-significant and likely due to error variance from multicollinearity between the two predictors in the regression. As a result, this unique effect of anxiety should be interpreted as error from a suppressor effect, as opposed to a true effect.

Mediational model

In the initial simple mediation model, harassment/rejection heterosexism was specified to have a direct effect on body appreciation, as well as an indirect effect through depression (Figure 1), using 5000 bootstrap samples. The direct paths from harassment/rejection to depression ($\beta = .37, p < .001$) and from depression to body appreciation ($\beta = -.43, p < .001$) were both statistically significant. Further, the indirect effect of harassment/rejection on body appreciation through depression was statistically significant ($\beta = -.16, 95\% \text{ CI } [-.41, -.10]$), indicating a full mediation because the direct path from harassment/rejection to body appreciation was not statistically significant in the model ($\beta = -.04, p = .565$).

In order to determine whether this mediational effect differed as a function of participants' levels of community consciousness (a moderated mediation), a conditional process model was created to determine if the initial mediation model was moderated by community consciousness (Figure 2). The overall model was significant $F(5, 83) = 7.27, p < .001, R^2 = .30$. The direct effects from harassment/rejection to depression ($\beta = .37, p < .001$), depression to body appreciation, and community consciousness to body appreciation were statistically significant, but the direct effect from harassment/rejection to body appreciation was not (Table 1). The interactions between depression $\times$ community consciousness and harassment/rejection $\times$ community consciousness were not statistically significant, indicating that the direct effects from depression and heterosexual harassment/rejection to body appreciation were not moderated by community consciousness. The indirect effect of harassment/rejection on body appreciation through depression by community consciousness was statistically significant (Table 2), indicating that at moderate to high levels of community consciousness, there is a negative indirect effect of depression on body appreciation through depression, while at low levels of community consciousness, there is not. This pattern of findings is reflective of a moderated mediation, such that from a theoretical standpoint, harassment/rejection discrimination led to depression, which led to reductions in body appreciation, but only when participants felt highly connected to the LGBTQ community.

Correlation matrix

Generally, all of the bivariate correlations in the matrix (Table 3) conformed to the pattern of connections identified in the multiple regressions. However, there was a significant positive correlation between community consciousness and body appreciation, suggesting that despite the attenuating effect of the mediational model by community consciousness found in the previous analysis, in terms of simple bivariate relationships connection with the gay community was associated with higher body appreciation.

Power analysis

An achieved power analysis was conducted using G*Power (Faul et al. 2009) to determine the achieved power based on the observed medium sized effect ($R^2 = .30$), with 5 predictors, alpha of .05, and a total sample size of 89 for the moderated mediation analysis. The program indicated observed power for this study was .9990, higher than the typical 80% benchmark.

Discussion

Gay and bisexual men often experience heterosexism, and repeated exposure leads to adverse mental health problems (Meyer 2013). Indeed, homosexual men experience elevated levels of affective disturbances and body dissatisfaction compared to their heterosexual counterparts (Silberstein et al. 1989; Yager et al. 1988). Previous research demonstrates the potential for affiliation with the gay community to predict body image distress (Beren et al. 1996). Due to the fact that negative body image is frequently seen as a problem exclusively affecting women, current literature exploring the etiology and maintenance of body dissatisfaction in gay and bisexual men is sparse (Ousley, Cordero, and White 2008; Bosley 2011). Therefore, the purpose of the current study was to examine the patterns of connections among heterosexism, mental health, body appreciation, and community consciousness in sexual minority men.

A series of simultaneous multiple regressions found that heterosexism explained 9.4% of the variance in sexual minority men's body appreciation and 25.8% of the variance in mental health. Further, mental health accounted for 28.0% of the variance in body appreciation. Within these models, harassment/rejection heterosexism was a unique positive predictor of mental health symptoms and a unique negative predictor of body appreciation; depression was then a unique negative predictor of body appreciation. A moderated mediational model using these unique predictors found that depression mediated the relationship between harassment/rejection heterosexism and body appreciation, but only in sexual minority men who endorsed moderate to high community consciousness.

The first regression which found that heterosexism, and especially harassment/rejection, was associated with body image in sexual minority men is generally in line with previous research. For example, Kimmel and Mahalik (2005) found that gay men experienced greater body image dissatisfaction and masculine body ideal distress when they also had experienced more antigay physical attacks and had greater expectations of stigma for being gay. In the current study, only harassment/rejection was a unique predictor of decreased body appreciation; this form of heterosexism might be particularly harmful because of its overt and blatant nature in comparison to the other forms of heterosexism measured. Previous research has similarly found harassment/rejection to be positively associated with somatisation, obsessive compulsiveness, interpersonal sensitivity, depression, anxiety, and overall psychological distress (Szymanski 2006). The findings lend credence to—but necessitate further exploration of—Walloch, Cerezo, and Heide's (2012) theory that gay and bisexual men might engage in disordered eating and exercise behaviours as a way to achieve an ideal male body type and thwart discrimination.

The second regression that demonstrated heterosexism to be a robust predictor of mental health problems in sexual minority men is also in line with the previous research. Mays and colleagues (2001) found that discrimination based on sexual orientation was associated with reduced quality of life and various indicators of psychiatric morbidity. This finding from the current study also corroborates the minority stress model whereby heterosexist discrimination presents an increased risk for mental health problems (Meyer 2013), as well as previous research finding that heterosexism is particularly associated with increased

emotional distress among gay, bisexual, and/or transgendered (Almeida et al. 2009). Again, harassment/rejection was a unique predictor in the second model, suggesting the especially pernicious effects this form of heterosexism may have on the mental health of sexual minority men.

The third regression analysis linking mental health symptoms—and depression in particular—and body appreciation in sexual minority men corroborates some of the previous literature. Brennan and colleagues (2012) found that depression symptoms in gay and bisexual men were positively associated with disordered eating and with the drive for muscularity. These associations have also been robustly shown to exist in heterosexual populations (Olivardia et al. 2004). The relationship between body dissatisfaction and depression found in the current study could reflect a frequent comorbidity with eating disorder pathology and highlights the need for attention to body image concerns in depressed sexual minority men (Olivardia et al. 2004).

The final finding from the current study that depression fully mediated the relationship between harassment/rejection heterosexism and body appreciation, but in only sexual minority men with moderate to high community consciousness, was particularly novel. Previous research has found affiliation with Western gay communities to be associated with increased body dissatisfaction (Beren et al. 1996), despite the fact that the current study found in the correlation matrix that community consciousness was associated with *increased* body appreciation. Nonetheless, the current study suggests that the relationship between community connection and body image may be more complex than the bivariate associations emerging in previous research. Although stronger connections with the gay community may have positive effects such as increased social support, this connection may come at the price of greater exposure to a cultural emphasis on physical appearance (Smolak and Murnen 2001). The current study expands on prior findings by demonstrating that higher gay community consciousness was actually associated with an *increased* effect of heterosexism on body appreciation through depression. This effect is worrisome, given the pervasiveness of heterosexism in society (Huebner, Rebchook, and Kegeles 2004), and the fact that the mortality rate of eating disorders is the highest of all mental disorders (Thompson et al. 1999; Klump et al. 2009).

Clinical implications

In light of the previous literature, the current findings have direct implications for clinical intervention research. The consistent findings that heterosexist harassment/rejection is associated with general mental health problems and body dissatisfaction in sexual minority men point to the need for intervention research to investigate the ways in which gay and bisexual men can be taught to draw on appropriate personal and collective resources to reduce the effects of discrimination. For example, Walloch, Cerezo, and Heide (2012) have argued that Acceptance and Commitment Therapy can be culturally tailored using minority stress and self-objectification lenses to address the pressures that gay and bisexual men experience from heterosexism broadly and also from within the gay community. The current findings would suggest that such an intervention might benefit from helping sexual minority men explore the ways in which their body image is affected by heterosexism and their own

mental health, as well as the ways that Western gay culture may contribute to these connections.

More generally, there is a need to monitor and address body image trends in the gay community, perhaps with an attempt to help sexual minority men become aware of the cultural emphasis on physical appearance and potentially the ways in which heterosexism might enhance this emphasis (Walloch, Cerezo, and Heide 2012). Researchers have posited that interventions might be more effective if they are community-based and backed by resources that promote a positive sense of being gay (Williamson 1999). Community-level interventions could encourage the development of healthy friendships and positive social support networks, as many gay and bisexual men experience isolation and lack of support due to their sexual orientation (Savin-Williams 1994); indeed, sexual minority men may attempt to conform to cultural standards for physical appearance in an attempt to better fit in to the contemporary gay communities. Potential interventions could also empower gay and bisexual men to take action in their communities toward eliminating heterosexism and provide support to sexual minority men who experience body image concerns.

Limitations and future directions

Despite the implications of the current study, there are several limitations, and as a result, directions for future research. First, although a causal chain from heterosexism to mental health to body satisfaction is implied or assumed throughout this manuscript, the data are correlational. Causation could work in the opposite direction whereby reduced body satisfaction could lead to depression, or participants who are depressed could perceive heterosexism to be more common in their lives. To better tease apart these causal influences, future longitudinal research should use cross-lagged panel designs, which could help infer causation in the associations identified in this study. Second, all of the measures were self-report which might be susceptible to social desirability; future studies could control for social desirability or use more objective measures of mental health and eating behaviours. Third, participants self-selected to participate in the online study and might differ from those who chose not to participate, creating a selection bias. For example, the average age of participants was 30.8, and as a result, the findings might not apply to older sexual minority male populations that could endorse different cultural standards of beauty. It is of note, however, that the current sample was extremely ethnically diverse, so generalisability to diverse samples of gay and bisexual men is stronger than in most of the previous research. Despite this diversity, the sample was only collected in the US, so universal generalisations to sexual minority men in other countries and global regions may be limited. Future studies should take a fuller consideration of how urban, rural, and on-line gay communities might differ in these regards, as well as in the context of various global communities.

With these limitations in mind, this study calls for research to further examine the factors that influence body satisfaction in gay and bisexual men. Heterosexism, mental health, and involvement in Western gay communities are important contributors to body satisfaction. Future research should investigate whether sexual minority men do indeed engage in weight control behaviours to cope with pressures not only from outside gay communities, but also from within them.

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Note. $*p < .05$; $***p < .001$

Figure 1.

Initial simple mediation model with standardized path loadings and standard errors using 5000 bootstrap samples

Figure 2.
The conceptual moderated mediation model.

Table 1

Model Summary for the Association between Heterosexist Harassment/Rejection and Body Appreciation through Depression by Community Consciousness (N = 89).

	Estimate	95% Bias-corrected bootstrap confidence interval
HHRDS-HR	-0.04 (.08)	-0.20 to 0.12
Depression	-0.39 (.10) ***	-0.59 to -0.19
CCS	0.04 (.02) *	0.01 to 0.08
Depression × CCS	-0.04 (.03)	-0.09 to 0.01
HHRDS-HR × CCS	-0.02 (.02)	-0.02 to 0.06
R^2	0.30 ***	

Note. 5000 bootstrap samples

*
 $p < .05$.

 $p < .001$.

Table 2

Conditional Indirect Effects of Heterosexist Harassment/Rejection on Body Appreciation Through Depression at Levels of Community Consciousness (N = 89)

Community Consciousness	Estimate	95% Bias-corrected bootstrap confidence interval
Low (−5.43; 19.00 ^a)	−0.06	−0.22 to 0.10
Moderate (0.57; 25.00 ^a)	−0.15	−0.30 to −0.07
High (4.57; 29.00 ^a)	−0.22	−0.41 to −0.09

Note.

^abefore mean centering; 5000 bootstrap samples

Table 3

Correlation matrix with all study variables

	1	2	3	4	5	6
1. Harassment/Rejection Heterosexism						
2. Work/School Heterosexism	.585 **					
3. Other Heterosexism	.654 **	.641 **				
4. Depression	.478 **	.398 **	.347 **			
5. Anxiety	.430 **	.360 **	.392 **	.791 **		
6. Body Appreciation	-.280 **	-.226 *	-.141	-.486 **	-.257 *	
7. Community Consciousness	-.064	-.145	-.215 *	-.081	-.03	.242 *

Note.

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