

ABSTRACT

Title of Dissertation:

THE BODY IMAGE CONCERNS OF
SEXUAL MINORITY MEN
ENCOUNTERING SEXUAL RACISM,
SEXUAL FEMMEPHOBIA, & SEXUAL
SIZEISM WHILE DATING ONLINE

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Though mobile dating and hook-up apps show promise for circumventing historical barriers to partnering among sexual minority men (SMM), initial evidence suggests such app use may contribute to SMM's relatively greater level of dissatisfaction with their bodies (Breslow et al., 2019) potentially via their exposure to discrimination online (e.g., Foster-Gimbel & Engeln, 2016). The present two studies were therefore developed to empirically examine the links between online sexual discrimination and the body image concerns of SMM using cross-sectional data gathered across two online surveys. In Study

1, three stable, single-factor measures assessing experiences of sexual racism, sexual femmephobia, and sexual sizeism were developed for use with SMM using exploratory factor analysis ($n = 180$). Predicted associations between these and validity measures provided initial convergent and divergent validity evidence in support of their use. This resulted in the retention of three novel 9-item measures of sexual discrimination. These measures were subsequently utilized in Study 2 ($n = 530$) to test a series of structural equation models that integrated elements of objectification and social comparison theory. Direct and indirect effects between app use variables, sexual discrimination, the internalization of appearance ideals, body surveillance, body shame, and body dissatisfaction were tested. Following model modifications, online sexual discrimination was found to be indirectly related to body dissatisfaction among SMM. The pathways by which this occurred varied by type of discrimination examined, with sexual racism related to dissatisfaction via the internalization of muscular ideals, and sexual femmephobia and sexual sizeism via the internalization of thinness ideals. App use behaviors were directly related to the reported frequency of sexual sizeism only and were not indirectly related to body dissatisfaction. Theoretical relationships among objectification theory variables were largely supported; however, a direct negative relationship between the internalization of muscular ideals and body dissatisfaction that had not been hypothesized also emerged as significant. The moderating potential of identity characteristics (e.g., racial identity, BMI) and appearance comparisons on tested relationships were examined. Higher levels of upward comparisons were found to strengthen relationships between body surveillance, internalization of thinness ideals, and body shame; all other moderation effects tested were non-significant.

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Chapter One: Manuscript

Introduction

For many, it is hard to remember a world before the advent of the Internet, but for those sexual minority men (SMM) in particular to have survived the sociopolitical conditions of the day, they likely remember communicating their interest in each other through a code of strategically placed hankies, lingering glances, and surreptitious slang—often with a sense of anxiety regarding the potential for resultant violence, discrimination, and harassment. While the intricacies of this communal tongue may now be lost to time, the impact of its successor— a vast array of online platforms developed to ease the process of meeting sexual and romantic partners (for a review, see Finkel et al., 2012)— is difficult to overstate. Though these online platforms were not originally introduced with SMM in mind, SMM have zealously trail-blazed this new frontier of human interaction and have since disproportionately utilized the Internet for romantic and sexual partnering (Groß et al., 2014), to the extent that online dating environments are near ubiquitous (e.g., Anderson et al., 2018) and the primary means by which SMM partner today (Rosenfeld & Thomas, 2012). Simply put, the Internet is now a defining feature of many SMM’s romantic and sexual lives.

For SMM limited by proximity, identifiability, scarcity, and societal stigma (Mohr & Daly, 2008), this “new geography of gay community” (Roth, 2016, p. 442) has transformed the landscape of their romantic and sexual lives, yet psychological literature examining the implications of online dating in general remains nascent (Finkel et al., 2012). Undoubtedly, the evolution of social networking sites (SNSs) has broadly outpaced the adoption of corresponding social etiquette, such that online dating for SMM

today appears as perilous (McKie et al., 2017) as it is empowering (Pingel et al., 2013). For these men in particular, confrontations with negative evaluations of their bodies, whether self-imposed or offered by captious others, may be a defining feature of this precarious topography (Miller, 2018). Such evaluations are inextricably tied to their racial-ethnic identities (e.g., Drummond, 2005a), gender presentations (Clarkson, 2006; Miller, 2015), and body size and shape (Hutson, 2010; Miller, 2015), as well as their intersections. Further, the often-delusive nature of information presented on SNSs in general (Gonzales, & Hancock, 2011; Rosenberg & Egbert, 2011) and characteristics of sexual minority dating apps in particular may dispose SMM to compare their bodies against those of others, a potentially dangerous practice (Myers & Crowther, 2009). It would appear that for SMM, online dating remains an important yet understudied contributor to concerns about their bodies, perhaps helping to explain their relatively greater body dissatisfaction when compared to their heterosexual male counterparts (Morrison et al., 2004).

The main goal of the studies presented here is to contribute to knowledge regarding interrelations among this app use, experiences of sexual discrimination, and body image concerns in SMM. Study 1 ($n = 180$) addressed the lack of rigorously, empirically evaluated measures of sexual discrimination through the development and initial validation of three measures assessing SMM's exposure to (a) sexual racism, (b) sexual femmephobia, and (c) sexual sizeism. Study 2 ($n = 530$) of this project evaluated structural equation models linking these forms of discrimination with app use behaviors and body image concerns. The models tested integrated elements of objectification theory and social comparison theory, and extended these theoretical perspectives by considering

a major source of objectification relevant to the lives of SMM: sexual discrimination in the context of online dating app use. Together, these studies were designed to advance the measurement of sexual discrimination as it pervades the lives of SMM and test potential pathways by which SMM become dissatisfied in their bodies.

Body Dissatisfaction & Sexual Minority Men

Much of the research on sexual minority men's body image concerns has been limited to comparative research to their heterosexual counterparts (Filault & Drummond, 2009). This literature, when cautiously considered with its limitations in mind (Kane 2009, 2010), suggests that SMM may be more dissatisfied with their bodies (Morrison et al., 2004) and pursue a considerably lower body weight ideal than their heterosexual counterparts (Kaminski et al., 2005). The pursuit of this body ideal can lead SMM to engage in a host of deleterious actions intended to modify their bodies (Brewster et al., 2017; Siconolfi et al., 2009), even at the risk of adopting behaviors and beliefs characteristic of eating disorders (Bosley, 2011; Hospers & Jansen, 2005). This dissatisfaction has also been associated with lower self-esteem and greater depressive symptoms (Blashill et al., 2016; Brennan et al., 2012; Tiggemann et al., 2007). SMM and their communities are not monolithic, however, and these body image concerns and their etiologies likely intersect with specific concerns about their racial-ethnic identities (e.g., Drummond, 2005a), age (Drummond, 2006; Tiggemann et al., 2007), serostatus (Kelly et al., 2008), and other cultural memberships (e.g., Maki, 2017).

A number of theoretical explanations have been offered to explain these disproportionate body image concerns, including those that consider SMM's relatively greater gender nonconformity (e.g., Strong et al., 2000; Wiseman & Moradi, 2010), the

trauma of the HIV/AIDS epidemic (e.g., Klein, 1993), cultural characteristics and values of sexual minority communities (e.g., Kousari-Rad & McLaren, 2013), and the distress that comes with living as SMM in cisheteronormative societies (e.g., Brewster et al., 2017; Kimmel & Mahalik, 2005; Reilly & Rudd, 2006). Though compelling in their illustrations of SMM's lived experiences, the significant claims of each have only been modestly substantiated and have at times been contradicted in the research literature. For example, a meta-analysis of the relationship between gender roles and eating pathology, body dissatisfaction, and muscle dissatisfaction found that femininity is not significantly associated with any of these variables for gay men (Blashill, 2011). In another example, minority stress factors accounted for a mere 5% of the variance in body dissatisfaction in one study of SMM (Kimmel & Mahalik, 2005).

Alternatively, two theories that show promise for a more substantive understanding of SMM's body dissatisfaction are that of objectification theory (OT; Frederickson & Roberts, 1997) and social comparison theory (SCT; Festinger, 1954), which in online contexts appear especially relevant and which therefore serve as foundations for this research project. Requisite to an exploration of these theories, however, is an understanding of the unique context of online dating and the discriminatory experiences that for many SMM pervade it.

Sexual Discrimination in Online Dating

Online dating and hook-up mobile applications (hereafter, *dating apps*) are today the primary means by which sexual minority men meet their romantic and sexual partners (Prestage et al., 2015; Rosenfeld & Thomas, 2012); however, there remains a dearth of research literature examining the implications of their use. Initial investigations have

suggested that the motivations for their use are varied (Rice et al., 2012), that SMM likely strategically misrepresent themselves online (Gudelunas, 2012), and that their use may help to explain SMM's elevated body image concerns (Breslow et al., 2019; Miller, 2015; Roth, 2014). Perhaps most alarming however are the ways in which online dating environments, insofar as they mirror the best and the worst of our greater social world (DiMaggio et al., 2001), are vulnerable to the same manifestations of prejudice pervading SMM's dating lives (e.g., Robinson, 2015). Given the disinhibitory effect of anonymity and interpersonal distance assumed in online contexts, these manifestations of prejudice may be especially pronounced in SMM's online dating experiences (Plummer, 2008).

Prejudice has pervaded SMM's dating advertisements since the days of print classifieds, in which SMM were regularly explicit in their desire for masculinity in partners (Bailey et al., 1997; Laner & Kimel; 1977; Lumby, 1978), as well as their privileging of particular physical characteristics such as the attractiveness, physique, age, ethnicity, and athletic interests of potential partners (Hatala & Prehodka, 1996). Similar findings have been found online, such that SMM may regularly encounter racist or xenophobic (e.g., "only into White guys"; Callander et al., 2012; Riggs, 2013; Robinson, 2015), anti-effeminate (e.g., "no femmes"; Clarkson, 2006; Miller, 2015), and anti-fat commentary (e.g., "no fats"; Foster-Gimbel & Engeln, 2016; Hutson, 2010; Miller, 2015), perhaps at a rate over-and-above that experienced in-person (Plummer, 2008). This prejudice often takes the form of explicitly discriminatory experiences, such as flat-out rejection, fetishization, dehumanization, and objectification of users based on particular phenotypic attributes. These discriminatory experiences as they appear in the context of dating apps, for which the intended use is most often to pursue partners for

sexual and romantic gratifications (Gudelunas, 2012; Rice et al., 2012), can be broadly understood as incidents of *sexual discrimination*.

The extant literature offers insights into three particular manifestations of this sexual discrimination in the romantic and sexual lives of SMM, namely (a) experiences of discrimination resulting from one's perceived race or ethnicity, or *sexual racism*, (b) experiences of discrimination resulting from having a stereotypically feminine gender presentation, or *sexual femmephobia*, and (c) experiences of discrimination resulting from one's body shape or size, or *sexual sizeism*. While in the existing literature and for the purpose of this project these three forms of discrimination were considered as distinct though related constructs, manifestations of discrimination based on race-ethnicity, gender presentation, and size are inherently interrelated, as are their considerations in the lives of already marginalized SMM. Indeed, Black feminist theorists have historically challenged interpretations of discriminations as simply additive (Collins, 1990; Combahee River Collective, 1979; Crenshaw, 1989), and intersectionality scholars today argue that investigations of discrimination based on identity characteristics considered in isolation (e.g., considerations of sexual racism) fail to capture how they affect individuals with intersecting marginalized identities uniquely (e.g., gendered sexual racism). For example, while certain experiences of sexual racism may be shared across groups of SMMOC, cisgender Asian SMM may uniquely contend with sexual stereotypes that characterize them as effeminate, submissive partners with smaller penises (Han, 2008; Han et al., 2014). These stereotypes are simultaneously raced and gendered, and may be missed in investigations that fail to consider this intersection of experience. In the context of SMM's lives, the ways in which sexual racism, femmephobia, and sizeism manifest

and the consequent impacts on their lived experiences therefore likely vary based on their intersecting identities and positionality. Further, such considerations of sexual discrimination when applied to SMM are inherently intersectional, as how this discrimination is experienced by SMM is likely different from their heterosexual counterparts, as may be their vulnerabilities to it.

Though investigations of each of the three manifestations of sexual discrimination examined remain limited, research findings raise a number of concerns. Qualitative evaluations of chronic exposure to sexual racism suggests it may be especially harmful to the well-being and body image of SMM of color (SMMOC; Han et al., 2013; Paul et al., 2010). In at least two studies of SMMOC, sexual racism was associated with greater body dissatisfaction (Bhambhani et al., 2019) and greater rates of depression, anxiety, and overall stress (Bhambhani et al., 2018). The effects of sizeism are similarly troubling. Quantitative research suggests that the frequency with which SMM experience sizeism is positively associated with body dissatisfaction and eating disordered behavior; further, even simply witnessing sizeism toward others has been positively associated with eating disturbance (Foster-Gimbel & Engeln, 2016). Finally, sexual femmephobia has been less studied than other forms of sexual discrimination. It appears to permeate SMM's sexual schemas in qualitative investigations (Elder et al., 2015) and in content analyses of their online dating profiles (Miller, 2015; Walker & Eller, 2016). Further, rigid adherence to masculine norms among SMM has been positively associated with body image concerns and eating pathology (e.g., Blashill & Vander Wal, 2009; Kimmel & Mahalik, 2005), though the contributions of persistent exposure to femmephobic language online to these vulnerabilities remains unclear.

One obstacle to research on sexual discrimination is the lack of rigorously developed measures assessing it. A small number of sexual discrimination measures have been used, but most studies have relied on one-off measures developed to answer particular research questions, which were therefore not created or evaluated using modern standards of scale development. For example, Foster-Gimbel and Engeln (2016) developed a 4-item measure to assess experiences of anti-fat bias in gay communities. Two of their measure's items were binary items assessing whether gay men have ever experienced fatphobic bias themselves or witnessed it happen to others, and two other items assessed the frequency of these experiences along a 6-point Likert scale. These latter two continuous items were used to associate anti-fat bias with a number of other measures, which essentially translated to two, single-item measures assessing the frequency with which participants have experienced anti-fat bias and the frequency with which they witnessed it. While validity evidence for the measure was demonstrated by its associations with body dissatisfaction and eating disorder pathology, no estimates of internal consistency for the measure were provided.

Further, many measures have focused on the attitudes associated with engaging in sexual discrimination, with the onus of these measures placed on the perpetrators of sexual discrimination rather than the experiences of its victims. For example, Taywaditep (2001) developed a 17-item measure assessing gay men's attitudes toward overtly effeminate gay men. Items included statements such as "When I meet a gay man for the first time, I would be turned off immediately if he acted effeminate" and "It bothers me to see a gay man acting like a woman." Though an important and meaningful measure, this Negative Attitudes Towards Effeminacy Scale focuses on the internalization of

femmephobic attitudes broadly rather than the experience of femmephobic discrimination, two distinct though likely interrelated constructs.

Finally, many of these measures offer little to no insight into the processes by which their items were generated, a process that is crucial to scale development (Devellis, 2016). For example, Bhambhani and colleagues (2017) developed a six-item measure to assess the frequency of participants' experiences with various manifestations of sexual racism, based in-part on a former measure developed by Han and colleagues (2015). Participants were asked to respond to items using a 4-point Likert scale from 1 (*never*) to 4 (*most of the time*) with such items such as "I have experienced discrimination on Internet dating websites (Okcupid, ChristianMingle, e-Harmony) on the basis of my race/ethnicity" and "People have approached me for sex or dating only because of my ethnicity/race, they don't care about my personal characteristics." While useful in considering various manifestations of sexual racism, psychometric information for this and the measure it is based on have been limited to internal reliability estimates. Further, no information was provided regarding the item generation and evaluation process of the original or subsequent measure. Of similar concern is the scale scoring, which relies on an averaging of all six items, despite the first five assessing frequency of experiencing discrimination and the sixth item assessing the frequency with which participants have been "stressed" by such experiences. The experience of discrimination and the degree to which it is distressing are likely two distinct (though interrelated) constructs, and in the absence of more rigorous evaluation of this scale, it is unclear how effectively it accounts for this potential limitation.

For this reason, Study 1 of this project involved the initial development and validation of three measures assessing distinct domains of sexual discrimination: (a) sexual racism, (b) sexual femmephobia, and (c) sexual sizeism. Using exploratory factor analysis, the following hypotheses were tested:

Hypothesis 1: Items developed for these measures will load onto three distinct factors of sexual discrimination: sexual racism, sexual femmephobia, and sexual sizeism.

Hypothesis 2: These measures will demonstrate convergent validity, such that (a) sexual racism will be positively associated with a measure of experienced racism in the gay community, (b) sexual femmephobia will be positively associated with a measure of personal masculine norm violations, (c) sexual sizeism will be positively associated with a measure of pressures to be lean and muscular, and (d) all three scales will be positively associated with a measure of perceived stress. Divergent validity will also be demonstrated such that validity measures will be more strongly associated with the domain of sexual discrimination corresponding to them relative to the other two domains.

Hypothesis 3: Each hypothesized domain of discrimination will be more strongly linked with associated identity characteristics than would the other domains, such that (a) racial identity will be most strongly linked to reported experiences of sexual racism, (b) gender presentation will be most strongly linked to reported experiences of sexual femmephobia, and (c) BMI scores will be most strongly linked to reported experiences of sexual sizeism.

Objectification Theory & Sexual Minority Men

Objectification theory (OT; Frederickson & Roberts, 1997) was first articulated in an attempt to shed light on the experiences of women who, under routine surveillance of

the male gaze, come to internalize sociocultural conceptions of their bodies as objects and subsequently self-monitor their own bodies habitually. This surveillance, insofar as it turns up women's failures to meet unattainable societal expectations, invokes a moralistic body shame. Altogether, the effects of these objectification experiences are broad, with sexual objectification in women and girls predicative of depression, eating disorders, and sexual dysfunctions (Moradi & Huang, 2008; Szymanski et al., 2011).

Objectification theory has since been extended for use with men and boys more generally (e.g., Lowery et al., 2005) and sexual minority men specifically (e.g., Breslow et al., 2019; Engeln-Maddox et al., 2011; Martins et al., 2007). By and large, relationships between OT variables modeled in samples of women replicate in samples of men, though men and boys report lower levels of objectification, body surveillance, and body shame overall (Moradi & Huang, 2008). A limited number of studies have mapped these experiences onto SMM specifically. Comparative studies have found that SMM report significantly higher levels of self-objectification, body surveillance, body shame, and body dissatisfaction than their heterosexual male counterparts (Martins et al., 2007). For example, in one comparative study, Engeln-Maddox et al. (2011) found that SMM and heterosexual women reported similarly high levels of sexual objectification experiences, body surveillance, body shame, and eating disordered behaviors when compared to heterosexual men. Further, the authors found that relationships among key OT variables were remarkably similar when comparing SMM to heterosexual women; that is, greater surveillance of their bodies was positively associated with body shame, which itself was positively associated with eating disordered behavior. For this reason, a number of relationships regarding key constructs in objectification theory were expected

to replicate in Study 2 when examining sexual discrimination in place of traditional experiences of sexual objectification, such that:

Hypothesis 4: Internalization of appearance ideals will have a positive direct relationship with body surveillance.

Hypothesis 5: Internalization of appearance ideals will have a positive direct relationship with body shame.

Hypothesis 6: Body surveillance will have a positive direct relationship with body shame.

Hypothesis 7: Body shame will have a positive direct relationship with body dissatisfaction.

Hypothesis 8: Internalization will have a positive, indirect relationship with body shame via body surveillance, which would partially mediate this relationship.

Hypothesis 9: Body surveillance and internalization will have a positive, indirect relationship with body dissatisfaction via body shame, which will fully mediate these relationships.

Most of the key theoretical assumptions of OT have been supported in samples of SMM; however, Engeln-Maddox and colleagues (2011) failed to replicate the relationship between sexual objectification experiences and body surveillance. This may represent the limitations of using instruments designed for women and girls with sexual minority men, as at least a handful of other studies have connected sexually objectifying experiences to related constructs when using a measure uniquely designed for SMM (Brewslow et al., 2019; Davids et al., 2015; Wiseman & Moradi, 2010). Alternatively, it may be that conceptualizations of objectification largely centered on the experiences of

White, cisheterosexual women simply do not capture the circumstances under which SMM are distressed by objectification. For example, objectification of the traditional view may itself be liberating to SMM, who in having their sexualities repressed may find opportunities to consensually and mutually focus on one another as sexual objects to be harmlessly gratifying (Teunis, 2007). To be objectified by other SMM also does not necessarily carry the asymmetry of power inherent to similar experiences between heterosexual men and women, which may further neuter the assumed effects of the male gaze on SMM's body surveillance behaviors.

An alternative view from which to conceptualize those circumstances for which SMM may be harmed by experiences of objectification is that of Moradi's (2013) pantheoretical model of objectification, dehumanization, and discrimination. In this pantheoretical framework, Moradi conceptualizes discrimination experiences (e.g., sexual racism) as operating similarly to the objectification experiences of traditional OT, in that they lead victims of discrimination to more deeply surveil their bodies and subsequently internalize societal beliefs about their group membership (e.g., internalized racism). This framework however also considers the role of cognizance or vigilance to experiences of discrimination as separate from internalization (e.g., expectations of racist bias), in a way that the traditional OT framework often fails to. Experiences of either internalization or cognizance are hypothesized to be positively associated with a set of negative affective (e.g., shame, anxiety, anger), cognitive (e.g., disrupted attention), and physiological responses (e.g., biomarkers of stress, lower internal awareness), which themselves are expected to affect more distal consequences such as poorer mental and physical health, worse educational and vocational outcomes, or increases in related deleterious behaviors.

From this view, experiences of sexual discrimination, as previously described, are expected to function similar to sexual objectification of traditional OT. As such, the following hypotheses regarding sexual discrimination's function in a traditional OT framework were tested, with hypotheses regarding direct effects preceding those describing indirect ones:

Hypothesis 10: Experiences of online sexual discrimination will have a positive direct relationship with internalization of appearance ideals.

Hypothesis 11: Experiences of online sexual discrimination will have a positive direct relationship with body surveillance.

Hypothesis 12: Experiences of online sexual discrimination will have a positive, indirect relationship with body surveillance via internalization, which will partially mediate this relationship.

Hypothesis 13: Experiences of online sexual discrimination will have a positive, indirect relationship with body dissatisfaction via internalization, body surveillance, and body shame.

App use behaviors are relevant to these relationships, as more frequent, wide-reaching, or intense use likely predisposes an individual to more frequent experiences of sexual discrimination online, thus triggering the familiar OT framework of variables. For example, in perhaps the only investigation of its kind, Breslow and colleagues (2019) found that the number of apps one uses is positively predictive of their experiences of online objectification, which in turn is indirectly associated with lower rates of self-esteem. Although the same was not true of app use frequency in their study, this may be partially explained by the truncation of their frequency measure, which suffered from a

ceiling effect of its response items. For these reasons, the following hypotheses were tested in Study 2:

Hypothesis 14: Online experiences of sexual discrimination will be predicted by and directly, positively associated with the frequency of one's app use and the total the number of apps one uses.

Hypothesis 15: Body dissatisfaction will be positively, indirectly predicted via online discrimination experiences by the frequency with which one uses dating apps and the total number of apps one uses.

Given their particular vulnerabilities to experiences of sexual discrimination, it was further hypothesized that SMM of multiple marginalized identities would be most vulnerable to the effects of app use on sexual discrimination exposure, thus:

Hypothesis 16: The relationship between app use behaviors and reported experiences of online sexual discrimination will be moderated by multiple minority status, such that these relationships will be more pronounced for men of color, effeminate men, and men with higher BMIs.

Social Comparison Theory & Online Dating

Social comparison theory (SCT; Festinger, 1954) suggests that humans as inherently social creatures are predisposed to compare themselves to one another. The implications of these comparisons vary relative to how we fare on the other end of them, that is, whether we consider ourselves better than the object of our comparisons (a downward comparison) or worse (an upward comparison; Fiske & Taylor, 2017). Across studies, social comparison has been positively, moderately associated with body

dissatisfaction (Myers & Crowther, 2009), suggesting its incautious use may worsen one's feelings about their body.

SCT has seen a recent reinvigoration of interest with the advent of social networking sites, such as dating apps, given their ability to allow people to curate the contents of their lives and present a sometimes misrepresentative view of themselves to others. Information presented on SNSs is likely prone to distortion, with otherwise unparalleled opportunities for impression management and the presentation of our “ideal selves” across sites (Ellison et al., 2006) and on dating apps more specifically (Hall et al., 2010). This delusive version of reality, when compared against the fuller and more readily accessible information we have about ourselves, likely encourages upward social comparisons, which are thought to be especially deleterious in the long-term (Vogel et al., 2015). Prolonged exposure to this distorted view of others is likely to negatively impact one's self-esteem (Vogel et al., 2014) and consequently increase one's risk for depressive symptoms (Feinstein et al., 2013). For SMM in particular, SNS use in one study was found to be positively associated with body dissatisfaction, eating disorder symptoms, and considerations of anabolic steroid use (Griffiths et al., 2018), though the potential of comparisons to affect these relationships remains largely understudied.

Popular SMM dating apps may be especially treacherous SNSs and may unintentionally encourage body image comparisons. For example, in one content analysis of a dating app designed for SMM, as many as 1 in 5 primary photos of users were faceless and shirtless (what are colloquially called “faceless torso pics”), with a similar rate of profiles textually representing the user's fitness level, body type, or gym interest (Miller, 2018). When considering both primary and secondary photos together, nearly 1

in 3 men posed shirtless in at least one picture. Further, muscular men (evaluated by coders) were overrepresented in both profiles with shirtless photos and profiles with full or partial face photos. To the uncritical consumer of this biased sample of images, it would appear that SMM are more fit and muscular than they are in reality. Given that the majority of SMM dating app users on average log-in more than five times in a day (Rice et al., 2012), it is likely that this repeated exposure may affect their body image concerns, dependent in-part on whether and which body comparisons they engage in.

Since its initial articulation, objectification theory has considered the role of social comparisons in objectification experiences. Initial examinations of social comparison's contribution to an OT framework utilizing samples of women show promise, with body comparisons acting as an intermediary process between sexual objectification experiences, body surveillance, and the resultant body image concerns (Lidner et al., 2012; Tylka & Sabik, 2010). That said, there is ample research to suggest that the quality of social comparisons is an important determinant of their effects, such that upward comparisons are likely to be to the detriment of an individual's well-being while downward comparisons may be protective (O' Brien, 2007). In this way, the degree to which one engages in upward versus downward comparisons is likely to moderate important OT relationships. Many studies to have explored the implications of social comparisons from an OT framework, including those previously cited, nonetheless have failed to make this distinction and rely instead on general, valence-neutral measures of social comparisons; in fact, it may be that no such study has examined the differential impact of upward and downward social comparisons on OT relationships specifically. The following hypotheses were therefore tested in Study 2 to in order to assess the

moderating potential of upward and downward appearance comparisons separately on key OT relationships:

Hypothesis 17: Upward comparisons will moderate the relationships between (a) body surveillance and body shame and (b) internalization of ideals and body shame, such that these relationships will be stronger for individuals who more routinely engage in upward comparisons and weaker for those who do not.

Hypothesis 18: Downward comparisons will moderate the relationships between (a) body surveillance and body shame and (b) internalization of ideals and body shame, such that these relationships will be weaker for individuals who more routinely engage in downward comparisons and stronger for those who do not.

Study 1: Development of Sexual Discrimination Measures

The main purpose of this study was to develop measures of sexual racism, sexual femmephobia, and sexual sizeism as experienced in online dating environments. The validity of scores on the new measures was investigated by examining their association with established measures of similar constructs, as well as a measure of perceived distress.

Methods

Participants

One hundred and ninety sexual minority men, 18 years old or older, living in the United States, and currently using one or more dating and hook-up app(s) were recruited for participation in this study via advertisements on Facebook, with data from 180 men used for analysis following the removal of 10 participants for failed attentiveness and validity checks. *Sexual minority men* (SMM) in these studies broadly refers to men not

exclusively attracted to women and is inclusive of gay, bisexual, pansexual, queer, and other men who do not exclusively identify as heterosexual. Current app use was defined as using dating or hook-up app(s) at least once a month, which in one study was inclusive of at least 98.5% of SMM current users (Rice et al., 2012). The sample size was determined to be adequate as similar samples sizes have been found to yield good recovery of population factors under conditions commonly found in scale development studies (Worthington & Whittaker, 2006).

Ages ranged from 18 to 69 ($M = 29.10$ years, $SD = 7.38$), with 97.2% of the sample below the age of 45. Most participants identified as cisgender men (95.6%) though some transgender men participated (4.4%). Men in the sample identified primarily as gay (80.5%) and bisexual (11.0%), though participants also identified as queer (3.3%), pansexual (2.2%), same-gender loving (1.7%), and asexual (0.6%). The majority of the sample identified as single (68.3%), though a portion of participants were casually dating one or more partners (12.7%) or were in one or more committed relationships (18.9%). When asked more broadly about the genders of their current sexual and romantic partner(s), even if they consider themselves single, a majority of the sample identified having one or more male partners (56.1%) or no partner at all (42.2%), with fewer participants identifying a partner who is a woman (2.2%) or genderqueer or gender non-binary (2.8%). The majority of the sample indicated they had consensual sexual experiences with another man at some point in their lives (96.1%) and within the last twelve months (87.2%), though participants also indicated sexual experiences with women in the last 12 months (6.1%) and in their lifetimes (24.4%) and with genderqueer or gender non-binary people in the last 12 months (11.7%) and in their lifetimes (29.4%).

A number of men reported having no sexual experiences in the last twelve months (10.6%) or ever (2.8%).

Participants in the sample represented a number of nonmutually exclusive racial and ethnic groups: 20 Black/African American (11.11%), 44 Asian American/Pacific Islander or Native Hawaiian (24.44%), 41 Latinx/Hispanic (22.78%), 93 White (51.67%), 6 Middle Eastern (3.3%), 5 Native American Indian/Alaskan Native (2.8%), and 16 Multiracial/Multiethnic (8.9%). Of those who identified as White, 71 identified exclusively as White (39.44% of total sample) and the remainder identified with one or more other racial/ethnic groups.

A body mass index (BMI) score was calculated for each participant ($M = 27.68$, $SD = 8.07$), except for the three participants who declined to provide weight or height information. Though BMI has been criticized as an inadequate global health measure or proxy measure for size, particularly given its inability to distinguish reported weight from fat from weight from muscle, it remains a convenient metric for assessing size in survey research when scores are considered at aggregate and with its limitations in mind. Weight status categories were assigned to participants who met criteria for four commonly considered BMI ranges in order to assess the size distribution of the sample: (a) BMI < 18.5 (below the recommended weight range per Centers for Disease Control and Prevention guidance; 2.2%), (b) BMI = 18.5 – 24.9 (within the recommended weight range; 47.8%), (c) BMI = 25.0 – 29.9 (above the recommended weight range but below the weight range labeled “obese”; 22.8%), or (d) BMI \geq 30.0 (above the recommended weight range at a rate labeled “obese”; 25.6%). Though weight status categories are often used diagnostically, BMI in these studies was considered exclusively as a representation

of participant size and as a comparative tool for considering the representativeness of these results to the general population. The average BMI for the sample ($M = 27.68$) was slightly lower than the age-adjusted average BMI for adult men in the United States ($M = 29.1$; CDC, 2018).

Two demographic items were used to assess a participant's gender presentation consistent with a previous investigation (Wylie et al., 2010), one of which assessed their general appearance and the other of which assessed their mannerisms. Participants were asked to rate the extent to which they believed others would describe these elements of their presentation as masculine, feminine, or both on a 7-point Likert scale from 1 ("Very feminine") to 7 ("Very masculine"), with a mid-point at 4 ("Equally feminine and masculine"). Responses to both items were moderately correlated ($r = .61, p = .000$) and were averaged to produce an overall gender presentation score. On average, participants indicated that their gender presentation leaned toward the masculine end of the bipolar gender rating scale ($M = 4.69, SD = 1.11$), though scores appeared generally normally distributed.

Procedure

Participants were recruited via Facebook advertisements that were placed between the months of February and March of 2021. This study was advertised as a 15- to 20-minute study of men who use dating and hook-up apps to meet other men. Participants who completed the study were entered into a raffle drawing for one of four \$25 Amazon gift cards as an incentive. Users interested in completing the study were asked to follow a link to a survey hosted on Qualtrics, at the start of which were a series of questions regarding their demographic characteristics (see Appendix A). Responses to a number of

these questions were used as inclusion criteria for the study; others were added to disguise the purpose of this eligibility form. Only individuals identifying as (a) men, (b) sexual minorities, (c) 18 years old or older, (d) current dating or hook-up app users, and (e) living in the United States were allowed to advance to the study. Other participants were told that they do not qualify to participate and were not allowed to continue. IP addresses were collected via Qualtrics to ensure that such individuals did not access the survey from the same device, even were they to close out and reopen the survey. Though a participant could potentially respond from a separate device, the overall odds of a participant randomly responding to the eligibility survey and being admitted into the study was 1:20; subsequent validity and attentiveness checks were included to ensure individuals permitted to complete the study provided valid data. Participation required English proficiency, and recruitment materials were presented in English, as were the study materials.

Prior to recruitment, a series of quotas were established to ensure the racial representativeness of the sample such that once enough participants of a particular racial group had been recruited, others of that racial group accessing the survey would not be allowed to advance to the survey regardless of other inclusion criteria. Specifically, quotas were established such that no single racial group would comprise more than 40% of the final sample, and such that at least 20 African American, Asian American, and Latinx participants would be represented in the final sample. This was established in-part to ensure that the contributions of various racial groups would be similarly weighted when subjecting the item pools to factor analysis. It was expected that the gender diversity and diversity of size represented in the sample would adequately reflect that of

the general population, and as such no quotas were established for these demographic characteristics.

Participants accessing the survey were asked to provide their informed consent and then asked to respond to a pool of items intended to measure experiences of sexual racism, sexual sizeism, and sexual femmephobia experienced in online dating environments. Participants also completed existing convergent validity measures assessing their experiences of racism in sexual minority communities, perceived pressures to be lean and muscular, and experiences with gendered harassment. They also complete a general measure of perceived stress. The three sets of scale items were randomly presented first with items within each scale randomized to account for ordering effects. All remaining measures were randomly presented after these scales, with the exception of a demographic questionnaire presented at the end of the survey. Across items, participants completed a measure of attentive responding. Individuals found to have responded inattentively, were not included in subsequent analyses. Participants' IP addresses were collected to assess whether they had accessed the survey from the United States and to prevent duplicate responding. IP addresses were otherwise deleted from the dataset following this assessment. At the conclusion of the study, participants were thanked for their participation, debriefed with resources to respond to any distress aroused by their participation, and invited to provide their email address at a separate survey link to participate in the gift card raffle drawings; this was done such that participants' email addresses were kept separate from the data they provided when completing the study.

Measures

Sexual Discrimination Measure Development. Participants responded to three item pools assessing the frequency with which they experienced sexual racism, sexual femmephobia, and sexual sizeism while dating online. The process for this scale development was guided by the instrument development steps outlined by DeVellis (2016; as cited in Worthington & Whittaker, 2006):

- (a) Determine clearly what you want to measure, (b) generate an item pool, (c) determine the format of the measure, (d) have experts review the initial item pool, (e) consider inclusion of validation items, (f) administer items to a development sample, (g) evaluate the items, and (h) optimize scale length. (p. 813)

Discrimination-focused qualitative research, interviews, autobiographical works, and existing measures were consulted across the scale development process. Following an extensive review of the literature, each of the three sexual discrimination subdomains were clearly operationalized and described. Following this operationalizing, a group of sexual minority men diverse with respect to race, ethnicity, gender presentation, and body shape/size were recruited for a series of focus groups and individual interviews. In total, three focus group sessions were conducted in addition to eleven individual interviews, both utilizing a semi-structured interview protocol. A group of five individuals participated across three focus group sessions, each session specific to one of three forms of sexual discrimination. Participants in these focus groups actively used dating apps or had participated in online dating at some point in their lives, identified as sexual minority men at the time of the focus group sessions (with the exception of one participant who identified as genderqueer), and were active scholars in research on sexual minority

experience. The eleven participants interviewed individually all identified as sexual minority men and either actively used dating apps or had previously used them.

Data collected from these interviews were analyzed for emerging themes of discriminatory experience in online dating (e.g., sexual exploitation, unsolicited commentary, discriminatory rejection) and an initial item pool was subsequently developed to reflect the content collected across interviews such that emergent themes were represented in each pool at a rate roughly equivalent to the frequency with which they emerged in the qualitative data. An initial 50 items were developed to assess experiences of sexual racism, 48 to assess sexual femmephobia, and 45 to assess sexual sizeism. Item pools were subsequently revised for clarity, parsimony, thematic representativeness, and accessibility, such that each item pool was below a fifth-grade reading level when subject to a Flesch-Kincaid readability test. Item pools were again curated such that the previously described themes emerging from the qualitative data were represented at a rate roughly proportional to their representation across discussions. These item pools were further reviewed in follow-up conversations with individuals formerly represented in the focus groups or individual interviews and were assessed for content validity, readability, and item clarity and were further revised for redundancy, construct validity, and readability based on feedback from these conversations and in consultation with an expert in scale development. The remaining item pools, which were presented to participants in this study, consisted of 29 items assessing sexual racism, 30 items assessing sexual femmephobia, and 28 items assessing sexual sizeism. Participants in this study were asked to rate the frequency with which they experienced these forms of

online discrimination in the last six months when using dating apps using a scale ranging from 1 (*Never*) to 5 (*Very often*).

Masculine Appearance Norm Violation subscale. The Masculine Appearance Norm Violation (MANV) subscale of the Sexual Minority Men's Body Objectification Experiences Scale (SMM-BOES; Wiseman, 2009) is a 9-item measure developed to assess SMM's experiences of harassment resulting from their deviation from heteromasculine norms (whether from within or outside of SMM communities; see Appendix B). Each item asks participants to rate (a) the frequency with which they have been criticized for particular norm violations and (b) their subjective, affective reactions to such experiences, producing two separate but related subscales. Both sets of items are rated on a 5-point Likert scale (from *never* to *almost always* and from *bad* to *good*, respectively). Example items include "How often have you been made fun of for appearing 'too gay' or 'too feminine'" and "How often have you heard someone refer to you as a 'sissy' or a 'girl' or some similar word?" The resultant frequency and valence scores are considered separately. The frequency of these experiences has been positively associated with internalization of sociocultural beauty ideals, body surveillance, body shame, and eating disorder pathology, whereas the affective valence of such experiences was negatively associated with internalization, surveillance, and shame (i.e., the worse these experiences feel, the more negatively they impact individuals). Further, both measures were associated with impression management, such that individuals with greater recalled accounts of masculine norm violations devoted greater energy to self-monitoring. The MANV produced adequately reliable scores in its initial development and validation with a sample of SMM ($\alpha = .91$). Cronbach's alphas for the present study

were .92 for the frequency subscale and .89 for the valence subscale of the overall measure.

Experienced Racism in the Gay Community. Perceived experiences of racism within sexual minority communities was measured using a 6-item (originally 8-item) so-called “stress-from-racism measure” (Han et al., 2015; see Appendix C). In the original measure, participants rate their agreement with seven statements associated with racism in sexual minority communities (e.g., “I’ve been turned down for sex because of my race or ethnicity,” “I’ve been made to feel unwanted online because of my race or ethnicity”) on a 4-point Likert scale (from *strongly disagree* to *strongly agree*). An eighth and final item is presented only to those individuals who answer affirmatively to at least one of the seven items and assesses the stress resulting from such experiences (i.e., “Overall, when you have been treated differently based on your race/ethnicity, how stressful have these experiences been for you?”). Given this eighth item is only applicable to certain participants and is rated on a different scale and assesses a separate construct from the others, it was dropped for the purposes of this study. Further, references to specific races (e.g., “I’ve felt *White gay men* have acted as if they’re better than me because of my race or ethnicity”) were amended to be more inclusive of various racialized experiences (e.g., “I’ve felt *gay men of other races or ethnicities* have acted as if they’re better than me because of my race or ethnicity”), and an item specific to West Hollywood (i.e., “I’ve felt unwelcome or that I didn’t fit into West Hollywood because of my race or ethnicity”) was dropped from the measure, resulting in a final six-item measure. The original measure was positively associated with unprotected anal intercourse in a sample of SMM of color, which more generally has been related to stress among people of color. Further,

this association was not buffered against by any of four types of coping measured (i.e., avoidance, dismissal, social support, and education or confrontation), suggesting that such stress from racism may be especially insidious and deleterious to the sexual lives of SMM of color. Reliability evidence was not provided for the original measure, though a similar adaptation for online experiences demonstrated adequate internal consistency ($\alpha = .89$; Bhambhani et al., 2018). Cronbach's alpha for the present study was .93.

Perceived Sociocultural Pressure Scale (PSPS). Pressures to alter one's body size or shape was measured using the 8-item Perceived Sociocultural Pressure Scale (PSPS; Stice et al., 1996; see Appendix D). The PSPS was initially developed for use with female high school and college students, but has since been extended for use with sexual minority men (Tylka & Andorka, 2011), and assesses four sources of pressure to be thin: family, friends, romantic/sexual partners, and media. Respondents rate the degree to which they experience such pressures on a 5-point Likert scale from *never* to *always*. When used with men, references to "thinness" are replaced with "leanness," and the scale is administered twice to assess pressures toward leanness and those toward muscularity separately, resulting in a 16-item measure. Example items include "I've felt pressure from my friends to have a lean body" and "I've felt pressure from people I've dated to be more muscular." When used with SMM specifically, these two measures have produced reliable scores for each of the four sources of pressure on muscularity and leanness ($\alpha = .85 - .95$ and $\alpha = .79 - .91$, respectively; Tylka & Andorka, 2011). Each of these four sources of pressure have been found to be positively associated with the internalization of sociocultural ideals, physical appearance comparisons to others, and eating disorder symptomology. Those pressures related to leanness in particular have been positively

associated with BMI; pressures related to muscularity have not, suggesting that higher weight may elicit greater pressures from family, friends, partners, and media to lose weight in a way that is not expected of gaining muscle mass. In previous studies, each source of pressure (e.g., family, friends) has been considered separately specific to either perceived pressure to be lean or to be muscular, such that a total of eight subscales could be considered; for the purpose of this study, the four sources of pressure were averaged for either set of ideals, creating two subscales assessing perceived pressures to be lean ($\alpha = .87$) and perceived pressures to be muscular ($\alpha = .86$).

Perceived Stress Scale (PSS). The Perceived Stress Scale (PSS-10; Cohen & Williamson, 1988) is a 10-item measure that assesses one's appraisal of experiences as stressful (see Appendix E). This measure was developed in-part as a response to more objective measures, which while enumerating an individual's experience of particular events (e.g., foreclosure) offered little insight into the ways such events may be experienced differently by different people, while also recognizing that objectively stressful experiences would be associated with greater rates of perceived stress at the aggregate. The PSS is intentionally non-specific to any one source of stress, such that it can be utilized in considering the stressful impact of a variety of stressors. In the initial development and validation of the original 14-item measure, the full scale demonstrated adequate internal consistency across three samples, two of which were college samples and one of which was a community sample ($\alpha = .84 - .86$; Cohen et al., 1983). The abbreviated 10-item measure, which resulted from the removal of four poorly loading items following a factor analysis, similarly demonstrated adequate reliability in a representative probability sample drawn from the general US population ($\alpha = .78$; Cohen

& Williamson, 1988). Example items include “In the last month, how often have you found that you could not cope with all the things that you had to do?” and “In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?” Validity evidence for the 10-item measure has been demonstrated, with greater frequency and symptoms of illness, less sleep, and lower life satisfaction all associated with scores on the PSS. Further, racial/ethnic minorities, unmarried/single persons, less educated people, people living with disabilities that preclude them from working, and unemployed individuals (among others) score more highly on the PSS than their counterparts, suggesting that factors in an individual’s life, including identity characteristics, are predicative of perceived stress overall. Items were appropriately reverse-scored and summed for a total scale score in this study, with scores demonstrating adequate reliability ($\alpha = .89$).

Attentive Responding Scale (ARS-18) & Related Attentiveness Checks. For the purpose of this study, the Attentive Responding Scale (ARS-18; Maniaci & Rogge, 2014; see Appendix F) was used to screen data for inattentive responding. The ARS-18 is a rigorously evaluated measure developed to identify two classes of inattentive responding (Meade & Craig, 2012), namely (a) that of a general inattentiveness in responding, and (b) that of an inattentiveness marked by selecting the same response to entire blocks of items and therein completing the survey too swiftly. The ARS-18 is an abbreviated form of the 33-item measure and is scored for two subscales: (a) a 6-item infrequency subscale and (b) a set of 6 item-pairs for a total 12-item inconsistency subscale. For the infrequency subscale, participants respond on a 5-point Likert scale (0 = *not at all true* to 4 = *very true*) to items expected to produce highly skewed response

distributions, such that most individuals would be expected to respond similarly to them (e.g., “My favorite subject is agronomy” or the reverse-scored “I don’t like getting speeding tickets”). For the inconsistency subscale, participants are presented with 6 item-pairs of a total 12 items with near identical content (e.g., “I enjoy relaxing in my free time” and “In my time off I like to relax” comprise a single pair) and asked to respond to each on a 5-point Likert scale (0 = *not at all true* to 4 = *very true*). Half of the infrequency subscale items were presented near the beginning of the survey and half were presented near the end; the same is true for items corresponding to a single pair of the inconsistency subscale, which were divided between either half of the survey. Items for the infrequency subscale were summed to create a total score; absolute differences within pairs of the inconsistency subscale were summed to create a total score. Cut-scores for the ARS-18 inconsistency and infrequency subscales are 6.5 and 7.5, respectively, such that participants scoring higher on these measures are thought to have provided inattentive and therefore invalid data. Across a number of studies, Maniaci and Rogge (2014) demonstrated superior sensitivity of the ARS to inattentive responding when compared to existing measures (e.g., the Personality Assessment Inventory; Morey, 1991) and greater specificity when compared to others (e.g., the instructional manipulation check; Oppenheimer et al., 2009). Further, screening participants using the ARS-18 was demonstrated to effectively improve the quality of data subsequently analyzed and therein to increase the statistical power of analyses (for an average power gain of 5%). Altogether, an examination of ARS-18 scores in this sample resulted in the removal of three cases.

Several other checks were used to assess participant attentiveness and truthfulness in responding. First, participants were asked at the conclusion of the survey, “In your honest opinion, should we use your data?” (Meade & Craig, 2012). Data collected from respondents who did not respond affirmatively to this item were removed from analyses, resulting in the removal of six cases. Second, completion time was examined to assess thoughtfulness in responding. Specifically, individuals whose completion time was less than half of that of the 5% trimmed average completion time (following the removal of significant outliers) was not included in subsequent analyses. This resulted in the removal of one case. Lastly, a series of questions assessing similar demographic information presented both in the eligibility form at the start of the study and in the demographics questionnaire presented at the end of the survey were compared for inconsistency in responding. For example, participants were asked to provide both their age and their year of birth; discrepancies in responding that were greater than two years were flagged for inattentiveness and considered for removal in cohort with other measures. No additional cases were removed based on these criteria.

Demographic Questionnaire. Participants completed a variety of standard demographic questions, including questions detailing age, gender identity, race/ethnicity, sexual orientation, level of education, body size, and so forth. Gender, age, location, and sexual minority status were used as validity checks to ensure participants met the specified requirements for inclusion in subsequent analyses (see Appendix M).

Results

Participants responded to item pools measuring three theoretical factors of sexual discrimination (i.e., sexual racism, sexual femmephobia, and sexual sizeism) and a

battery of conceptually related measures as previously described. Data provided by individuals who were determined to have responded inattentively or whose data was determined to be suspicious as previously described were not used in subsequent analyses. Following the removal of this data, a missing data analysis was conducted in SPSS in order to account for patterns in the missing data. Altogether, 0.02% of the possible data points were missing; these missing values were distributed across 4 participants and 4 items. No item was missed by more than two participants, and no significant pattern in the missing data emerged. It was determined adequate to deal with the overall minimal missing data by averaging scale scores when possible.

Factor Analyses

Each of the three sexual discrimination item pools were considered separately throughout the factor analysis process, consistent with the goal of developing independent measures of sexual racism, sexual femmephobia, and sexual sizeism. The factorability of the data was examined and deemed appropriate using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity for each of the three item pools. The KMO scores for the sexual racism, sexual sizeism, and sexual femmephobia scales were .97, .96, and .96 respectively, and the Bartlett's tests of sphericity yielded significant results respectively: $\chi^2(435, N = 180) = 6216.74, p = .000$; $\chi^2(465, N = 180) = 5967.90, p = .000$; and $\chi^2(406, N = 180) = 4725.78, p = .000$.

Communalities among items prior to extraction were also examined. Communalities for the sexual racism measure ranged from .54 to .87 ($M = .78$), for the sexual femmephobia measure ranged from .46 to .87 ($M = .76$), and for the sexual sizeism measure ranged from .47 to .84 ($M = .71$). Only one item within both the sexual femmephobia and sexual

sizeism item pools had a communality of less than .50. These results suggested that the sample size would likely be sufficient, given evidence from simulation studies that sample sizes between 150 to 200 are adequate when communalities are greater than .50 (Worthington & Whittaker, 2006). In short, results supported the factorability of the data and indicated that the sample size was sufficient to obtain a stable, unbiased factor solution.

A parallel analysis (PA) was subsequently conducted to determine the number of factors to extract for a series of exploratory factor analyses (EFAs). This was accomplished by comparing the eigenvalues of the actual dataset for each scale against those of 100 randomly generated datasets until those of the original dataset were no longer greater than those randomly generated (Kahn, 2006). For the racism scale, a single-factor solution was indicated. An EFA was subsequently conducted using principal axis factoring and extracting a single-factor. Items loaded positively and highly onto this single-factor solution ($M = .81$, range = .63 to .89), and as such this solution was retained.

For the femmephobia and sizeism scales, two-factor solutions were indicated by the parallel analyses. Subsequently, EFAs for these two measures were conducted by extracting two factors using principal-axis factoring with oblique rotation. For both scales, the two factors were strongly correlated ($r = .79$ and $.76$, for femmephobia and sizeism, respectively). Relatedly, most items had substantial structure coefficients on both factors, and the absolute difference in coefficients across factors was small ($M = .13$ for femmephobia and $M = .15$ for sizeism). These results indicated that it would be difficult to select items that were relatively pure indicators of each factor, raising questions about the suitability of the two-factor solution for these scales.

The strong cross-loadings found for the measures of sexual femmephobia and sexual sizeism suggested that global femmephobia and sizeism constructs may have been driving responses to all items. To investigate this possibility and examine the utility of alternative factor solutions, I conducted exploratory bifactor analyses on both the femmephobia items and the sizeism items. The bifactor model can be used profitably to represent a structure where there is an overarching broad construct, as well as additional specific factors representing narrow subdomain constructs (Reise, 2012). For example, variance due to a broad sexual femmephobia factor might run through most of the sexual femmephobia items. In contrast, variance due to conceptually narrow facets of sexual femmephobia might be reflected in a smaller subgroup of sexual femmephobia items. Identifying such general and specific factors could make possible identification of items that reflect the broad sexual femmephobia construct but not more specific facets of the construct. Such items could then provide the basis for developing a unidimensional measure of sexual femmephobia.

To pursue this strategy, exploratory bifactor analyses were conducted for the sexual femmephobia and the sexual sizeism measures using Mplus Version 8 (Muthén & Muthén, 2004). The defaults of maximum likelihood extraction and bi-geomin rotation were used. Two-factor solutions were extracted, consistent with the results of the parallel analyses, which, in the context of a bi-factor analysis, led to solutions with one general factor and one specific factor. Results were similar for both the femmephobia scale (see Table 2) and the sizeism scale (see Table 3). Structure coefficients for the general factor were strong and positive for all items (femmephobia: $M = .77$, range [.48, .89]; sizeism: $M = .73$, range [.37, .88]), suggesting that these factors could be interpreted as reflecting

global sexual discrimination for both measures. In contrast, structure coefficients for the specific factor were weaker and ranged from negative to positive (*M* absolute value of loadings = .20, range [-.34, .40]; sizeism: *M* absolute value of loadings = .22, range [-.36, .43]). Comparison of items with strong positive and strong negative coefficients suggested that the specific factors reflected a dimension differentiating discriminatory rejection, hostility, and dehumanization (e.g., “Men online have tried insulting me by suggesting I am not a man”) from discriminatory marginalization and invisibility (e.g., “I’ve wondered whether I receive less attention from men online because I am not masculine enough for them”).

These bi-factor solutions suggested that a number of the items on both scales could be interpreted as relatively pure indicators of an overarching sexual discrimination construct. Sets of such items were developed by retaining items with (a) structure coefficients greater than .32 for the general factor, (b) structure coefficients less than .25 for the specific factor, and (c) absolute differences in cross-loadings greater than .30. The resulting sets of 21 items assessing experiences of sexual femmephobia and 20 items assessing experiences of sexual sizeism were again subject to parallel analysis. As expected, the analysis suggested that item variance was due to a single factor for both the sexual femmephobia items and the sexual sizeism items. On the basis of these results, single-factor solutions were generated for both of these item sets using principal axis factor analysis in SPSS (see Tables 2 and 3).

Items for each of the three scales were examined in order to further reduce the scale lengths, with items assessed for the strength of their factor loadings, clarity, parsimony, thematic representativeness, conceptual redundancy, and accessibility when

deciding which to retain. Based on this analysis, each of the three scales were reduced to 9-item measures. The remaining 9-item measures and the results of these exploratory factor analyses are summarized for the sexual racism, sexual femmephobia, and sexual sizeism scales in Tables 1, 2, and 3, respectively.

Subscale scores for each of the three scales were computed by averaging responses across each 9-item measure. Means, standard deviations, Cronbach's alpha estimates, and bivariate correlations are summarized in Table 4. On average, reported experiences of sexual racism ($M = 2.28$, $SD = 1.20$) were infrequent, though this varied considerably between participants who identified as White ($n = 93$, $M = 1.59$, $SD = 1.08$) and those who did not ($n = 87$, $M = 3.02$, $SD = 0.85$). Average reported experiences of sexual femmephobia ($M = 1.55$, $SD = 0.87$) and sexual sizeism ($M = 2.15$, $SD = 1.05$) were also infrequent, though this too varied among groups. For example, men with a reported BMI between 18.5 to 25 (i.e., those within the recommended weight range) reported less frequent experiences of sexual sizeism on average ($M = 1.62$, $SD = 0.75$) than did those with a BMI greater than 25 ($M = 2.64$, $SD = 1.03$). Internal consistency reliability estimates for the scales were high for the sexual racism ($\alpha = .96$), sexual femmephobia ($\alpha = .96$), and sexual sizeism scales ($\alpha = .93$). Skewness statistics for the distributions of scale scores were also examined; scores for the sexual racism and sizeism scores were slightly positively skewed (skewness coefficients = .59 and .73, respectively), with scores for the sexual femmephobia scale were more markedly positively skewed (coefficient = 1.83).

Table 1. Principal Axis Factor Loadings for Sexual Racism Scale Items (Study 1)

| Item | Factor Loading |
|--|----------------|
| When chatting with men online, it has been clear that some are not interested in me due to my race. | 0.89 |
| I've suspected that men online have been uninterested in taking things further than chatting because of my race. | 0.88 |
| I've felt that men online have treated me like a sexual object because of my race. | 0.87 |
| I believe men online have blocked or unmatched with me because of my race. | 0.86 |
| Because of my racial identity, it has been difficult to find men online who want to have sex with me when I'm horny. | 0.86 |
| I've experienced racism while dating online. | 0.86 |
| Men online have made assumptions about my sexual role preferences (e.g., top, bottom, vers) based on racial stereotypes. | 0.86 |
| I've sensed that men online believe it is acceptable to use me to fulfill their sexual desires because of my race. | 0.85 |
| I've felt that men online have not wanted to meet in person due to my race. | 0.85 |
| Men online have made assumptions about what turns me on based on stereotypes of my racial group. | 0.84 |
| When dating online, it has been hard to meet my romantic needs because of my race. | 0.84 |
| I've wondered whether I receive less attention from men online because of my race. | 0.84 |
| Men online have made assumptions about how masculine or feminine I am based on my race. | 0.84 |
| I've felt that men online are willing to have sex with me but not to date me given my race. | 0.83 |
| Men online have made assumptions about how sexually dominant or submissive I am based on my race. | 0.83 |
| I've felt pressure to pay more attention to my appearance to receive the same level of attention online as men of other races. | 0.82 |
| I believe that because of my race, men online have made inappropriate sexual demands of me. | 0.82 |
| Men online have rejected me because my race does not match their racial "preference." | 0.82 |
| Because of my race, men online have chatted with me in a degrading way. | 0.81 |
| Men online have expressed negative feelings toward people of my race. | 0.81 |
| Because of my race, men online have treated me as less than human. | 0.80 |
| Men online have made assumptions about my genitalia based on racial stereotypes (e.g., that I have a big or small penis, that my penis is cut or uncut). | 0.80 |

| | |
|--|------|
| Men online have pursued me only because of my race. | 0.78 |
| I believe that because of my race, men I've met online feel it is okay to pressure me into sexual experiences I do not want to have. | 0.76 |
| I've felt pressure to downplay features associated with my race (hair, dress, etc.) to appeal to men online. | 0.75 |
| I've felt that I have to be more physically fit to receive the same level of attention online as men of other races. | 0.74 |
| I've felt that some men online are only attracted to me because of the color of my skin. | 0.74 |
| I've been called a racial slur while dating online. | 0.69 |
| Given my race, men of other races have suggested that I should be "grateful" for their attention while dating online. | 0.67 |
| I've read user profiles from men online who say they are not attracted to men of my race (e.g., "No Blacks," "No Asians"). | 0.63 |

Note. Items and structure coefficients in bold indicate items retained in the final version of the scale.

Table 2. Bi-Factor Maximum Likelihood & Single-Factor Principal Axis Factor Loadings for Sexual Femmephobia Scale Items (Study 1)

| Item | Bi-Factor ML | | Single-Factor PAF |
|--|-----------------|-------|----------------------|
| | 1 | 2 | |
| Men online have reacted negatively to aspects of my appearance traditionally viewed as feminine. | 0.89 | 0.04 | 0.89 |
| When men online have realized how feminine I am, they have rejected me. | 0.89 | 0.12 | 0.89 |
| Men I've met online have reacted negatively to how feminine I am when meeting in person. | 0.88 | 0.00 | 0.88 |
| When meeting in person, men I've met online have been critical of my feminine movements and gestures. | 0.87 | -0.17 | 0.88 |
| Men online have mocked or made fun of me for being too feminine. | 0.86 | -0.15 | 0.87 |
| Men online have harassed me for being too feminine. | 0.86 | -0.20 | 0.86 |
| Men online have expressed disgust with how feminine I am. | 0.86 | -0.11 | 0.86 |
| I've been discriminated against while dating online for my feminine presentation. | 0.86 | 0.00 | 0.86 |
| Because I am viewed as feminine, men online have chatted with me in a degrading way. | 0.86 | -0.19 | 0.86 |
| Men online have made assumptions about what turns me on based on my feminine presentation. | 0.85 | 0.03 | 0.85 |
| I believe that men I've met online have not wanted to meet in person because I am too feminine for them. | 0.85 | 0.22 | 0.84 |
| I believe that because I am viewed as feminine, men I've met online feel it is okay to pressure me into sexual experiences I do not want to have. | 0.84 | -0.10 | 0.84 |
| I believe men online have blocked or unmatched with me because they perceive me as feminine. | 0.84 | 0.22 | 0.82 |
| Because they view me as feminine, men online have assumed that I am sexually submissive. | 0.80 | 0.20 | 0.80 |
| Men I've met online have reacted negatively after hearing the feminine tone of my voice. | 0.75 | -0.03 | 0.76 |

| | | | |
|---|------|-------|------|
| I've sensed that men online believe it is acceptable to use me to fulfill their sexual desires because I am perceived as feminine. | 0.75 | -0.17 | 0.76 |
| Men online have assumed I am a bottom because I come across as feminine. | 0.75 | 0.24 | 0.75 |
| Because they perceive me as feminine, men online have asked me to engage in sexual behaviors that feel demeaning to me. | 0.75 | -0.18 | 0.75 |
| I've felt pressure from men online to be more "straight-passing" than I am. | 0.60 | 0.18 | 0.59 |
| I have been pressured to cross-dress or play-up my femininity to fulfill the sexual desires of men I've met online. | 0.54 | -0.22 | 0.53 |
| I have read user profiles from men online who say they are not attracted to men as feminine as me (e.g., "no femmes," "masc4masc"). | 0.48 | 0.19 | 0.48 |
| Men online have chatted with me but appeared uninterested in taking it further because of my feminine presentation. | 0.84 | 0.34 | |
| Because of my feminine presentation, men online have treated me as less than human. | 0.79 | -0.25 | |
| I've felt that men online will have sex with me but not date me because I am not masculine enough for them. | 0.78 | 0.28 | |
| Men online have questioned whether I am a man because of how feminine I appear. | 0.77 | -0.30 | |
| Because I am perceived as feminine, it has been difficult to find men online who want to have sex with me when I'm horny. | 0.77 | 0.28 | |
| Men online have tried insulting me by suggesting I am not a man. | 0.75 | -0.34 | |
| Men online have called me names or slurs associated with feminine men. | 0.70 | -0.28 | |
| Men online have asked whether I am transgender or a woman while dating online because of how feminine I appear. | 0.68 | -0.30 | |
| I've felt I am not masculine enough to be taken seriously as a top by men I've met online. | 0.64 | 0.38 | |
| I've wondered whether I receive less attention from men online because I am not masculine enough for them. | 0.64 | 0.40 | |

Note. Items and structure coefficients in bold indicate items retained in the final version of the scale.

Table 3. Bi-Factor Maximum Likelihood & Single-Factor Principal Axis Factor Loadings for Sexual Sizeism Scale Items (Study 1)

| Item | Bi-Factor ML | | Single-Factor PAF |
|---|-----------------|-------|----------------------|
| | 1 | 2 | |
| Men online have reacted to my body size with disgust. | 0.88 | 0.03 | 0.88 |
| Men online have mocked or made fun of me for my body size. | 0.87 | -0.21 | 0.88 |
| Men online have insulted my body size. | 0.86 | -0.16 | 0.86 |
| Because of my body size, men online have treated me as less than human. | 0.85 | -0.10 | 0.85 |
| Men online have told me they are not attracted to me in reaction to my body size. | 0.84 | 0.22 | 0.83 |
| I've been discriminated against while dating online because of my body size. | 0.82 | 0.20 | 0.80 |
| I have received uninvited health advice while dating online in reaction to my body size. | 0.79 | -0.23 | 0.80 |
| Men online have told me I would be more attractive if I either lost or gained weight. | 0.77 | -0.01 | 0.78 |
| Men online have reacted negatively after viewing a shirtless photo of me. | 0.77 | 0.20 | 0.78 |
| Men online have asked for information about my body size (e.g., weight, height, shape) that they wouldn't ask of men viewed as being "in good shape" or "fit." | 0.78 | 0.14 | 0.77 |
| In response to my body size, men online have told me I should work out more often. | 0.75 | -0.09 | 0.77 |
| I have been harassed while dating online because of my body size. | 0.77 | -0.19 | 0.76 |
| I believe I have been stood up due to my body size when meeting in person with a man I met online. | 0.75 | 0.13 | 0.74 |
| I've sensed that men online are willing to have sex with me but not to date me due to my body size. | 0.73 | 0.02 | 0.72 |
| Men online have suggested that a man of my body size should be "grateful" for their attention. | 0.72 | -0.13 | 0.72 |

| | | | |
|--|------|-------|------|
| Men online have made assumptions about what turns me on based on my body size. | 0.68 | -0.25 | 0.68 |
| Given my body size, men online have demanded too many photos of me before agreeing to meet in person. | 0.65 | 0.19 | 0.64 |
| I believe that because of my body size, men I've met online feel it is okay to pressure me into sexual experiences I do not want to have. | 0.64 | -0.22 | 0.64 |
| I've sensed that men online believe it is acceptable to use me to fulfill their sexual desires because of my body size. | 0.60 | -0.25 | 0.60 |
| Men online have pursued me only because of my body size. | 0.37 | -0.14 | 0.36 |
| Men online have told me I am unhealthy in response to my body size. | 0.80 | -0.27 | |
| I believe men online have blocked or unmatched with me because of my body size. | 0.79 | 0.43 | |
| Men online have chatted with me but appeared uninterested in taking it further because of my body size. | 0.79 | 0.38 | |
| Because of my body size, men online have chatted with me in a degrading way. | 0.79 | -0.32 | |
| Given my body size, it has been difficult to find men online who want to have sex with me when I'm horny. | 0.77 | 0.38 | |
| Because of my body size, men online have asked me to engage in sexual behaviors that feel demeaning to me. | 0.66 | -0.28 | |
| I have read user profiles from men online who say they are not attracted to men of my body size (e.g., "no fats," "fit, you be too," "fit4fit"). | 0.56 | 0.35 | |
| I've wondered whether I receive less attention online than men who are viewed as being "in good shape" or "fit." | 0.55 | 0.42 | |
| Because of my body size, men online have told me to kill myself. | 0.51 | -0.36 | |

Note. Items and structure coefficients in bold indicate items retained in the final version of the scale.

Validity Analyses

Bivariate correlations were examined between the sexual discrimination scales and conceptually similar constructs to assess the validity of the final scales. As hypothesized, sexual racism scores were strongly correlated with a general measure of experienced racism in the gay community ($r = .90, p = .000$) and a dichotomized race variable differentiating people of color from White people ($r = .63, p = .000$). Sexual femmephobia scores were moderately correlated with the frequency of harassment for gender-related norm violations ($r = .66, p = .000$), as well as moderately correlated with the two-item gender presentation measure ($r = -.56, p = .000$). Sexual sizeism scores were moderately correlated with perceived sociocultural pressures to be lean ($r = .47, p = .000$) and muscular ($r = .41, p = .000$), as well as participants' reported body mass index ($r = .52, p = .000$). Sexual femmephobia and sexual sizeism scores were positively associated with a general measure of stress, such that individuals with greater reported experiences of sexual femmephobia ($r = .24, p = .001$) and sexual sizeism ($r = .34, p = .000$) reported higher levels of stress in the last month. This was not the case for the sexual racism measure, which approached significance for $\alpha = .05$ ($r = .14, p = .061$). Reported levels of stress were high for the sample overall ($M = 20.63, SD = 7.05$) when considered relative to available norm data (e.g., $M = 14.46, SD = 7.81$ for a general population of men in 2006 and $M = 15.52, SD = 7.44$ for a general population of men during the economic downturn in 2009; Cohen & Janicki-Deverts, 2012). Scores ranging between 14 to 26 are considered "moderate stress" when interpreting scale scores. All reported associations were in expected directions and largely support established hypotheses. Interestingly, the three scales were positively associated with one another, such that reported experiences

of sexual racism was associated with reported experiences of sexual femmephobia ($r = .32, p = .000$) and sexual sizeism ($r = .28, p = .000$), and that sexual femmephobia was positively associated with sexual sizeism ($r = .50, p = .000$).

Discriminant validity was assessed by examining the correlation of each validity measure with all three of the new sexual discrimination scales. For example, the validity measure assessing gender-based harassment was expected to be more strongly correlated with the new measure of sexual femmephobia than with the new measures of sexual racism and sizeism. This was formally investigated using Steiger's (1980) test for the difference of dependent correlations. The sexual racism scale was found to be more strongly correlated with a general measure of experienced racism in the gay community relative to the sexual femmephobia ($z = 12.70, p = .000$) and sexual sizeism ($z = 13.12, p = .000$) scales. The sexual femmephobia scale was found to be more strongly correlated with a measure of gender-based harassment relatively to the sexual racism ($z = 5.42, p = .000$) or sexual sizeism ($z = 3.32, p = .001$) measures. Lastly, the sexual sizeism scale was more strongly associated with perceived sociocultural pressures to be lean and muscular relative to the sexual racism measure ($z = 3.77, p = .000$ for leanness; $z = 2.52, p = .006$ for muscularity) and was more strongly associated with perceived pressures to be lean than the femmephobia measure ($z = 3.24, p = .001$) scale. Though the association between the sizeism measure and perceived pressures to be muscular ($r = .41, p = .000$) was greater than that of the femmephobia measure and pressures to be muscular ($r = .30, p = .000$), this difference was not statistically significant ($z = 1.60, p = .10$). This may signal the conceptual overlap between sizeist and gendered concerns when considering perceived pressures to be muscular, given muscularity can be conceived of as indicative

of both size and masculinity. These findings support the study hypotheses, and relevant correlations are presented in Table 4.

It was lastly hypothesized that the associations between conceptually relevant identity characteristics and their corresponding source of sexual discrimination would be greater than for those facets of sexual discrimination thought to be largely unrelated. For example, it was expected that the association between a participant's racial identity and reported experiences of sexual racism would be greater than for their racial identity and experiences of sexual femmephobia. This was again tested by comparing the correlations among these variables (see Table 4). As hypothesized the sexual racism measure was more strongly associated with a dichotomized race variable comparing participants who identified as exclusively White against those who identified with any other race than was the sexual femmephobia scale ($z = 6.93, p = .000$) or the sexual sizeism scale ($z = 7.85, p = .000$). The sexual femmephobia measure was more strongly associated with the averaged two-item measure of a participant's gender presentation relative to the sexual racism ($z = -4.73, p = .000$) and sexual sizeism ($z = -5.20, p = .000$) measures. The sexual sizeism measure was lastly more strongly associated with BMI scores than was the sexual racism ($z = 6.88, p = .000$) and sexual femmephobia ($z = 5.93, p = .000$) measures. This provided further evidence in support of the three scales to tap experiences of sexual discrimination relevant to various multiply marginalized groups of sexual minority men.

Table 4. Scale Means, Standard Deviations, Internal Reliability, & Bivariate Correlations (Study 1)

| Scale | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | α | M | SD | Actual range | Possible range |
|-------------------------|--------|--------|--------|--------|--------|--------|-------|-------|-------|--------|-----|----------|-------|------|--------------|----------------|
| 1. Sexual Racism | — | | | | | | | | | | | .96 | 2.28 | 1.20 | 1.00-5.00 | 1.00-5.00 |
| 2. Sexual Femmephobia | .32** | — | | | | | | | | | | .96 | 1.55 | 0.87 | 1.00-4.67 | 1.00-5.00 |
| 3. Sexual Sizeism | .28** | .50** | — | | | | | | | | | .93 | 2.15 | 1.05 | 1.00-5.00 | 1.00-5.00 |
| 4. ERGCM | .90** | .30** | .25** | — | | | | | | | | .93 | 12.87 | 5.78 | 6.00-24.00 | 0.00-24.00 |
| 5. MANV Frequency | .28** | .66** | .47** | .25** | — | | | | | | | .92 | 2.01 | 0.73 | 1.00-4.56 | 1.00-5.00 |
| 6. MANV Valence | -.09 | -.14 | -.19* | -.04 | -.15* | — | | | | | | .89 | 1.67 | 0.56 | 1.00-3.33 | 1.00-5.00 |
| 7. PSPS Lean | .16* | .25** | .47** | .17* | .38** | -.10 | — | | | | | .87 | 2.84 | 0.92 | 1.00-5.00 | 1.00-5.00 |
| 8. PSPS Muscular | .20** | .30** | .41** | .23** | .31** | .04 | .72** | — | | | | .87 | 2.70 | 0.89 | 1.00-5.00 | 1.00-5.00 |
| 9. PSS | .14 | .24** | .34** | .13 | .22** | -.24** | .16* | .20** | — | | | .89 | 20.63 | 7.05 | 1.00-40.00 | 0.00-40.00 |
| 10. POC | .63** | .12 | .03 | .64** | .02 | .00 | .02 | .04 | .02 | — | | — | — | — | — | — |
| 11. Gender presentation | -.21** | -.56** | -.22** | -.22** | -.48** | .04 | -.13 | -.14 | -.13 | -.21** | — | .76 | 4.69 | 1.11 | 1.50-7.00 | 1.00-7.00 |
| 12. BMI | -.04 | .12 | .52** | -.01 | .06 | -.11 | .27** | .14 | .30** | -.03 | .08 | — | 27.68 | 8.07 | 16.81-74.97 | — |

Note. ERGCM = Experienced Racism in Gay Community Measure. MANV = Masculine Appearance Norm Violation subscale of the Sexual Minority Men's Body Objectification Scale. PSPS = Perceived Sociocultural Pressure Scale. POC = dichotomized race variable. BMI = body mass index.

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

Study 2: Discrimination, App Use, & Appearance Comparison in Objectification

Theory

The implications of sexual discrimination online for the body image concerns of SMM are likely profound (Brennan et al., 2013; Drummond, 2005a; Han et al., 2013; Paul et al., 2010), yet few investigations have explored these implications empirically. Further, mechanisms linking these experiences to body image have been only minimally examined. Study 2 was designed to address these gaps in knowledge by evaluating a model in which the associations among measured variables of app use behaviors, sexual discrimination (using the measures developed in Study 1), objectification variables, upward and downward body comparisons, and body dissatisfaction were assessed using structural equation modeling (SEM).

Methods

Participants

Participants were 530 sexual minority men who met inclusion criteria (i.e., at least 18 years old, living in the United States, currently using at least one dating and hook-up app) and responded to the call for participation in this study via advertisements on Facebook. Ages ranged from 18 to 61 ($M = 30.13$ years, $SD = 7.44$), with 99.2% of the sample below the age of 45. Most participants identified as cisgender men (94.4%) though some transgender men participated (5.6%). Men in the sample identified primarily as gay (84.2%) and bisexual (4.4.0%), though participants also identified as queer (4.7%), pansexual (2.3%), and same-gender loving (0.4%). The majority of the sample identified their relationship status as single (63%), though a portion of participants were casually dating one or more partners (14.7%) or were in one or more committed relationships

(22.3%). When asked more broadly about the genders of their current sexual and romantic partner(s), even if they consider themselves single, a majority of the sample identified having one or more male partners (67.2%) or no partner at all (31.1%), with fewer participants identifying a partner who is a woman (1.5%) or genderqueer or gender non-binary (3.8%). The majority of the sample indicated they had consensual sexual experiences with another man at some point in their lives (98.7%) and within the last twelve months (93.4%), though participants also indicated sexual experiences with women in the last 12 months (6%) and in their lifetimes (38.5%) and with genderqueer or gender non-binary people in the last 12 months (16.5%) and in their lifetimes (34%). A number of men reported having no sexual experiences in the last twelve months (6%) or ever (0.9%). It should be noted that surveys were completed by an additional 76 participants who were removed from the sample for failed attentiveness and validity checks as described in Study 1.

Recruitment quotas were constrained such that men identifying exclusively as White (i.e., not Latino and/or otherwise multiracial) would not be overrepresented in the sample relative their representation in the general United States population (approximately 60%; U.S. Census Bureau, 2019). Participants in the sample represented a number of nonmutually exclusive racial and ethnic groups: Black/African American (6.19%), Asian American/Pacific Islander or Native Hawaiian (11.26%), Latinx/Hispanic (20.26%), White (69.98%), Middle Eastern (2.44%), Native American Indian/Alaskan Native (2.44%), and Multiracial/Multiethnic (5.62%). Of those who identified as White, 84.45% identified exclusively as White (59.09% of the total sample) and the remainder identified with one or more other racial/ethnic groups.

A body mass index (BMI) score was calculated for each participant ($M = 27.22$, $SD = 6.96$), except for the three participants who declined to provide weight or height information. Weight status categories were assigned to participants who met criteria for four commonly considered BMI ranges in order to assess the size distribution of the sample: (a) BMI < 18.5 (below the recommended weight range; 1.5% of sample), (b) BMI = 18.5 – 24.9 (within the recommended weight range; 43%), (c) BMI = 25.0 – 29.9 (above the recommended weight range but below the weight range labeled “obese”; 30.9%), or (d) BMI \geq 30.0 (above the recommended weight range at a rate labeled “obese”; 24.5%). Responses to the previously described items assessing participants’ gender presentation were again examined, with both items moderately correlated ($r = .64$, $p < .01$) and subsequently averaged to produce an overall gender presentation score. On average, participants indicated that their gender presentation leaned toward the masculine end of the bipolar gender rating scale ($M = 4.83$, $SD = 1.12$), though scores appeared generally normally distributed.

Procedure

Consistent with procedure for Study 1, participants in Study 2 were recruited via Facebook advertisements placed between the months of April and May of 2021. Participants who completed the study were entered into a raffle drawing for one of eight \$25 Amazon gift cards as an incentive. Participants completed the same eligibility questionnaire as in Study 1 and were advanced to the study based on the same inclusion criteria.

Participants accessing the survey were asked first to provide their informed consent. Participants then completed the main study measures (randomized in Qualtrics

to account for ordering effects), and a demographic questionnaire presented at the end of the survey. Attentiveness checks implemented to detect careless responding were utilized as in Study 1. Participants' IP addresses were collected (a) to assess whether they had indeed accessed the survey from the United States, (b) to prevent duplicate responding, and (c) to ensure participants in Study 2 had not participated in Study 1. IP addresses were deleted from the dataset following this assessment. At the conclusion of the study, participants were thanked for their participation, debriefed with resources to respond to any distress aroused by their participation, and invited to provide their email address at a separate survey link to participate in the gift card raffle drawings; this was done such that participants' email addresses were kept separate from the data they provided when completing the study.

Measures

Number of Apps Used & App Use Frequency. App use is regularly measured in studies of social networking sites (SNSs), with measures falling into two broad categories: (a) those that measure the frequency of app use behaviors (e.g., time spent on an app, the number of times one opens an app in a given period of time, etc.), and (b) those that measure feelings of emotional connectedness to or need to participate in social media activities. For the purposes of this study, the first of these categories was assessed by measuring the number of apps used and the frequency of their use, and the second of these categories was assessed by measuring the intensity of their use (see Appendix G).

The number of apps used was measured consistent with previous investigations, with respondents being asked, "Which of the following apps do you use or have you used in the past year?" (Landovitz et al., 2013). Respondents were asked to select as many

apps as applicable from a list of apps specific and not specific to sexual minority men (e.g., Grindr, Tinder, Scruff, etc.), with the option to write in responses not available in the list provided. Responses were then summed to indicate the total number of apps a participant listed. Participants indicated using as few as one app and as many as 13, with two-thirds of participants using between two and four apps. The frequency of app use was assessed consistent with previous investigations by simply asking, “How often do you log onto online dating apps?” (Rice et al., 2012). In one previous investigation, this particular measure was not meaningfully associated with objectification experiences (Breslow et al., 2019); however, this may have been due to truncation of the original response categories, with 80% of participants in one study selecting the two most frequent of the six response categories (Rice et al., 2012). For this reason, response categories for this item were broadened to include: (a) more than 10 times a day, (b) more than 5 but fewer than 10 times a day, (c) more than once a day but less than 5 times per day, (d) once a day, (e) a few days a week, (f) about once a week, and (g) less than once a week. Nearly 60% of participants indicated using these apps at least daily, with 30% of participants using them five or more times a day.

Though these measures are helpful in understanding app use behaviors, they offer little about the psychological and emotional intensity with which participants engage with dating and hook-up apps. One common scale for measuring this latter construct on SNSs is the Facebook Intensity Scale (FBIS; Ellison et al., 2007), an 8-item measure consisting of (a) two behavioral items assessing the number of Facebook friends one has accumulated and overall time spent on Facebook each day and (b) six attitudinal items assessing a participant’s sense of connectedness to the SNS. Given frequency of use was

already addressed as previously described and most dating apps do not allow for “friends” to be added to a network, the aforementioned behavioral items were dropped from this scale in this study. For the remaining six attitudinal items, participants were asked to rate their agreement to each item on a 5-point Likert scale (1 = *strongly disagree*; 5 = *strongly agree*), with items such as “Facebook is part of my everyday activity” and “I feel out of touch when I haven’t logged onto Facebook for a while” comprising the scale. This scale has demonstrated generally acceptable ($\alpha = .75$; Faranda & Roberts, 2019) to good ($\alpha = .83$; Ellison et al., 2007) internal consistency and has since been successfully adapted for evaluations of Pinterest ($\alpha = .85$; Powell et al., 2018), Instagram ($\alpha = .89$; Stapleton, Luiz, Chatwin, 2017), Twitter (Petrocchi et al., 2015), and Snapchat ($\alpha = .88$; Punyanunt-Carter, De La Cruz, & Wrench, 2017). Scores on the FBIS have been positively associated with need to belong (Beyens et al., 2016) and reported loneliness (Lou et al., 2012), as well as negatively associated with interpersonal competency (Jenkins-Guarnieri et al., 2012) and life satisfaction (Błachnio et al., 2016). The FBIS has also been used in at least one study of SMM’s mobile dating and hook-up app use, with intensity of use in this study mediating the relationship between sex-seeking motivations for app use and the number of partners met for casual sex (Chan, 2017). For the purpose of this study, the word “Facebook” as it appears in this scale was replaced with “dating and hook-up apps,” as in the previously mentioned investigation.

An exploratory factor analysis was conducted to assess the structure of all of these app use items for two reasons. First, it was unclear whether these various indicators of app use assessed the same constructs. Second, little is known about the factor structure of the FBIS when applied to online dating and hook-up app use. A principal axis factor

analysis using promax rotation was conducted with scores on these eight items (i.e., six FBIS items, frequency of app use, number of apps used). A parallel analysis indicated that a two-factor solution was optimal. Three items loaded strongly onto the first factor with structure coefficients greater than .70 and cross-loadings greater than .50 absolute difference, including the frequency items and two items from the modified FBIS (i.e., “Online dating and hook-up apps are part of my everyday activity” and “Online dating and hook-up apps have become part of my daily routine”). This factor appeared to represent the reported frequency with which participants used such apps. On the second factor, three items had structure coefficients greater than .45 and cross-loadings with absolute differences ranging from .29-.43. These items all were from the modified FBIS and reflected positive feelings about app use (e.g., “I am part of a community on online dating and hook-up apps”). Finally, the structure coefficients for the item assessing number of apps used were below .30 for both factors.

Based on the findings of this factor analysis, app use was assessed with two variables. The first of these was a variable reflecting frequency of app use, which was measured with the frequency item and the two items from the FBIS with strong loadings on the frequency factor. To score this frequency scale, items were first standardized and then averaged. Cronbach’s alpha for this new measure was .86. The second variable was the number of apps item, which was retained as a separate variable because it proved to be distinct from the two factors identified in the factor analysis. Finally, the FBIS items with strong loadings on the factor reflecting positive feelings about app use were not used, as the factor did not correspond to any of the app use constructs thought to play a role in exposure to sexual discrimination. In fact, it seemed likely that lower scores for

these positive reactions to app use items were more likely to be a consequence of exposure to online sexual discrimination than an antecedent.

Body Surveillance. Body surveillance was measured using the 8-item Surveillance subscale of the Objectified Body Consciousness Scale (OCS; McKinley & Hyde, 1996; see Appendix H). Participants indicated their agreement to items (e.g., “During the day, I think about how I look many times”) using a 7-point Likert scale from *strongly disagree* to *strongly agree*. Six of these eight items were reverse-scored, with higher average scores indicating greater surveillance attitudes and behaviors.

The OCS was developed based on feminist and social constructionist frameworks to better understand women’s experience of their bodies in US culture. McKinley (1995) defined *objectified body consciousness* (OBC) as the set of beliefs that reinforce one’s experience of their body as an object, with body surveillance, beliefs that one can control their appearance, and body shame key components of this experience. OBC, insofar as it is embedded in experiences of the male gaze, results in body surveillance, wherein women experiencing themselves as objects of this gaze become objects onto themselves in order to ensure their effective compliance with cultural beauty standards, avoid negative judgments, and ensure access to social (and literal) capital.

The OCS was developed to measure these constructs in women and was intentionally constructed to be general in nature (i.e., rather than specific to particular body parts or characteristics of dissatisfaction, as with measures that examine weight dissatisfaction). Definitions for key constructs were developed by the first author using a theoretical framework advanced by Spitzack (1990), with items generated based on these definitions and in-depth interviews with nine undergraduate women. An exploratory

factor analysis suggested that a three-factor solution was appropriate, which best fit the data in a subsequent confirmatory factor analysis. The Surveillance subscale demonstrated adequate internal consistency ($\alpha = .76 - .89$ across three studies and four samples) and test-retest reliability over a two-week period ($\alpha = .79$). Validity evidence includes its association with measures of public self-consciousness, appearance orientation, and body self-esteem but not with measures of private self-consciousness, social anxiety, and body competence in theoretically consistent ways.

The development and validation of the OCS was necessarily limited by its use of largely White, European American, heterosexual, and assumedly middle-class ciswomen, particularly considering its emphasis on the culturally embedded social constructions implicated in OBC. Nonetheless, the Surveillance subscale has since been successfully extended for use with more diverse populations, demonstrating adequate internal consistency in samples of gay men (e.g., Breslow et al., 2019; Wiseman & Moradi, 2010; $\alpha = .82$ and $.90$, respectively) and transgender men (Velez et al., 2016; $\alpha = .82$), for example. In sexual minority men specifically, its relationship to theoretically related constructs such as objectification experiences, internalization, body satisfaction, and self-esteem has also been demonstrated (Breslow et al., 2019). Scale scores for this study demonstrated adequate reliability ($\alpha = .83$).

Internalization of Appearance Ideals. Internalization of cultural beauty standards was measured using the Internalization: Thin/Low Body Fat and Internalization: Muscular/Athletic subscales of the Sociocultural Attitudes Toward Appearance Questionnaire-4 (SATAQ-4; Schaefer et al., 2015; see Appendix I).

The SATAQ-4 is the fourth iteration of the SATAQ (Heinberg et al., 1995) and was developed to account for a number of conceptual limitations in the third iteration of the measure (namely, its exclusive focus on media as a source of appearance-related pressures, its inclusion of items thought to be specific to women's appearance-related concerns, and its failure to differentiate between internalization of thinness and muscularity ideals). Following the results of an EFA and subsequent CFAs, a five-factor solution was found to fit the data appropriately across three independent and diverse samples of women, with items loading onto the following factors: (a) Internalization: Thin/Low Body Fat, (b) Internalization: Muscular/Athletic, (c) Pressures: Peers, (d) Pressures: Family, and (e) Pressures: Media. An EFA conducted using data gathered from a sample of men suggested a similar factor structure, though perhaps unsurprisingly this also suggested that the distinctions between the two internalization subscales (i.e., Thin/Low Body Fat and Muscular/Athletic) may not be as pronounced for men as for women (e.g., Hildebrandt et al., 2004). It was unclear whether a similar factor structure would appropriately fit data collected from a sample of sexual minority men, as previous investigations into sexual minority men's body image issues using the SATAQ have relied on a previously defined General Internalization subscale that did not distinguish between thin and muscular beauty ideals (e.g., Breslow et al., 2019; Wiseman & Moradi, 2010). This subscale and its items do not exist in the SATAQ-4, given high cross-loadings of its items on other scales.

For the purposes of this study, participants completed the Internalization: Thin/Low Body Fat and Internalization: Muscular/Athletic subscales of the SATAQ-4. Respondents rated their level of agreement with five-items for either subscale (e.g., "I

think a lot about looking thin” or “I think a lot about looking muscular,” respectively) using a 5-point Likert scale from 1 (*definitely disagree*) to 5 (*definitely agree*). Responses were summed and averaged to produce scale scores. In their sample of male participants, Schaefer et al. (2015) provided adequate internal reliability estimates for the Thin/Low Body Fat ($\alpha = .75$) and Muscular/Athletic ($\alpha = .90$) subscales, with small to medium associations between these subscales and measures of eating pathology and appearance evaluations (or body satisfaction) in theoretically consistent ways. Notably, in this sample of men only the Thin/Low Body Fat subscale was significantly and negatively associated with a measure of self-esteem and was more strongly predictive of eating pathology and body satisfaction than the Muscular/Athletic subscale, perhaps suggesting the unique role internalization of thinness or leanness ideals plays in affecting men’s body image concerns. For the purpose of this project, the two new internalization subscales were initially considered as indicators of an underlying factor of internalization more generally and were found to be only moderately significantly correlated ($r = .42$). For this reason, it was determined most appropriate to consider the influence of these ideals separately, rather than as indicators of an underlying latent variable, and each was therefore entered as separate latent variables in each model. Cronbach’s alphas for the present study were .87 for the internalization of muscular ideals subscale and .80 for the internalization of thinness ideals subscale.

Body Shame. Body shame, or feelings of shame resulting from one’s perceived failure to meet sociocultural body ideals, was measured in this study using the 8-item Body Shame subscale of the Objectified Body Consciousness Scale (OCS; McKinley & Hyde, 1996; see Appendix J) described previously. Similar to the Surveillance subscale,

participants rated their level of agreement to items (e.g., “I feel ashamed of myself when I haven’t made the effort to look my best”) using a 7-point Likert scale from *strongly disagree* to *strongly agree*. Scores are subsequently summed and averaged, with higher scores indicating greater body shame. McKinley and Hyde (1996) demonstrated adequate internal consistency for the measure in its initial development with samples of women ($\alpha = .70 - .84$) as well as adequate test-retest reliability over a two-week period ($\alpha = .79$). In their studies, body shame was negatively associated with body esteem, as well as positively associated with theoretically relevant measures of body surveillance, internalization of beauty standards, and control beliefs. In samples of sexual minority men, responses to the Body Shame subscale of the OCS have produced internally consistent scores (Martins et al., 2007; Wiseman & Moradi, 2010; $\alpha = .81$ and $.89$, respectively), have been positively associated with drive for thinness and body surveillance (Martins et al., 2007), and have been shown to partially mediate the relationship between body surveillance and eating pathology (Wiseman & Moradi, 2010). Cronbach’s alpha for the present study was $.86$.

Body Comparison. Comparing one’s body against those of others is related to objectification, insofar as one’s own body surveillance and the internalization of sociocultural appearance ideals encourages comparison of one’s body against cultural exemplars and the bodies of others (McKinley & Hyde, 1996) in what has been referred to as a “circle of objectification” (Lindner et al., 2012). Yet, surprisingly, body comparison’s role in objectification experiences has only been considered to a limited degree in empirical evaluations (e.g., Tylka & Sabik, 2010). Proclivity to compare one’s body against those of others was therefore measured using the Upward Physical

Appearance Comparison Scale and Downward Appearance Comparison Scale (UPACS/DACS; O' Brien, 2007; see Appendix K). The UPACS and DACS are 10-item and 8-item measures, respectively, developed to account for limitations of related measures (e.g., the Physical Appearance Comparison Scale [PACS]; Thompson et al., 1991) that fail to differentiate between upward and downward body comparisons. Items of the UPACS assess an individual's proclivity to upwardly compare their body against others (e.g., "I find myself comparing my appearance with people who are better looking than me") and items of the DACS assess proclivity to downwardly compare one's body (e.g., "I compare myself to people less good looking than me"). Items were intentionally developed to not be exclusive to the experiences of a particular gender. Respondents rate their level of agreement on a 5-point Likert scale from *strongly disagree* to *strongly agree*, with responses summed and averaged to produce a scale score.

Initial development and validation of the UPACS/DACS was conducted with a mixed gender sample of college students ($n = 224$) and suggested good psychometric properties, with both demonstrating adequate internal consistency in a sample of males ($\alpha = .91$ for the UPACS and $\alpha = .90$ for the DACS) and good test-retest reliability in a mixed-gender sample across two-weeks ($r = .79$ for the UPACS and $r = .70$ for the DACS). Validity evidence was provided, with the UPACS and DACS moderately and positively associated with other measures of physical appearance comparison and accounting for variance in body image and disordered eating over and above that of related measures in a series of hierarchical regression analyses. Scores on the UPACS and DACS are moderately and positively associated with one another as well, perhaps suggesting a common factor of overall appearance comparison tendency, though in this

study they were found to be only weakly, significantly correlated ($r = .29$) and were therefore considered separately in the models. It is worth noting that the UPACS/DACS had not been validated with a sample of sexual minority men previous to this investigation. Cronbach's alphas for the present study were .93 for the UPACS and .94 for the DACS.

Body Dissatisfaction. Body dissatisfaction was measured using the Appearance Evaluation (AE) and Body Areas Satisfaction Scale (BASS) of the Multidimensional Body-Self Relations Questionnaire (MBSRQ; Brown et al., 1990; see Appendix L). The MBSRQ assesses various dimensions of body image, with the 7-item AE subscale broadly assessing one's overall satisfaction with one's looks and the 9-item BASS subscale specifically evaluating one's satisfaction with discrete aspects of appearance (e.g., muscle tone, weight, height, etc.). The AE subscale includes items such as "My body is sexually appealing," which are rated on a 5-point Likert scale from 1 (*definitely disagree*) to 5 (*definitely agree*). The BASS subscale asks participants to rate how satisfied they are with nine elements of their bodies (e.g., upper torso, hair, face, etc.) on a 5-point Likert scale from 1 (*very dissatisfied*) to 5 (*very satisfied*). Responses for either subscale are summed and averaged, with lower scores on the AE and higher scores on the BASS suggesting lower satisfaction with one's body. In previous investigations of sexual minority men, these scales have been highly correlated and therefore combined to form a single measure of body image satisfaction (Levesque & Vichesky, 2006); for the purposes of this study, this single measure was used similarly with scores on the AE and the BASS used as indicators of a latent measure of body image satisfaction. Cronbach's alphas for the present study were .83 for the BASS and .90 for the AE scales.

Sexual Discrimination Measures. The measures of sexual discrimination developed in Study 1 (see Appendix N) were used to measure three manifestations of sexual discrimination, namely: (a) sexual femmephobia, (b) sexual sizeism, and (c) sexual racism. Participants were asked to rate the frequency with which they experienced these forms of online discrimination in the last six months when using dating apps using a 5-point scale ranging from “Never” to “Very often”. Internal reliability estimates for the sexual racism ($\alpha = .94$), sexual femmephobia ($\alpha = .95$), and sexual sizeism ($\alpha = .94$) measures were high.

Attentive Responding Scale (ARS-18) & Related Attentiveness Checks. As in Study 1, participants completed the ARS-18 (see Appendix F) and were asked at the conclusion of the survey, “In your honest opinion, should we use your data?”

Demographics Questionnaire. Participants completed the same demographic questionnaire described in Study 1.

Data Analytic Issues

Hypotheses were tested in the context of SEM. Consistent with best practices, a measurement model for the latent variables was evaluated prior to testing the main structural model (Kline, 2016). Proposed indirect effects were tested using the approach recommended by Yzerbyt et al. (2018). First, all components of the indirect effect were tested for statistical significance. If all components were significant, then a 95% confidence interval of the indirect effect was estimated using the percentile bootstrap method. Finally, the hypothesized moderation effects were tested with latent moderated structural equation modeling (LMS), which has been shown to yield accurate estimates and acceptable Type I error rates in simulation studies.

A popular rule-of-thumb for determining sample sizes for SEM is the $N:q$ rule (Jackson, 2003), whereby a minimum sample size is determined by the ratio of the number of cases (N) to the number of model parameters (q). Simulation studies have supported a ratio of 10:1, or 10 participants per parameter evaluated (Jackson, 2003; Kline, 2016; Weston & Gore, 2006). For these reasons, a sample of 530 participants was indicated for estimation of the 53 parameters in the proposed model. Moreover, for tests of latent interaction effects, sample sizes of 500 or more have been found to yield unbiased estimates and acceptable Type I error rates for tests of the interaction effect (Cham et al., 2012). The sample size for this study was therefore determined to be adequate for the proposed analyses.

Results

Descriptive Statistics & Missing Data Analysis

Examination of the data indicated that approximately .05% of the possible data points from the complete dataset were missing; these missing values were distributed across 11 participants and 22 items. No single item was missed by more than one participant, and no significant pattern in the missing data emerged. It was therefore determined adequate to address this overall minimal missing data by averaging scale scores where possible.

Means, standard deviations, reliability estimates, and intercorrelations of the study latent variables are presented in Table 5. As in Study 1, average reported experiences of sexual racism ($M = 1.99$, $SD = 1.03$), sexual femmephobia ($M = 1.72$, $SD = 0.87$), and sexual sizeism ($M = 2.30$, $SD = 1.03$) were infrequent overall. A number of significant associations among the study variables offer preliminary support for the study

hypotheses. Correlations among the three sexual discrimination scales replicated associations evidenced in Study 1, such that sexual racism was significantly, positively correlated with sexual femmephobia ($r = .20, p = .000$) and sexual sizeism ($r = .21, p = .000$), as was sexual femmephobia with sexual sizeism ($r = .35, p = .000$). As expected, the majority of the correlations among objectification theory constructs were moderate and significant in expected directions, with the surprising exception of the relationship between the internalization of muscular ideals and body dissatisfaction which was non-significant ($r = -.05, p = .343$). Both sexual femmephobia and sexual sizeism were significantly correlated with the majority of the objectification theory constructs with the exception of sizeism with the internalization of muscular ideals ($r = .00, p = .966$), and sexual racism was only significantly correlated with the internalization of muscular ideals ($r = .14, p = .004$). Approximately two-thirds of the study participants reported using between two to four apps in total at least once a day, though about a third noted using apps at least five or more times a day. The reported total number of apps was significantly, weakly correlated with reported experiences of sexual racism ($r = .09, p = .048$) and sexual sizeism ($r = .22, p = .000$), as was the frequency of app use (respectively, $r = .10, p = .040$; $r = .20, p = .000$), though neither were significantly associated with sexual femmephobia (total number of apps, $r = .07, p = .068$; frequency of use, $r = .09, p = .098$). Upward and downward appearance comparisons were only weakly correlated with one another ($r = .29, p = .000$), and participants reported more frequent upward comparisons ($M = 2.80, SD = .93$) than downward ones ($M = 2.80, SD = 1.11$). These findings offer initial evidence largely in support of the study hypotheses, while signaling a number of unanticipated effects worth further examination.

Table 5. Means, Standard Deviations, & Correlations Between Major Latent Variables of Theoretical Model (Study 2)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | <i>M</i> | <i>SD</i> | α |
|--------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|--------|----------|-----------|----------|
| 1. Sexual Racism | — | | | | | | | | | | | 1.99 | 1.03 | .94 |
| 2. Sexual Femmephobia | .20*** | — | | | | | | | | | | 1.72 | 0.87 | .95 |
| 3. Sexual Sizeism | .21*** | .35*** | — | | | | | | | | | 2.30 | 1.03 | .94 |
| 4. Ideals—muscularity | .14** | .10* | .00 | — | | | | | | | | 3.40 | 1.04 | .87 |
| 5. Ideals—thinness | .09 | .28*** | .21*** | .42*** | — | | | | | | | 3.46 | 1.01 | .80 |
| 6. Body surveillance | .00 | .20*** | .15** | .45*** | .57*** | — | | | | | | 4.94 | 1.08 | .83 |
| 7. Body shame | .05 | .30*** | .53*** | .30*** | .59*** | .55*** | — | | | | | 4.17 | 1.30 | .86 |
| 8. Body dissatisfaction | .03 | .14** | .60*** | -.05 | .35*** | .38*** | .66*** | — | | | | 3.05 | 0.81 | .93 |
| 9. Upward comparisons | .08 | .23*** | .19*** | .54*** | .51*** | .65*** | .50*** | .24*** | — | | | 3.81 | 0.93 | .93 |
| 10. Downward comparisons | .07 | .20*** | .14** | .16*** | .26*** | .30*** | .24*** | .16*** | .29*** | — | | 2.80 | 1.11 | .94 |
| 11. Total apps | .09* | .07 | .22*** | -.09* | .02 | .07 | .14** | .13** | .04 | .06 | — | 3.42 | 1.78 | — |
| 12. App use frequency | .10* | .09 | .20*** | .09 | .12* | .18*** | .17** | .12* | .13** | .11* | .27*** | 3.47 | 1.14 | .86 |

Note. Ideals-muscularity = Internalization of Muscular Ideals. Ideals-thinness = Internalization of Thinness ideals.

* $p < .05$. ** $p < .01$, *** $p < .001$.

Item Parcels

Item parcels were created to construct multiple indicators of the latent study variables for which only one measure was used. This included the sexual racism, sexual sizeism, sexual femmephobia, upward comparison, downward comparison, internalization of muscular ideals, internalization of thinness ideals, surveillance, and body shame measures. Item parceling for structural equation modeling offers a number of benefits and potential risks. Namely, item parceling has the potential to reduce measurement error by limiting the number of parameters to estimate and thereby enhancing modeling efficiency; to more accurately approximate the distribution of the latent variable relative to individual items; and to mitigate issues associated with non-normal data (Matsunaga, 2008). However, item parceling may not be advisable when a scale is found to be multidimensional, as the communality-maximizing function of parceling may actually lead to model misspecification by eliminating latent factors otherwise represented by the observed variables, nor in rare circumstances when data is so “well-conditioned” that parceling may actually increase estimation bias and attenuate path coefficients relative to item-based solutions. Each of the scales in this study have demonstrated unidimensionality in previous investigations, and all scales demonstrated good to excellent internal consistency in this study. The three sexual discrimination scales developed for this project were constructed as unidimensional measures and demonstrated adequate unidimensionality in Study 1 and were found to demonstrate high internal consistency in the current study.

For this study, the random assignment of items to parcels was utilized. This random assignment follows from domain sampling theory and on the assumption that

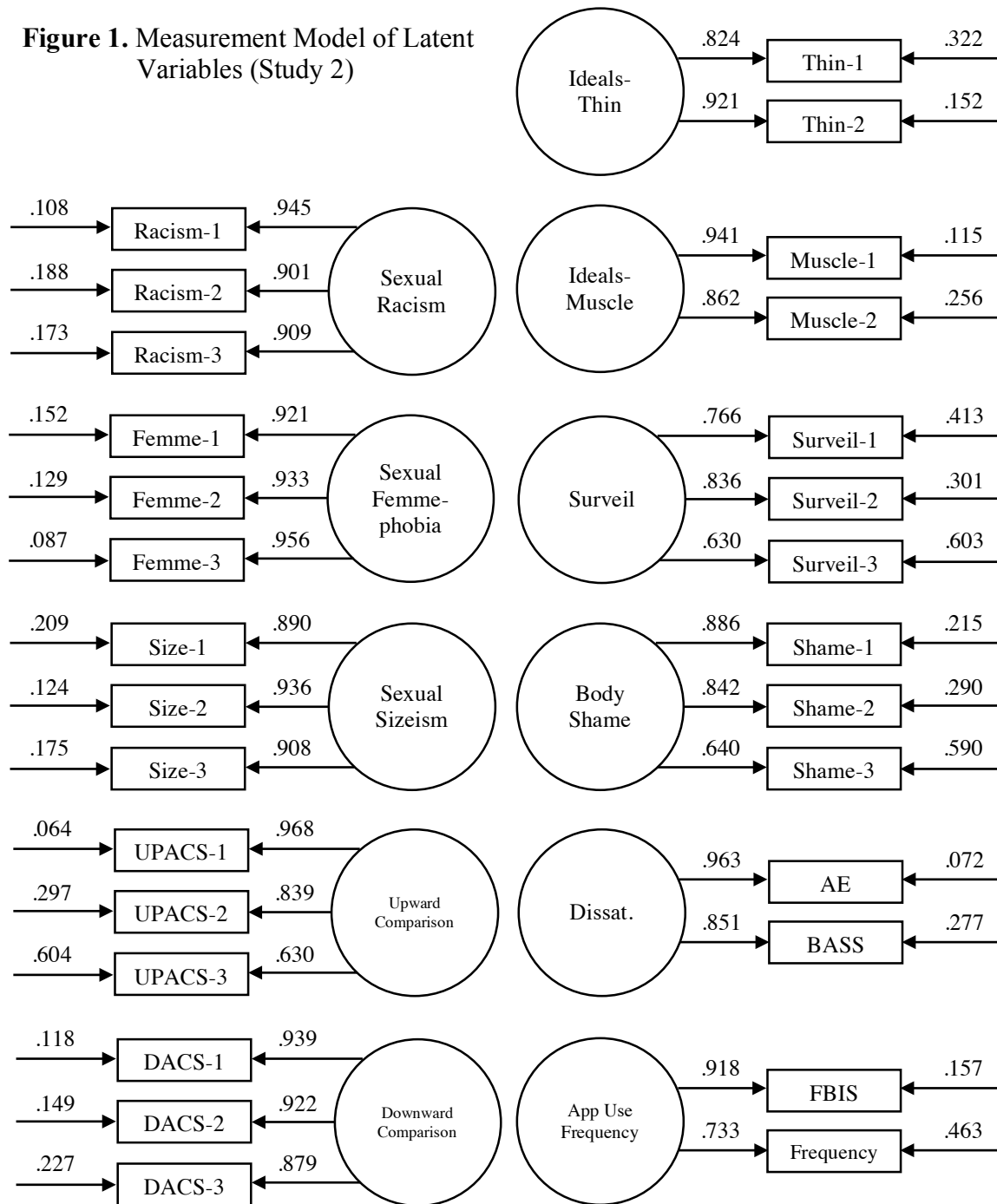
items are sampled from an infinitely large item universe which represents the construct of interest (Little et al., 2002). Random assignment is therefore assumed on average to lead to parcels with near equal common variance and error variances (Matsunaga, 2008). When possible, items were randomly distributed across three item parcels per latent variable, as using three indicators for each sufficiently safeguards against estimation bias while minimizing the number of parameters to be estimated (Matsunaga, 2008). This was not possible for the idealization scales, as doing so would have resulted in a one-item indicator, and as such only two item parcels were created for these scales. Scale scores were averaged to create final item parcel scores. Parcels and other indicators were examined for non-normality by evaluating skewness and kurtosis statistics for each indicator, as multivariate normality is a key assumption of maximum likelihood (ML) estimation for SEM. Skewness statistics ranged from absolute values of .01 to 1.61 and kurtosis statistics ranged from absolute values of .03 to 2.32 and therefore met guidelines for multivariate normality of the data (i.e., skewness ≤ 3 , kurtosis ≤ 10.0 ; Weston & Gore, 2006).

Measurement Model

Following recommendations for a two-step approach to structural equation modeling (Kline, 2005), a confirmatory factor analysis was conducted to test the goodness of fit of the measurement model to the observed data using maximum likelihood (ML) estimation in Mplus Version 8 (Munthén & Munthén, 1998–2017). This was accomplished by constraining indicators to load onto 11 latent variables as previously described and as pictured in Figure 1. Latent variables in the model were allowed to covary.

The fit of the measurement model was assessed using the following indices: (a) comparative fit index (CFI; Bentler, 1990), (b) root mean square of error approximation (RMSEA; Steiger, 1990), and (c) the standardized root mean square residual (SRMSR; Bentler, 1995). There is some debate regarding guidelines for acceptable fit indices, with previous guidelines considered perhaps inappropriate for samples larger than 500 participants (Hu & Bentler, 1998, 1999). For this reason, the following guidelines were used to assess the appropriateness of the model fit: $CFI \geq .95$, $RMSEA \leq .06$, and $SRMR \leq .08$. The results of the CFA demonstrated that the overall model yielded good fit based on these guidelines, despite a statistically significant model chi-squared test, $\chi^2(340) = 688.47, p < .001$: $CFI = .97$; $RMSEA = .04$ (90% CI = .039 - .049); $SRMR = .03$. Standardized factor loadings ranged from .63 to .97 and were all significant at the $p < .001$ level. The measurement model, standardized factor loadings, and error estimates are summarized in Figure 1. This measurement model was deemed adequate and therefore used to test subsequent structural models.

Figure 1. Measurement Model of Latent Variables (Study 2)



Note. Dissat. = Body dissatisfaction. FBIS = Facebook Intensity Scale items; UPACS/DACS= Upward/Downward Physical Appearance Comparison Scales; AE/BASS = Appearance Evaluation/Body Areas Satisfaction Scale of the Multidimensional Body-Self Relations Questionnaire (MBSRQ). All paths were significant at $p < .01$ with the exception of the error variance estimate for the FBIS which was non-significant. Model fit estimates for the measurement model demonstrated a good fit to the data: $\chi^2(340) = 688.47$, $p < .001$; CFI = .97; RMSEA = .04 (90% CI = .039 - .049); SRMR = .03.

Main Structural Models

A set of three structural models were tested using maximum likelihood (ML) estimation in Mplus Version 8 (Munthén & Munthén, 1998–2017) to test the main theoretical model pictured in Figure 2. The effects of each form of sexual discrimination were considered for the main theoretical model separately, such that a structural model was tested for (a) sexual racism, (b) sexual femmephobia, and (c) sexual sizeism separately. The two latent internalization variables were allowed to covary in each model, as were the frequency of app use latent variable and the measured total number of apps reported variable. The three structural models testing the original hypothesized paths were examined for goodness-of-fit, with the sexual racism and sexual femmephobia models meeting established guidelines for model fit evaluation in this study, though with significant model chi-squared test: (a) sexual racism model, $\chi^2 (123) = 336.30, p = .000$; CFI = .96; RMSEA = .06 (90% CI = .05 - .06); SRMR = .06, (b) sexual femmephobia model, $\chi^2 [123] = 310.12, p = .000$; CFI = .97; RMSEA = .05 (90% CI = .05 - .06); SRMR = .06. The sexual sizeism model however did not meet these criteria for good model fit: $\chi^2 (123) = 512.04, p = .000$; CFI = .93; RMSEA = .08 (90% CI = .07 - .08); SRMR = .10.

As a next step in the modeling process, all direct paths not featured in the original model were added to evaluate their inclusion in a modified model. This was done for two reasons. First, the objectification theory model includes implicit assumptions about whether indirect effects reflect full or partial mediation processes. For example, the model implies that the link between body surveillance and body dissatisfaction is fully mediated by body shame. Testing such assumptions is important both to contribute to

knowledge and to ensure that any needed direct effects are included in the model, which, in turn, will support accurate estimation of indirect effects. Second, as noted above, there was clear evidence that the sexual sizeism model did not meet minimum standards for model fit, raising the possibility that fit could be improved by including direct paths that would capture covariance left unmodeled in the original model.

An additional 15 direct paths not originally hypothesized were included in each of the three sexual discrimination models. In order to control the family-wise Type I error rate for these additional paths, a Bonferroni correction was applied using a family-wise alpha-level of $p = .10$. Thus, individual paths were tested at an alpha level of .00666. Across models, this resulted in the addition of a negative direct path from the internalization of muscular ideals to body dissatisfaction. For the sexual racism model, one model-specific path was added: a direct positive path from the total number of apps reported to the internalization of muscular ideals. For the sexual femmephobia model, one model-specific direct path was added: a direct positive path between sexual femmephobia and body shame. Lastly, for the sexual sizeism model, three model-specific direct paths were added: (a) a direct positive path sexual sizeism to body shame, (b) a direct positive path from sexual sizeism to body dissatisfaction, and (c) a direct path from body surveillance to body dissatisfaction.

The fit of these amended models was subsequently evaluated following the addition of these paths. Overall, the addition of these paths improved the fit of the models to the data overall such that the (a) sexual racism, (b) sexual femmephobia, and (c) sexual sizeism amended structural models yielded satisfactory fits to the data based on guidelines established for use in this study respectively: (a) $\chi^2 (121) = 282.80, p = .000$;

CFI = .97; RMSEA = .05 (90% CI = .04 - .06); SRMR = .052, (b) χ^2 (121) = 255.86, p = .000; CFI = .98; RMSEA = .05 (90% CI = .04 - .05); SRMR = .048, (c) χ^2 (119) = 253.33, p = .000; CFI = .98; RMSEA = .05 (90% CI = .04 - .05); SRMR = .042. These improvements in fit were statistically significant across the three amended models: (a) $\Delta\chi^2(2) = 53.50$, p = .000; (b) $\Delta\chi^2(2) = 54.26$, p = .000; (c) $\Delta\chi^2(4) = 258.70$, p = .000.

Path coefficients and standard errors for each amended structural model are presented in Table 6, with a representative example of the sexual sizeism structural model presented in Figure 3. The hypothesized indirect effects were estimated with 95% bias corrected bootstrap confidence intervals (Bollen & Stine, 1990), using Mplus to draw 2,000 bootstrap data samples. The indirect effects results are presented in Table 7. Results are discussed below.

Testing the Applicability of Objectification Theory Relationships in Models of Sexual Discrimination. The first set of hypotheses (H4 – H7) for Study 2 assessed the applicability of relationships among objectification theory constructs when considered in the context of sexual discrimination experiences. Across the three models, key relationships advanced in the objectification literature were largely replicated, such that the internalization of thinness ideals predicted greater body surveillance (H4) and greater body shame (H5); greater body surveillance predicted greater body shame (H6); and greater body shame predicted greater body dissatisfaction (H7). Surprisingly, the influence of the internalization of muscular ideals was more mixed than that of thinness ideals, such that the greater internalization of such ideals predicted greater body surveillance (H4), but did not predict greater body shame as had been hypothesized (H5) and in actuality predicted lower rates of body dissatisfaction when this path was added to

the models. These findings overall provide mixed support for the first set of study hypotheses (H4 – H7) and offer insight into the importance of evaluating the effects of muscular and thinness ideals separately, as has rarely been the case in the objectification theory literature.

Subsequently, the hypothesized indirect relationships among objectification theory variables were also examined across the three models to test the second set of study hypotheses (H8 – H9). As hypothesized, the internalization of thinness and muscular ideals was indirectly related to body shame via body surveillance (H8), and body surveillance and internalization were indirectly related to body dissatisfaction via body shame (H9). A direct path between body surveillance and body dissatisfaction was added to the sexual sizeism model and was significant ($b = .20, p = .001$), though for either other model the relationship between surveillance and body dissatisfaction was completely mediated by body shame as was hypothesized. Given the nonsignificant direct path between the internalization of muscular ideals and body shame, this finding suggests that body surveillance totally mediated the relationship between these variables. The findings for the indirect effects of either internalization variable on body dissatisfaction was also consistent with previous investigations, such that the internalization of thinness ideals and muscular ideals were indirectly related to body dissatisfaction via body shame and body surveillance (H9). For the internalization of muscular ideals in particular, this coupled with the negative direct effect of such ideals on body dissatisfaction suggests that whether the internalization of such ideals improves or worsens body dissatisfaction is contingent in-part on whether this provokes greater body surveillance and subsequent body shame.

Testing the Direct & Indirect Effects of Sexual Discrimination. Having largely replicated key relationships represented in the objectification theory literature, the effects of each form of sexual discrimination on these direct relationships was also examined and provided mixed support for the study hypotheses. Exposure to sexual racism was found to significantly predict greater internalization of muscular ideals ($b = .14, p = .002$) and thinness ideals ($b = .08, p = .039$) as was exposure to sexual femmephobia (respectively, $b = .12, p = .039$; $b = .27, p = .000$), as had been hypothesized (H10). Exposure to sizeism, however, predicted only greater internalization of thinness ideals ($b = .16, p = .000$) and did not predict greater internalization of muscular ideals ($b = -.01, p = .840$). These results suggest that those who encounter sexual sizeism routinely may be more preoccupied with thinness ideals specifically, whereas those who encounter sexual racism and sexual femmephobia may be led to internalize either or both sets of ideals. Contrary to the study hypotheses, the direct path between sexual discrimination and body surveillance did not reach statistical significance for sexual racism ($b = -.08, p = .073$), sexual femmephobia ($b = .05, p = .351$), or sexual sizeism ($b = .05, p = .279$) as had been hypothesized (H11).

It was additionally hypothesized that experiences of sexual discrimination would be indirectly related to body surveillance via the internalization of muscular ideals and thinness ideals (H12). As hypothesized, both sexual racism and sexual femmephobia were indirectly related to surveillance via the internalization of thinness ideals (unstandardized indirect effects respectively = .04, .14) and muscular ideals (unstandardized indirect effects respectively = .03, .03), though sexual sizeism was found to be indirectly related to body surveillance via the internalization of thinness ideals

exclusively (unstandardized indirect effect = .08). These indirect relationships between sexual discrimination and body surveillance via internalization in the absence of significant direct effects between sexual discrimination and surveillance, despite significant correlations between surveillance and sexual femmephobia and sexual sizeism, suggest that internalization completely mediated these effects. All three forms of sexual discrimination were also found to indirectly affect body shame via internalization and surveillance. The relationship between body shame and sexual femmephobia and sexual sizeism however were only partially mediated by internalization, as direct paths between body shame and sexual femmephobia ($b = .21, p = .004$) and sexual sizeism ($b = .60, p = .000$) were added to the amended-models.

The study findings lastly supported the hypothesis that sexual discrimination would be indirectly related to body dissatisfaction via the internalization of thinness and muscular ideals, body surveillance, and body shame (H13), though the form internalization took varied by the type of discrimination examined. Sexual racism was found to be indirectly related to body dissatisfaction via the internalization of muscular ideals, body surveillance, and body shame (unstandardized indirect effect = .01), whereas both sexual femmephobia and sexual sizeism were indirectly related to body dissatisfaction via the internalization of thinness ideals, body surveillance, and body shame (respectively, unstandardized indirect effect = .04, .01). A direct path from sexual sizeism to body dissatisfaction was also added ($b = .28, p = .000$), suggesting that the relationship between sexual sizeism and body dissatisfaction was only partially explained by the OT constructs. Taken together, these findings suggest that experiences of sexual discrimination indirectly promote body dissatisfaction, though via the internalization of

muscular ideals for sexual racism and via the internalization of thinness ideals for experiences of sexual femmephobia and sexual sizeism.

Testing the Direct & Indirect Effects of App Use. It was lastly hypothesized that app use behaviors would predict exposure to sexual discrimination (H14) and that they would then indirectly affect body dissatisfaction via sexual discrimination, the internalization of muscular and thinness ideals, body surveillance, and body shame (H15). The influence of app use behaviors on exposure to sexual discrimination was however inconsistent across the three forms of sexual discrimination. Exposure to sexual sizeism was significantly predicted by the total number of apps reported ($b = .10, p = .000$) and the latent frequency of use variable ($b = .11, p = .002$), but exposure to sexual racism and to sexual femmephobia was not significantly predicted by either. Nonetheless, both the reported frequency of app use variable and the total reported number of apps was not found to indirectly predict body dissatisfaction for any of the three forms of discrimination examined. Unexpectedly, a negative, direct path between the total number of apps reported and the internalization of muscular ideals was significant when added the sexual racism model ($b = -.06, p = .009$). These findings offer only limited support for the study hypotheses regarding the influence of app use behaviors on exposure to sexual discrimination and subsequent body dissatisfaction.

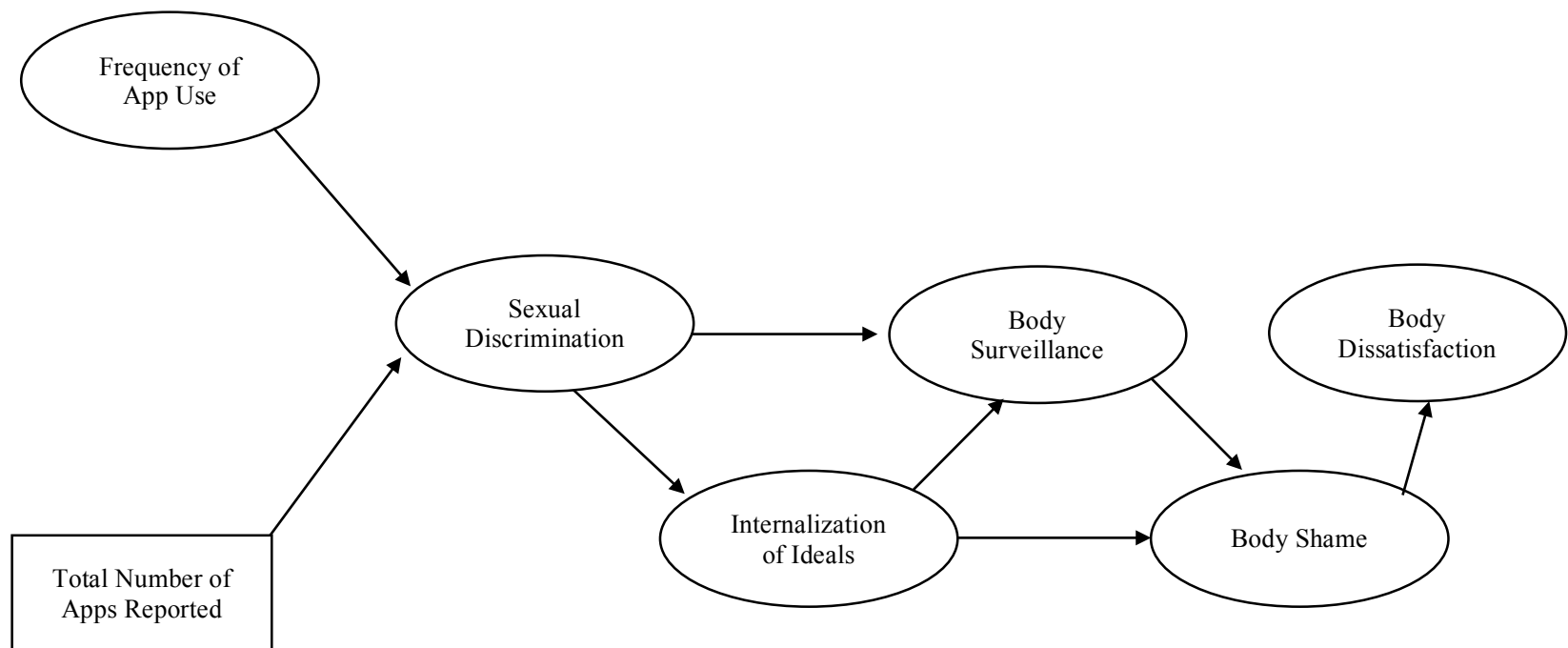


Figure 2. Model of Hypothesized Main Effects Across Structural Models (Study 2)

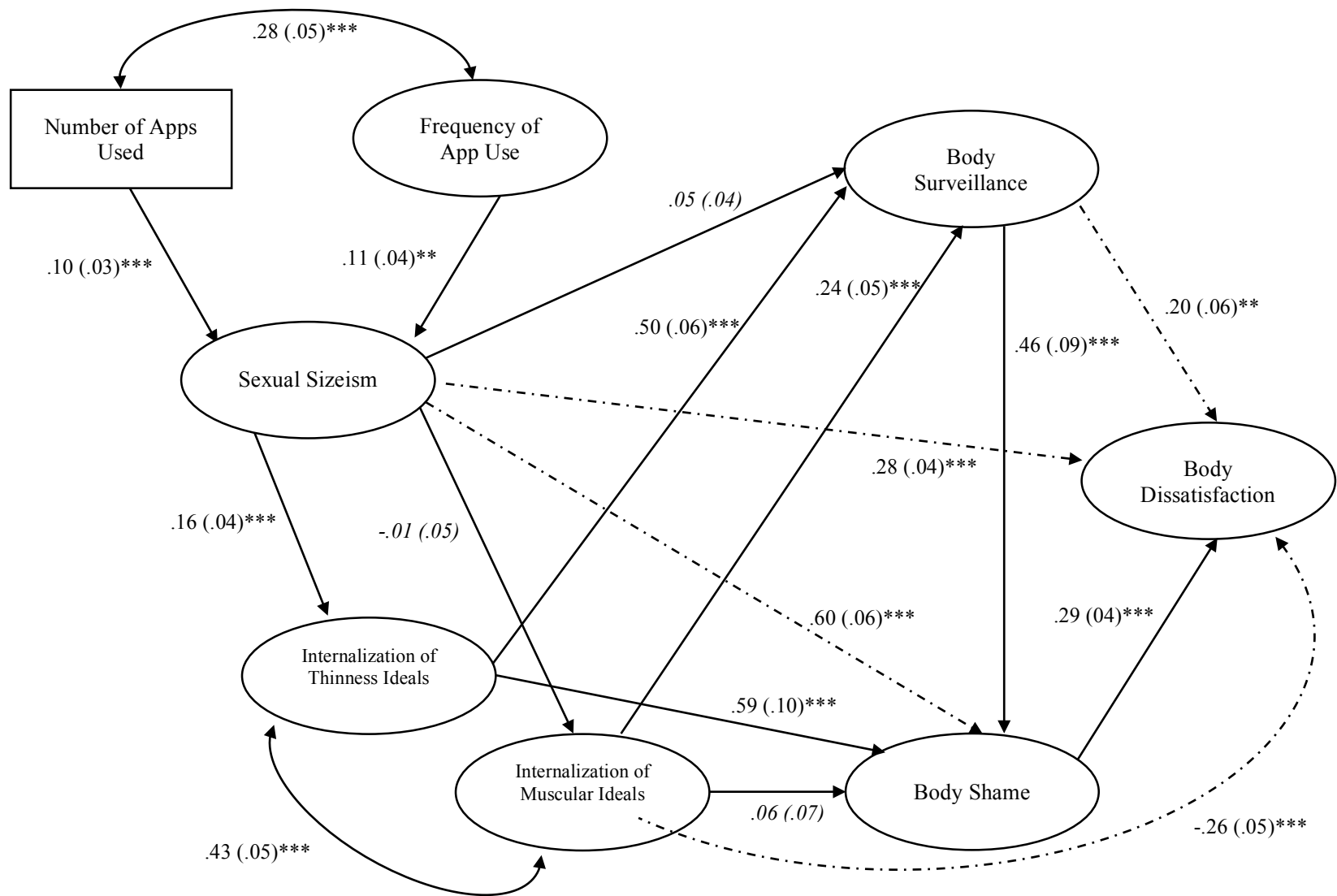


Figure 3. Structural Model Representative Example of Sexual Sizeism (Study 2). Dotted lines represent significant direct paths not originally hypothesized but included in the amended-original model. Non-significant paths italicized.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 6. Summary of Direct Effects for Structural Models (Study 2)

| Parameter Estimate | Sexual Racism Model | | | Sexual Femmephobia Model | | | Sexual Sizeism Model | | |
|--------------------|---------------------|-----|--------------|--------------------------|-----|--------------|----------------------|-----|--------------|
| | Unstandardized | SE | Standardized | Unstandardized | SE | Standardized | Unstandardized | SE | Standardized |
| Total App → | | | | | | | | | |
| Discrim. | .04 | .03 | .07 | .03 | .02 | .06 | .10 | .03 | .18*** |
| † Ideal-musc. | -.06 | .02 | -.11** | — | — | — | — | — | — |
| Frequency → | | | | | | | | | |
| Discrim. | .06 | .04 | .08 | .04 | .04 | .07 | .11 | .04 | .15** |
| Discrim. → | | | | | | | | | |
| Ideal-musc. | .14 | .04 | .15** | .12 | .06 | .10* | -.01 | .05 | -.01 |
| Ideal-thin. | .08 | .04 | .10* | .27 | .04 | .28*** | .16 | .04 | .21*** |
| Surveil | -.07 | .04 | -.08 | .05 | .06 | .05 | .05 | .04 | .05 |
| † Shame | — | — | — | .21 | .07 | .12** | .60 | .06 | .42*** |
| † Dissat. | — | — | — | — | — | — | .28 | .04 | .32*** |
| Ideal-musc. → | | | | | | | | | |
| Surveil | .24 | .05 | .26**** | .24 | .05 | .26*** | .24 | .05 | .26*** |
| Shame | -.03 | .08 | -.02 | -.02 | .08 | -.01 | .06 | .07 | .04 |
| Dissat. | -.26 | .05 | -.28*** | .25 | .05 | -.27*** | -.26 | .05 | -.28*** |
| Ideal-thin. → | | | | | | | | | |
| Surveil | .53 | .07 | .47*** | .51 | .07 | .44*** | .50 | .06 | .45*** |
| Shame | .74 | .11 | .41*** | .68 | .11 | .37*** | .59 | .10 | .32*** |
| Surveil → | | | | | | | | | |
| Shame | .55 | .10 | .35*** | .54 | .10 | .34*** | .46 | .09 | .29*** |
| † Dissat. | — | — | — | — | — | — | .20 | .06 | .21** |
| Shame → | | | | | | | | | |
| Dissat. | .47 | .03 | .75*** | .47 | .03 | .74*** | .29 | .04 | .47*** |

Note. † = represents paths added to the models that were not originally hypothesized, and as such may be inconsistent across models.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 7. Summary of Indirect Effects for Structural Models (Study 2)

| Independent | Mediator(s) | Dependent | Coeff. (SE) | 95% CI |
|-------------------------------------|--|-----------|-------------|---------------|
| Sexual Racism Structural Model | | | | |
| Racism→ | Ideal-thin.→ | Surveil | .04 (.02) | [.00, .08] |
| Racism→ | Ideal-musc.→ | Surveil | .03 (.01)* | [.01, .06] |
| Racism→ | Ideal-thin.→ Surveil→ | Shame | .02 (.01) | [.00, .05] |
| Racism→ | Ideal-musc.→ Surveil→ | Shame | .02 (.01)* | [.006, .040] |
| Racism→ | Ideal-thin.→ Surveil→ Shame→ | Dissat. | .01 (.01) | [.00, .02] |
| Racism→ | Ideal-musc.→ Surveil → Shame→ | Dissat. | .01 (.00)* | [.003, .019] |
| Total App→ | Racism→ Ideal-thin.→ Surveil→ Shame→ | Dissat. | .00 (.00) | [.00, .00] |
| Total App→ | Racism→ Ideal-musc.→ Surveil→ Shame→ | Dissat. | .00 (.00) | [.00, .00] |
| Frequency→ | Racism→ Ideal-thin.→ Surveil→ Shame→ | Dissat. | .00 (.00) | [.00, .00] |
| Frequency→ | Racism→ Ideal-musc.→ Surveil→ Shame→ | Dissat. | .00 (.00) | [.00, .00] |
| Sexual Femmephobia Structural Model | | | | |
| Femmephobia→ | Ideal-thin.→ | Surveil | .14 (.03)* | [.09, .2] |
| Femmephobia→ | Ideal-musc.→ | Surveil | .03 (.01)* | [.001, .064] |
| Femmephobia→ | Ideal-thin.→ Surveil→ | Shame | .08 (.02)* | [.04, .12] |
| Femmephobia→ | Ideal-musc.→ Surveil→ | Shame | .01 (.01)* | [.001, .037] |
| Femmephobia → | Ideal-thin.→ Surveil→ Shame→ | Dissat. | .04 (.01)* | [.02, .06] |
| Femmephobia → | Ideal-musc.→ Surveil→ Shame→ | Dissat. | .01 (.00) | [.00, .02] |
| Total App→ | Femmephobia→ Ideal-thin.→ Surveil→ Shame→ | Dissat. | .00 (.00) | [.00, .00] |
| Total App→ | Femmephobia → Ideal-musc.→ Surveil→ Shame→ | Dissat. | .00 (.00) | [.00, .00] |
| Frequency→ | Femmephobia→ Ideal-thin.→ Surveil→ Shame→ | Dissat. | .00 (.00) | [.00, .00] |
| Frequency→ | Femmephobia→ Ideal-musc.→ Surveil→ Shame→ | Dissat. | .00 (.00) | [.00, .00] |
| Sexual Sizeism Structural Model | | | | |
| Sizeism→ | Ideal-thin.→ | Surveil | .08 (.02)* | [.04, .13] |
| Sizeism → | Ideal-musc.→ | Surveil | .00 (.01) | [-.03, .02] |
| Sizeism→ | Ideal-thin.→ Surveil→ | Shame | .04 (.01)* | [.02, .04] |
| Sizeism→ | Ideal-musc.→ Surveil→ | Shame | .00 (.00) | [-.01, .01] |
| Sizeism→ | Ideal-thin.→ Surveil→ Shame→ | Dissat. | .01 (.00)* | [.005, .019] |
| Sizeism→ | Ideal-musc.→ Surveil→ Shame→ | Dissat. | .00 (.00) | [-.004, .003] |
| Total App→ | Sizeism→ Ideal-thin.→ Surveil→ Shame→ | Dissat. | .001 (.00) | [.000, .002] |
| Total App→ | Sizeism→ Ideal-musc.→ Surveil→ Shame→ | Dissat. | .00 (.00) | [.00, .00] |
| Frequency→ | Sizeism→ Ideal-thin.→ Surveil→ Shame→ | Dissat. | .001 (.001) | [.000, .003] |
| Frequency→ | Sizeism→ Ideal-musc.→ Surveil→ Shame→ | Dissat. | .00 (.00) | [.00, .00] |

Note. Asterisk denotes a statistically significant indirect effect ($p < .05$) as indicated by the confidence interval.

Alternative Main Structural Model

An alternative model for each of the three sexual discrimination domains was also considered in accordance with best practice, given the well-known limitations of testing causal models with cross-sectional data. This model was developed to approximately reflect hypothesized relationships in the pantheoretical model of objectification, dehumanization, and discrimination advanced by Moradi (2013), which uniquely considers the role of “cognizance” to discrimination when compared to OT, using available study variables. This model is pictured in Figure 4. In this alternative model, body surveillance was considered to represent the role of cognizance in the pantheoretical model, and body dissatisfaction was considered to represent the internalized beliefs one comes to have about oneself. Sexual discrimination was thus hypothesized to directly increase body surveillance, as in the original model, and to directly predict increased body dissatisfaction. Body dissatisfaction and body surveillance were subsequently hypothesized to lead to increased body shame (as shame is considered an outcome in the pantheoretical model) via the internalization of thinness and muscular ideals, which were themselves hypothesized to completely mediate these relationships. Both body dissatisfaction and surveillance were allowed to covary to reflect the relationship between cognizance and internalization of beliefs proposed in the pantheoretical model. As in the original model, the two latent internalization variables were also allowed to covary, as were the frequency of app use latent variable and the total number of apps reported variable. The relationships between app use behaviors and sexual discrimination remained unchanged relative to the original model.

This set of alternative models initially provided an inadequate fit to the data based on guidelines established for use in this study for the sexual racism (χ^2 [123] = 476.46, p = .000; CFI = .94; RMSEA = .07 [90% CI = .07 - .08]; SRMR = .079), sexual femmephobia (χ^2 [123] = 458.27, p = .000; CFI = .94; RMSEA = .07 [90% CI = .07 - .08]; SRMR = .082), and sexual sizeism (χ^2 [123] = 475.35, p = .000; CFI = .94; RMSEA = .07 [90% CI = .07 - .08]; SRMR = .094) structural models. For this reason, a modification plan similar to that applied to the originally theorized models was applied to these three models, such that an additional 15 direct paths were tested using a Bonferroni corrected significance level of $p < .00666$ in order to control the family-wise Type I error rate. Subsequently, three direct paths were added to the sexual racism model: (a) a direct path from app use frequency to body surveillance, (b) a direct path from sexual racism to the internalization of muscular ideals, and (c) a direct path from body dissatisfaction to body shame. Four paths were added for the sexual femmephobia model: (a) a direct path from frequency of app use to body surveillance, (b) a direct path from sexual femmephobia to the internalization of thinness ideals, (c) a direct path from body dissatisfaction to body shame, and (d) a direct path from sexual femmephobia to body shame. Lastly, five paths were added for the sexual sizeism model: (a) a direct path from frequency of app use to body surveillance, (b) a direct path from body dissatisfaction to body shame, (c) a direct path from body surveillance to body shame, (d) a direct path from sexual sizeism to body shame, and (e) a direct path from the reported total number of apps to the internalization of muscular ideals. This produced relatively inconsistent models that deviated significantly from the originally theorized model. These modified models nonetheless better fit the data for the (a) sexual racism, (b) sexual femmephobia,

and (c) sexual sizeism alternative-amended models: (a) χ^2 [120] = 282.73, p = .000; CFI = .97; RMSEA = .05 [90% CI = .04 - .06]; SRMR = .046; (b) χ^2 [119] = 242.44, p = .000; CFI = .98; RMSEA = .04 [90% CI = .04 - .05]; SRMR = .04; (c) χ^2 [118] = 242.22, p = .000; CFI = .98; RMSEA = .04 [90% CI = .04 - .05]; SRMR = .04.

Akaike information criterion (AIC) values were compared for each of the three alternative-amended against the main original-amended study models, with the original-amended models functioning slightly better than the alternative-amended sexual racism model ($AIC_0 = 25653.52 < AIC_1 = 25655.45$), and more poorly for the sexual femmephobia ($AIC_0 = 24815.25 > AIC_1 = 24805.83$) and sexual sizeism ($AIC_0 = 25505.33 > AIC_1 = 25496.21$) structural models. These findings raise questions about the potential of alternative models to better represent the pathways by which sexual discrimination affects the body image of sexual minority men, though each of the alternative-amended models deviated significantly from the theoretically proposed alternative model and from one another, and should therefore be evaluated with this in mind.

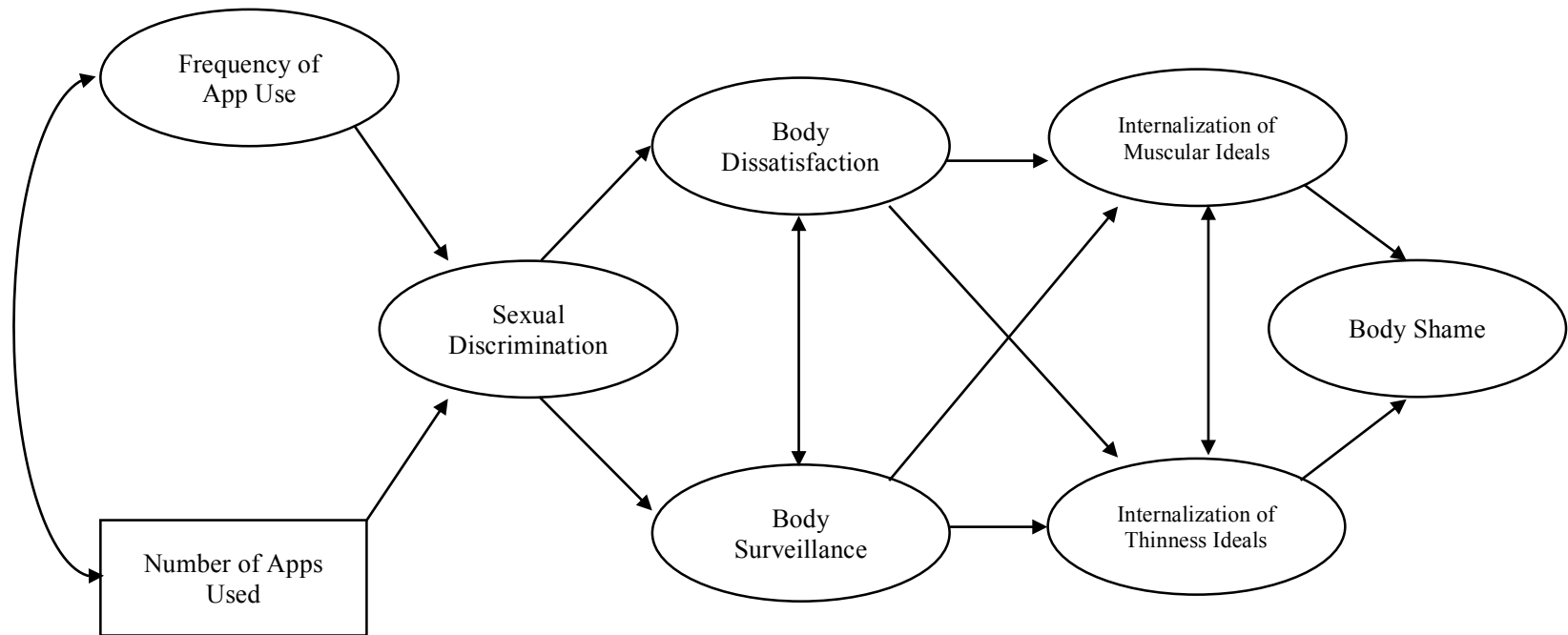


Figure 4. Hypothesized Alternative Structural Model (Study 2). Alternative structural model based on a pantheoretical model of objectification, dehumanization, and discrimination advanced by Moradi (2013).

Moderation Models

Multiple Minority Status. It was hypothesized that the relationships between the app use variables and exposure to sexual discrimination would be moderated by related minority status variables (H16), for example such that the hypothesized relationship between app use and sexual sizeism would be stronger for men with a higher BMI. In order to test this hypothesized moderation effect for the sexual racism structural model, a dichotomized race variable was created such that men who identified exclusively as White were compared with men who identified with any other racial status. A model test of the relationships between the app use variables and sexual racism for a model representing White men and a model representing men of color was conducted in Mplus, with the null hypothesis being that the path coefficients of these relationships were equivalent for either group. Following a Wald test, the null hypothesis of equivalence was not rejected for these two groups ($\chi^2 [1] = .161, p = .688$), suggesting relationships between app use variables and sexual racism was not meaningfully moderated by the dichotomized race variable. Moderation effects for the sexual femmephobia and sexual sizeism models were tested in Mplus by creating interaction terms using the XWITH command for interactions involving the latent frequency variable and by multiplying the measured total apps reported variable with (a) a composite gender presentation score based on the two-item gender presentation measure in the sexual femmephobia structural model, and with (b) a BMI variable in the sexual sizeism structural model. The interaction terms between the total number of apps used and related identity characteristics were not found to significantly predict sexual femmephobia ($b = -.019, p = .562$) or sexual sizeism ($b = -.004, p = .921$), nor was the interaction between the

frequency variable and related identity characteristics found to significantly predict sexual femmephobia ($b = -.051, p = .299$) or sexual sizeism ($b = .063, p = .272$).

Altogether, these identity characteristics did not meaningfully moderate the relationships between app use variables and exposure to sexual discrimination.

Physical Appearance Comparison. The role of appearance comparison in relation to objectification theory constructs was considered for this study, as few examinations of sexual objectification have examined the role of comparisons. Appearance comparison was tested as a moderator of the relationships between (a) body surveillance and body shame, (b) the internalization of thinness ideals and body shame, and (c) the internalization of muscular ideals and body shame, such that the relationships were hypothesized to be stronger at higher levels of upward comparisons (H17) and lower at higher levels of downward comparisons (H18). The moderating potential of upward appearance comparisons and downward appearance comparisons were considered separately, given the relatively weak correlation between both. Moderation effects were tested using a more limited model that only included the variables of interest and interaction terms. Interactions were tested in pairs such that the moderation potential of upward and downward comparisons were considered at once for each relationship examined (e.g., upward and downward appearance comparison on the relationship between body surveillance and body shame). These moderation effects were tested using the Mplus implementation of latent moderated structural equations, which has been found to yield superior results relative to moderation tests using measured variables (Cheung & Lau, 2017). The results of these analyses are summarized in Figure 5. Upward appearance comparisons were found to significantly moderate the relationship between

the internalization of thinness ideals and body shame ($b = .11, p = .014$), as well as the relationship between body surveillance and body shame ($b = .14, p = .005$).

Unstandardized simple slopes of these relationships at low (1 *SD* below the mean), medium (at the mean) and high (1 *SD* above the mean) levels of upward appearance comparisons revealed that the relationship between the internalization of thinness ideals and body shame was strengthened at increased levels of upward appearance comparisons ($b = .354, .465, .576, ps < .001$), as was the relationship between body surveillance and body shame ($b = .354, .470, .586, ps < .001$). Downward social comparisons were not found to significantly moderate either of these relationships (respectively, $b = .02, p = .619$; $b = -.06, p = .365$). Neither upward nor downward comparisons significantly moderated the relationship between the internalization of muscular ideals and body shame (respectively, $b = .06, p = .124$; $b = -.06, p = .181$). Taken together, these findings suggest that comparing one's body against those of others one finds more attractive may worsen objectification outcomes, while doing so toward others one finds less attractive may not serve as an effective protective strategy.

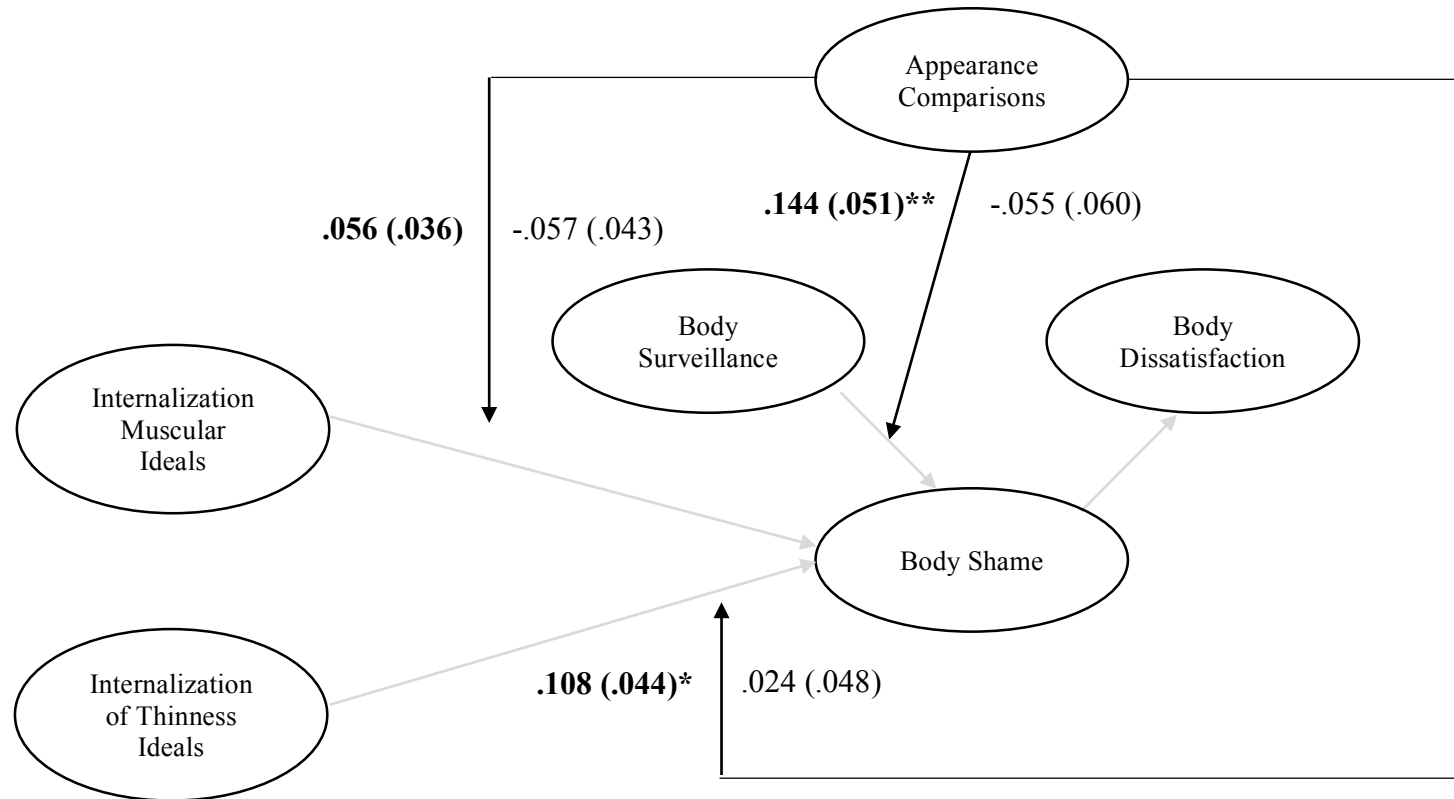


Figure 5. Moderation Effects of Appearance Comparisons in Limited Model (Study 2). Unstandardized coefficients presented with standard errors included in the parenthetical. Bolded statistics represent moderation effects of upward comparisons; non-bolded statistics represent moderation effects of downward comparisons.
 $*p < 0.05$, $**p < .01$.

General Discussion

This two-study project represents a comprehensive examination of sexual minority men's exposure to sexual discrimination while dating online, first through the development of measures tapping three manifestations of sexual discrimination considered distinctly and subsequently through the evaluation of a model testing the applicability of objectification theory constructs to these measures. These studies add to a budding literature extending the applicability of OT constructs to the experiences of sexual minority men (e.g., Martins et al., 2007; Parent & Moradi, 2011; Brewster et al., 2017) and a more limited literature that has examined these experiences specifically in the online environment (Breslow et al., 2019). Results lend further support for the use of OT to conceptualize the experiences of SMM, having largely replicated previously observed direct and indirect relationships among OT variables, while extending its applicability to experiences beyond those traditionally considered in the OT literature. This is consistent with the pantheoretical model advanced by Moradi (2013), which considers the significant overlap between experiences of objectification, dehumanization, and discrimination and their functional similarities.

The study findings regarding sexual discrimination were of special significance. First, this project represents the development and initial validation of three measures of sexual discrimination in online dating, for which there may not have been any rigorously evaluated measures previously. This included measures assessing experiences of sexual racism, sexual femmephobia, and sexual sizeism as they appear in the context of SMM's lives, and therefore uniquely represent these intersections of lived experience. The results provided initial validity and reliability evidence for each of the measures, which were

associated with conceptually relevant convergent validity measures, identity characteristics, and a general measure of stress. These distinct measures also demonstrated divergent validity in their superior associations to relevant measures when compared to one another. Weak to modest bivariate correlations among the final 9-item measures were replicated across the studies, suggesting the measures taken together capture the overall vulnerability of multiply marginalized SMM to sexual discrimination while individually measuring unique manifestations of it. Second, these measures were used to assess the effects of sexual discrimination on the body image concerns of sexual minority men. Across models, indirect effects between the sexual discrimination constructs and SMM's body dissatisfaction were found to be significant, via the internalization of ideals of thinness or muscularity, body surveillance, and body shame. Pathways specified by objectification theory largely accounted for these effects. Some unexpected paths, however, emerged for sexual femmophobia and sizeism, suggesting that these facets of sexual discrimination may affect the body image concerns of SMM not simply through their effects on appearance ideals and body surveillance. These findings, taken together, illuminate the often-insidious nature of sexual discrimination and its effects on the relationships of multiply marginalized SMM's to their bodies.

Though sexual discrimination in online dating was linked with the body image concerns of sexual minority men, the app use variables only predicted exposure to sexual sizeism within the structural models, and app use subsequently failed to significantly predict body dissatisfaction across models. Identity characteristics intended to distinguish those vulnerable to sexual discrimination (e.g., racial status, BMI) did not significantly moderate these relationships. Though the reason for this remains unclear, it may be that a

bidirectional relationship exists between app use and exposure to sexual discrimination that the study methodology failed to account for. That is, while it may be the case that app use leads to greater sexual discrimination as hypothesized, this exposure may in turn lead to less app use as well, resulting in an overall low-to-null effect when observed at a single point in time. These two opposing processes may therefore be inadequately represented in the cross-sectional data analyzed. It may also be that those vulnerable to sexual racism or sexual femmephobia are more selective or strategic in their app use and thus minimize the effects of use on this exposure, in a way that men of size may be less able to given the pervasiveness of sizeism across platforms (Miller & Behm-Morawitz, 2019). This, paired with the previously described methodological limitation of the cross-sectional study data, may help to explain the relatively low associations of app use behaviors on sexual sizeism relative to the overall non-effects on sexual racism and sexual femmephobia. Further investigations are necessary to clarify the nature of these low to nonsignificant effects.

Results from Study 2 advance understanding of how objectification theory constructs function in the lives of sexual minority men in three important ways. First, this project examined internalization based on two separate though related sets of ideals: ideals of muscularity and ideals of thinness. The effects of these sets of ideals were found to be somewhat inconsistent, such that the relationship between the internalization of thinness ideals functioned as hypothesized within the OT framework while effects associated with the internalization of muscular ideals were more complex. Notably, the overall association between the internalization of muscular ideals and body dissatisfaction in Study 2 was nonsignificant, despite a significant and positive indirect

effect between the internalization of muscular ideals and body dissatisfaction and the addition of a significant negative direct effect between the internalization of muscular ideals and body dissatisfaction across models. These contradictory effects considered in light of the overall nonsignificant relationship between muscular ideals and body dissatisfaction may represent two unique outcomes of the internalization of muscular ideals distinguished by its effects on body surveillance and body shame. For example, consistent with the traditional OT view, it may be that the internalization of muscular ideals leads some men to more deeply surveil their bodies and subsequently to feel shame regarding their appearance, consequently leading to greater dissatisfaction with their bodies as evidenced by the positive indirect effect. Conversely, this internalization may be motivating for some men and lead to more active participation in activities that affect their appearance (e.g., more frequent physical activity, changes in their diet) and therein increase their proximity to male appearance ideals. This may lead to an overall more positive evaluation of their appearance, as evidenced in the negative direct effect. It is worth noting that while the internalization of muscular ideals may not be a risk factor for body dissatisfaction among these latter men, it may still be that they are at an increased risk for disordered eating behaviors like compulsive or excessive exercise, anabolic steroid use, or severely restrictive dieting that adversely affect their well-being. For example, Brewster and colleagues (2017) in their study of sexual minority men failed to establish a link between the internalization of standards of attractiveness, body dissatisfaction, and drive for muscularity but nonetheless discovered significant direct paths between drive for muscularity and intentions to use anabolic-androgenic steroids and compulsive exercise.

These nuanced findings nonetheless lend further credence to calls to better understand how men experience and internalize body ideals differently from women—particularly White heterosexual women, the traditional subjects of objectification theory— and should encourage future investigations to consider these ideals separately. Additionally, these findings may raise concern about whether the objectification measures used in Study 2, having been modeled by and large on the experiences of White heterosexual women, appropriately sample the body image concerns of men in general and SMM more specifically (Moradi & Wiseman, 2010). For example, the non-significant relationship between the internalization of muscular ideals and body shame across models may be attributable in-part to the way body shame was measured using the Body Shame Subscale of the Objectified Body Consciousness Scale (OCS). Items of the OCS Shame Subscale make several references to concerns about weight and size (e.g., “When I can’t control my weight, I feel like something must be wrong with me”), but only one reference to “exercising” and no references to shame associated with a lack of muscularity or attempts to improve musculature. Future investigations of these concerns may benefit from a reexamination of these measures and their applicability for use with samples of men.

Second, the results of Study 2 suggest that the form the internalization of appearance ideals takes may vary depending on the form of sexual discrimination examined. Specifically, increased exposure to sexual racism and sexual femmephobia were associated with both the internalization of thinness ideals and muscular ideals, but exposure to sexual sizeism was exclusively related to the internalization of ideals of thinness. Similarly, the indirect effects of sexual racism on body dissatisfaction differed

for sexual femmephobia and sizeism, such that the former was indirectly related to body dissatisfaction via the internalization of muscular ideals and the latter were indirectly related via the internalization of thinness ideals. This suggests that while sexual discrimination broadly may be understood to negatively impact the body image of sexual minority men, the avenue through which it does so may vary relative to the form discrimination takes. While it may be that both the internalization of ideals of thinness and muscularity have the potential to negatively affect the body image of SMM, the distinction between them may result from differences in the appearance ideals of those groups most affected by a particular form of discrimination.

For example, effeminate men most likely to be exposed to sexual femmephobia may be more likely to internalize and therefore aspire to cultural representations of effeminate men as thin (e.g., “twinks”; Griffiths et al., 2015; Ravenhill & de Visser, 2017), as these representations of thin, feminine men may be conceived of as uniquely desirable among SMM (Barron & Bradford, 2007). When threatened by rejection based on their gender presentation, these men may double-down on these appearance ideals as a means for minimizing other sources of rejection (e.g., sizeism). Alternatively, experiences with sexual discrimination can be understood within the sociopolitical context of desirability politics as a loss of social capital or power, and how men compensate for or attempt to restore this loss of power may therefore vary relative to the form discrimination takes. For example, SMM of color hierarchally disadvantaged by both racism and heterosexism and relegated to a position of doubly “subordinated masculinity” may seek to increase their access to social power by improving their musculature and therefore performance of masculinity (Connell & Messerschmidt, 2005;

Swami, 2016). Men of size, on the other hand, may perceive their weight as the most imminent barrier to social capital, and for this reason may be more concerned with ideals of thinness when exposed to discrimination based on their size. How people make meaning of discriminatory experiences and the ideals with which they become preoccupied may therefore be specific to the form discrimination takes and the appearance ideals or compensatory strategies employed by those groups most affected by it.

Lastly, this project expands upon the objectification theory framework by considering the moderating potential of body comparisons on established relationships, adding a unique perspective to the few investigations which have previously considered body comparisons as a mediator (Lidner et al., 2012; Tylka & Sabik, 2010) and expanding upon these by considering upward and downward comparisons separately. Engagement in upward comparisons strengthened the relationships between (a) the internalization of thinness ideals and body shame and (b) body surveillance and body shame, as initially hypothesized. However, contrary to the study hypotheses, downward comparisons were not found to significantly affect the relationships examined, and neither form of comparison was found to moderate the otherwise non-significant relationship between the internalization of muscular ideals and body shame. Whether these findings would replicate in traditional considerations of sexual objectification or among other populations may be worth further investigation, but nonetheless these findings offer tentative insights into the potential harm of comparing one's body against those of others and deeming oneself less desirable.

Limitations

A number of limitations of these two studies should be considered when interpreting the results. First, these studies were both conducted between the months of March and May of 2021, during which time the COVID-19 pandemic in the United States continued to affect the quantity and quality of social contact in many parts of the country. It likely also affected the levels of stress reported in Study 1, which were elevated relative to available norm data (Cohen & Janicki-Deverts, 2012), and may have affected mean levels across other variables of interest. To better understand this limitation, participants were asked an open-ended question at the conclusion of either study which read, “In your view, how if at all has the COVID-19 pandemic affected your online dating and hook-up behaviors and experiences?” In response, participants frequently cited reduced in-person interactions and shifts in their motivations for app use (e.g., from “meeting up” to “just killing time” or “chatting”) as consequences of the pandemic. Given the sexual discrimination measures assess these experiences in the span of the last six months, it is possible that these changes in behaviors may have affected the scale development process (e.g., such that certain items which were not frequently endorsed may have been in more ordinary times) or reduced reported mean levels of sexual discrimination overall. It is also possible that those men who qualified to participant in either study (i.e., having reportedly used dating apps in the last month) may not be representative of the larger population of men who would be motivated to use these apps outside of the pandemic, as some may have chosen to reduce or conclude their use altogether during this time (though the reverse, that more men may have turned to these apps for social gratification during this period of social isolation, may also be possible).

Second, it is worth acknowledging that while the phrase “sexual minority men” has been used throughout this project to be inclusive of a diversity of men who partner with other men, not all SMM were equally represented in either study and caution is therefore warranted when applying the study results to certain groups of SMM. For example, the vast majority of men in both samples identified as “gay,” with significantly fewer identifying as bisexual, pansexual, queer, or with some other sexual identity. Though what it means for someone to self-identify as “gay” can vary considerably and can be inclusive of a diversity of sexual identities, this likely suggests that polysexual (i.e., bisexual, pansexual, etc.) men represent only a fraction of both samples. Given the unique challenges and stereotypes polysexual men navigate while dating within and outside of queer communities (e.g., Armstrong & Reissing, 2014; Zivony & Lobel, 2014), further exploration of their unique experiences of sexual discrimination is likely warranted. Further, Black men were also underrepresented in either study relative to their proportion of the United States population (U.S. Census Bureau, 2019), despite specific efforts to recruit them. This may be due to the recruitment method itself for these studies, as Facebook no longer allows for the specific targeting of users by race (in an effort to protect its users) and recruitment therefore relied on publicly endorsed “interests” (e.g., liking Facebook pages associated with LGBTQ+ content) that may not have adequately reflected the interests of sexual minority Black men in particular or which these men may not have endorsed at comparable rates due to concerns of outness. Additionally, men of color as a whole were compared together against White men for the purpose of the Study 2 analyses. To be clear, this is not intended to suggest that racial and ethnic minorities are monolithic, nor are their experiences of sexual discrimination likely to be. The study

results should therefore be considered with this limitation in mind, and future efforts may benefit from a closer examination of group-specific experiences of sexual discrimination.

Lastly, as with the majority of research on objectification theory, Study 2 was conducted using cross-sectional data, and therefore conclusions about causal relationships cannot be made. It is likely that the relationships between the study variables are more complex over time than can be captured in a one-time assessment, and it is possible that alternative causal relationships exist among the variables considered (as evidenced by the alternative model to the data in Study 2). For example, while the frequency of app use in Study 2 was found to predict experiences of sexual sizeism, it is possible that this relationship is more complex, such that individuals who use apps more frequently may indeed encounter more frequent sexual sizeism, but that these individuals may subsequently reduce the frequency of their use in response. Additionally, while body dissatisfaction was considered an outcome variable in the original-amended structural models and was not found to be indirectly related to app use variables via sexual discrimination and objectification constructs, it is possible that relationships among these variables would be significant when considered alternatively. For example, men more dissatisfied in their bodies may more frequently use apps and a greater total number of apps to gratify their needs in lieu of more traditional in-person opportunities given their appearance concerns. These men may subsequently come into contact with or perceive greater sexual sizeism than those who use apps less frequently. It may also be that an additional confounding variable helps to explain the observed relationships like that discovered between app use frequency and exposure to sexual sizeism. For example, a study of heterosexual men who date online found significant associations between

reported online dating behaviors and rejection sensitivity (Blackhart et al., 2014), such that individuals who reported more online dating appeared to be more rejection sensitive. The authors mused that this may be partially due to the appeal of online environments for those sensitive to rejection, given online environments make cues to rejection less salient and allow for more selective self-presentation to reduce exposure to rejection overall. Men with greater appearance-related rejection concerns may therefore be drawn to online environments that allow them to better curate their self-presentation when dating (e.g., by editing or cropping photos, selecting photos which minimize the appearance of areas of dissatisfaction, choosing not to have a profile photo altogether, “catfishing”) and may also be more vigilant to cues of sexual sizeism than those less rejection-sensitive. Longitudinal and experimental assessments of the study relationships are therefore needed to clarify these questions about direction of influence.

Clinical Implications

With the limitations of this project in mind, the study findings offer a number of implications for clinical applications with sexual minority men. First, these studies demonstrated the pervasiveness of sexual discrimination in the online environment, particularly for those men marginalized with respects to race-ethnicity, gender presentation, and size, as well as its functional similarities to sexual objectification more broadly. This is of particular concern given the ubiquity of online dating in the lives of SMM (i.e., such that it is now the primary means by which they partner; Rosenfeld & Thomas, 2012), as well as the frequency of its use (e.g., such that nearly two-thirds of men in Study 2 reported using dating apps at least daily, 30% using them as many as five or more times a day). This use carries a risk for repeated exposure to sexual

discrimination as close as within one's pocket and is therefore likely to be of clinical relevance. Nonetheless, some stigma may persist regarding the use of dating and hook-up apps for SMM in particular (Kight, 2019), and as such clinicians working with sexual minority men, particularly those multiply marginalized or whose presenting concerns include body image, self-esteem, or difficulties with dating, are encouraged to broach conversations about their online dating behaviors and to name the potential for exposure to sexual discrimination in these environments.

Further, the results of Study 2 in particular may offer opportunities for clinical intervention when working with SMM struggling with body dissatisfaction concerns, particularly those related to sexual discrimination in online dating. Study 2 modeled a number of direct and indirect paths by which sexual minority men may come to be dissatisfied in their bodies, beginning with experiences of sexual discrimination that predict greater internalization of thinness ideals and/or muscular ideals, body surveillance, and body shame. These mechanisms may offer opportunities for clinical intervention. For example, sexual racism was found to indirectly affect body dissatisfaction via the internalization of muscular ideals, though such internalization also directly reduced body dissatisfaction overall. This may suggest that whether the internalization of muscular ideals negatively impacts body image is based in-part on whether it provokes greater body surveillance and subsequent body shame, as previously summarized. Therapeutic efforts with men exposed to sexual racism may therefore benefit from greater attention to these relationships. Men who appear motivated to be appear more muscular or athletic, while also demonstrating a preoccupation with their appearance and a moralism or guilt regarding their perceived shortcomings to improve it,

may be at the greatest risk for body image concerns resulting from exposure to sexual racism. Treatment planning with these clients may therefore involve the development of strategies for managing this internalization and preoccupation with appearance, while challenging the cognitive appraisals that lead to feelings of guilt or shame associated with perceived shortcomings to improve it.

Though the relationship between the app use variables measured in Study 2 and exposure to sexual discrimination varied by discrimination type, it was found that those who use more apps or use them more frequently may be vulnerable to greater rates of sexual sizeism in particular. While the directionality and causality of this relationship cannot be definitely concluded, clinicians working with men of size or those who identify as fat (a term some men of size have recently reclaimed) are encouraged to explore with these clients the implications of their use and consider strategies for mitigating exposure to sexual sizeism or minimizing its effects. For example, men may be coached to take “breaks” from apps to preserve their mental health, perhaps by deleting them altogether or simply regulating how much time and when they choose to use them with greater intention. These men may also wish to consider selecting alternative, more inclusive online environments in which their bodies are celebrated rather than marginalized when seeking romantic and sexual experiences. It is worth acknowledging however that online dating is and will likely continue to be a fact of many SMM’s lives regardless of these dangers, and for this reason strategies beginning and ending with limiting their use are likely insufficient to protect SMM and may be perceived as failing to appreciate the value dating apps add to their lives.

Lastly, sexual minority men struggling in their body image may benefit from an examination of their body comparison tendencies. Results from Study 2 suggest that upward comparisons may strengthen the relationships between the internalization of thinness ideals and shame, as well as the relationship between body surveillance and shame. This makes intuitive sense, as wishing to be thinner or more routinely surveilling one's body while also more frequently assessing its perceived shortcomings relative to those one deems more attractive is likely to lead to feelings of shame. Clinicians working with men who struggle with similar concerns may wish to assess the extent to which they upwardly compare their bodies to those of others and the sources for these comparisons, and thus develop cognitive and behavioral strategies for managing them. For example, dating apps that allow for profile pictures may disproportionately represent toned, lean, and muscular bodies (Miller, 2015), which may provoke some men with bodies of different shapes or sizes to negatively compare themselves to these bodies. Clinicians are encouraged to name the way in which social media distorts and misrepresents the true distribution of men's bodies with their SMM clients and to consider whether alternative sources of representation may be utilized to balance these effects (e.g., following social media accounts that celebrate bodies similar to one's own as desirable, selecting apps intentionally inclusive of one's race, gender presentation, or size). It is further worth noting that downward comparisons, or routinely comparing oneself against others one finds less attractive, did not function opposite to upward comparisons as might be assumed. This may be reflective of the "circle of objectification" (Lindner et al., 2012), whereby men who compare themselves against others they deem less attractive may imagine the same being done onto them, therefore eliminating the protective potential of

this strategy. Clinicians are therefore encouraged to be mindful of this discrepancy in the functional effects of body comparisons when working to ameliorate the body image concerns of SMM.

Future Directions

While these two studies represent an advancement in the understanding of sexual discrimination and its effects on the body image concerns of SMM, the findings reveal additional opportunities for investigation. Across the studies, experiences of sexual discrimination were found to be significantly correlated with one another. This finding may be reflective of the inherently intersectional nature of sexual discrimination and harassment. For example, a Black man of size may receive more racialized harassment than his thin peers and more sizeist harassment than his White peers; he may also experience unique manifestations of both racism and sizeism. This is in addition to the already intersectional nature of the measures, which reflect the experiences of multiply marginalized SMM (e.g., SMMOC, effeminate SMM). It may also represent an underlying vigilance to discrimination or other characteristic or feature (e.g., critical consciousness) that affects reporting across measures. In this study, the three measured forms of sexual discrimination were considered separately; future investigations may therefore benefit from an examination of their intersections and how if at all these affect the relationships specified in the study models. Further, the new sexual racism measure was made to be intentionally non-specific to particular groups and the experiences of men of color were considered together; however, it is likely that various racial groups experience sexual discrimination in unique ways. For example, Asian sexual minority men, who are often stereotyped as effeminate submissive partners (Han, 2008; Han et al.,

2013), may encounter greater rates of sexual femmephobia and gendered sexual racism than do their counterparts. Following exposure to this gendered racism, Asian men may subsequently internalize ideals of muscularity more intensely as a means to compensate for these gendered experiences, given muscularity is often more closely associated with masculinity than is thinness. Efforts to better represent these group-specific experiences may therefore shed light on unique pathways by which SMM of various identities come to be dissatisfied in their bodies and therein offer unique opportunities for clinical intervention with these populations. Future investigations may also benefit from amending or extending the sexual discrimination measures to better represent the unique experiences of specific groups of SMM, given the intentionally non-specific nature of the current inventories.

Though the influence of app use on exposure to sexual discrimination was inconsistent in Study 2, it is likely that the quality of one's experience when using dating and hook-up apps is contingent upon how one utilizes them. Investigations of online sexual discrimination may therefore benefit from a consideration of alternative app use variables to those included in this study. For example, researchers may consider the total duration participants spend online; whether they participate in online dating spaces actively or as "lurkers" (Rau et al., 2008); their level of outness and degree of anonymity online (e.g., via the employment of "headless torso pics" versus full-face photos); how long they've participated in online dating and therein potential desensitization effects; their motivations for use (e.g., sexual and/or romantic partnering, chatting, etc.); their relationship status and the potential for current partnership to buffer against rejection experiences; the relative population density of their region and the resultant impact on

their field of eligibles following rejection experiences; how they receive notifications for app activity alerts (e.g., push notifications sent to their lock screen versus having to log into the app) and therefore perceived boundaries between apps and everyday life; and so forth. Further, reconsiderations of the app use variables in this study may be improved by collecting this data using alternatives to self-report. For example, Study 2 relied exclusively on self-report regarding the frequency with which individuals log onto dating apps, which participants may not have accurately reported both due to issues with recall and potential variability in how they interpreted what it means to have logged onto an app. The accuracy of these data may be improved in future investigations by either coaching participants on how to access and report app use statistics tracked by default by most major smartphone operating systems or through the installation of researcher-controlled software developed for this purpose.

Conclusion

These studies are a response to calls for research examining the experiences of multiply marginalized sexual minority men based on race-ethnicity, gender presentation, and size (Breslow et al., 2019; Han & Choi, 2018) and serve to expand traditional conceptualizations of what it means to be “objectified” to include experiences relevant to their lives. Through the development of three scales assessing online experiences of sexual racism, sexual femmephobia, and sexual sizeism and the subsequent examination of their effects on the body image concerns of sexual minority men, these studies highlight the often-treacherous nature of dating online and the pernicious harm of sexual discrimination in online spaces. For men making themselves vulnerable to this insidious influence in their pursuit of love, belonging, and gratification online, these experiences

may for now be an unfortunate fact of life with which some must disproportionately contend. It is however no less incumbent upon researchers, scholars, clinicians, activists, and developers to continue to map this perilous terrain, both that they may better equip these men to mitigate its potential for harm and that they may begin to affect change to online environments to reduce the pervasiveness of sexual discrimination altogether. These efforts would no-doubt make for important advances in the scholarship on SMM's well-being and objectification theory more broadly and, in so doing, improve the lives of SMM most marginalized at the margins.

Chapter Two: Extended Literature Review

Introduction

Romantic and sexual partnering is among the most fundamental drives of humankind, with its success or failure adding or subtracting entire years of our lives (Rogers, 1995) and predicting how we will fare in the years we are allotted (Molero et al., 2017). It is likely for this reason that partnering has seen no shortage of attention in the research literature and the zeitgeist of the modern era, with cultural dignitaries and psychologists alike vying to meet the demand of this need (for a review of the “former intermediaries” of this process historically, see Ahuvia & Adelman, 1992). It would therefore stand to reason that today’s technological revolution would give rise to technologies easing the burden of this partnering process, and indeed the multitude of contemporary Internet-based dating technologies have attempted just that. However, relative to its near ubiquity, online dating has seen a surprisingly limited amount of attention in the psychological research literature, to the extent that one set of authors described the existing literature as “nascent” (Finkel et al., 2012). This is especially astonishing when considering that online dating is likely to outpace all other “conventional” forms of dating as the primary means for meeting partners (Rosenfeld & Thomas, 2012) and is a wholly unique, and therein profoundly interesting, context for partner-seeking in the new millennium (for a review, see Finkel et al., 2012). Given its potential for curious and new partner-seeking behaviors (e.g., unparalleled impression management opportunities and “catfishing” [Hall et al., 2010], anonymous harassment [Smith & Duggan, 2013], among other behaviors), and consequently its uncertain effects

on the mental health of partner-seeking persons, online dating is rich with questions worth asking.

One remarkably consistent consumer of online dating technologies has been sexual minority men (SMM), and sexual minorities more broadly, whose potential for partnering has historically been limited by proximity, identifiability, scarcity, and societal stigma (Mohr & Daly, 2008). For such persons, online dating has become a near universality and the dominant means by which same-gender couples partner (Rosenfeld & Thomas, 2012). Although the context of online dating is generally understudied relative to that of more traditional contexts, this is especially true for its sexual minority consumers whose romantic lives are significantly understudied as a rule. Though limited, the existing research points to a number of troubling trends and distinct opportunities for SMM seeking partners online, not the least of which is the ways online dating may be implicated in their body image concerns (Breslow et al., 2019).

It is broadly apparent that sexual minority men struggle with body image concerns (Vasilovsky & Gurevich, 2017), perhaps above and beyond the experiences of their heterosexual counterparts (Morrison et al., 2004). Although numerous theories have been advanced to explain this phenomenon, criticisms of each have noted limitations to their explanatory power and the heterosexist bias upon which many may be predicated (Kane, 2009, 2010). Further, many such theories emerged before the advent of the Internet and with it the numerous Web- and app-based dating venues now in popular use. Certainly, an understanding of SMM body image concerns today warrants an understanding of their engagement with such platforms, given the near ubiquity of their use (e.g., Anderson et al., 2018), and initial investigations have promised to deepen our understanding of the

conditions under which SMM struggle in their bodies. Two theories of considerable merit for contextualizing such initial understandings are those of objectification theory (OT; Frederickson & Roberts, 1997) and social comparison theory (SCT; Festinger, 1954), the former of which has been applied in limited studies to SMM's online dating experiences (Anderson et al., 2018; Breslow et al., 2019) and the latter of which has been applied to online social networking more broadly (Vogel et al., 2015). Recent attempts to marry these theories in studies of women's body image concerns show promise (Fitzsimmons-Craft et al., 2012; Lindner et al., 2012; Tylka & Sabik, 2010), though a unified theory of OT, SCT, and how these explain SMM's Internet and dating app use experiences has yet to be evaluated.

The following review therefore explores a number of significant and interrelated literatures in support of this research project. First, I clarify terms used throughout this literature review before contextualizing this review within the evolutionary history of online dating broadly and among SMM more specifically. Second, I explore our understanding of sexual minority men's body image issues and the ways in which this literature may offer insights into the implications of their use of Internet dating technologies. Third, I consider one theoretical explanation for these body image concerns, namely that of objectification theory, and the ways in which it and a similar pantheoretical model (Moradi, 2013) have been applied to the experiences of SMM specifically. Lastly, I delve into the existing literature on social comparison theory and the ways in which it may supplement current conceptualizations of key relationships in OT, particularly when considering the conditions under which sexual minority men

partner. Finally, I conclude with a discussion of gaps in the extant literature and final considerations for this project.

Clarification of Terms

Given the relative infancy of online dating and the rapid obsolescence of contemporary technologies, it is worth defining terms that are used throughout this literature review before proceeding. Less regularly used terms are defined throughout as necessary. First, I use the term *online dating* to refer to any form of communication that requires Internet connectivity and is at least partially intended to pursue a romantic or sexual partner(s), whether on a mobile device, tablet, or desktop or laptop computer, and *offline dating* to refer to all other forms of romantic and sexual partnering. Previously, other scholars have made the distinction between *conventional forms of dating* and online dating; I find this distinction to be misleading as online dating becomes increasingly commonplace and less taboo (Finkel et al., 2012) and as such avoid it when possible. One specific form of online dating that I regularly refer to is *dating and hook-up mobile applications* (or *dating and hook-up apps* or simply *dating apps*, for short). Dating and hook-up applications are mobile software programs that serve as online environments for individuals to communicate with one another in pursuit of romantic or sexual partnering. These applications often allow *users*, or individuals accessing online dating technologies to meet others interested in romantic or sexual partnering, to create public *profiles*, or personal advertisements where users can construct their online personas, communicate important information about themselves to *other users*, upload pictures and videos, and display other information specific to the individual application's platform. The purposes of online dating technologies such as dating and hook-up apps are not limited to romantic

or sexual partnering necessarily, and many applications allow users to explicitly communicate the purposes of their use in their profiles (e.g., “networking,” “seeking friends,” among other motivations). Sexual minority men’s motivations for participating in online dating venues vary considerably and are likely dynamic and multidimensional (Gudelunas, 2012; Rice et al., 2012).

Many of today’s dating and hook-up apps are *location-based real-time dating (LBRTD) applications* (Handel & Shklovski, 2012, as cited in Blackwell et al., 2015) which organize and connect users in close proximity to one another for immediate, real-time communication, often in the form of individual chats between users. These have similarly been referred to as *geospatial applications*, which organize individuals in an online space based on their geographic locations. For example, Grindr, the most popular dating app used predominately by SMM and the pioneering application for geospatial organization, displays a grid of other users organized in descending order based on their distance relative to the primary user of the application. This necessarily prioritizes proximity in connecting users, which likely helps to explain its widespread appeal for dating and hooking-up among communities of SMM that are often otherwise diffuse (Grindr, 2019). Most dating and hook-up apps in popular use today integrate some form of geospatial organization when connecting users, likely reflective of proximity’s important role in cultivating intimate relationships (though the notion of “proximity” in online space has recently been troubled; Blackwell et al., 2015; Roth, 2016). More recently, some apps have evolved to allow users to “travel” by setting their “location” in the online environment to somewhere other than where they are geographically located, therein accessing users in other cities (e.g., perhaps having exhausted local partnering

opportunities, in anticipation of travel, in preparation to move to a new city, among other reasons).

Finally, it is worth clarifying my use of *gay*, *bisexual*, *queer*, and *sexual minority* when describing men throughout this review. Terms used colloquially to describe sexuality vary widely in their interpretation across different groups of people and time, and a clear stratification of terms has historically failed to accurately describe men's sexual experiences and identities. Nonetheless, in the interest of clarity and in pursuit of a strategic essentialism, I use the word *sexual minority men* (SMM) to broadly describe men not exclusively attracted to women and *gay* to describe men predominantly or exclusively attracted to other men or who themselves have identified in this way (e.g., when electing into a research study of "gay men"). The term *sexual minority men* is further inclusive of polysexual men (e.g., bisexual, pansexual men) and is used unless otherwise specified (e.g., when describing a study of "bisexual men" explicitly). Though *queer* has recently been used interchangeably with the term *sexual minority* to describe men who are not exclusively heterosexual, it has similarly been used to encompass people of lesbian, gay, bisexual, transgender, queer, questioning, intersex, asexual, pansexual, and two-spirit (LGBTQQIAP2S) experience, as well as others. This distinction is a recent one: historically, *gay* at times had been used to describe all queer and trans persons, and *queer* exists only as a recently reclaimed slur to describe sexual minorities (and others) altogether. That said, the lack of clarity around its use and its political implications raise concerns regarding its effective operationalization, and *sexual minority men* likely better captures the experiences of men using apps seeking other men but perhaps not identifying as *queer* themselves. As such, I avoid the use of the term

queer when possible throughout. Though perhaps beyond the scope of this review, I acknowledge the limitations of these particular definitions, as each fails to recognize the potential incongruence between sexual and romantic attraction, the potential fluidity of both, and the relative diversity in language used to construct identity and make meaning of lived experience. Nevertheless, I continue this literature review in light of these linguistic limitations using these terms as specified throughout.

Sexual Minority Men & Online Dating

Personal Advertisements & Pre-Internet Dating

Before exploring the contemporaneous, Internet-based modes of personal advertising existing today, it is worth briefly noting the history of gay men advertising for romantic and sexual partners prior to the invention of the Internet. Such print *classifieds* and *personal advertisements* (or *personal ads*) offer insights into the unique and evolving needs SMM would eventually use the Internet to meet and help to contextualize present-day online dating experiences. The first personal ads were published in 1695 in England, with coded classifieds by gay men and lesbian women gaining popularity in the 1700s as alternatives to the oft-raided “Molly Houses” of the day (Cocks, 2010). From then forward, personal ads emerged as a safer means for diffuse SMM to connect in ways less threatening to their safety, security, and public image. In the United States, the use of personal ads by SMM largely began in 1946 with the creation of *The Hobby Directory*, a publication purely comprised of personal ads intended to connect boys and men with common pastimes that was quickly co-opted by SMM seeking pen pals. Later, the emergence of proto-“zines” in the early 1960s and *The Advocate*’s “Trader Dick’s” classified section in 1969 created publication spaces uniquely adapted to the interests of

SMM. Though diverse in their use, these publications connected isolated SMM otherwise “unwilling to take the professional gamble of being hauled out of bars and tossed into paddy wagons” (Harris, 1997, p. 42) at the enforcement of anti-homosexual and cross-dressing laws of the day. Harris (1997) poignantly described the characteristic spirit of this dating medium in his historical analysis of its evolutionary trajectory:

The personals were thus perfectly adapted to an atomized culture of isolated individuals whose only sense of community came from responding to the anguished cries of other gay men strewn across the entire continent, pining away in hick towns where gay life consisted of a truck stop on a turnpike and a Greyhound Bus depot. (p. 42)

The content and purpose of sexual minority men’s personal advertising transformed as LGBT activism and liberatory movements took root following the Stonewall riots of 1969 and other pivotal moments in LGBT history (to Harris’ notable discontent, 1997). Sexual minority men once bashful in their advertisements began to more explicitly depict their partner preferences as their field of eligibles expanded, at times infusing them with not-so-subtle displays of prejudice. For example, content analyses of publicly available personal ads suggest that gay men at this time were routinely explicit in their privileging of masculinity in partners (Bailey et al., 1997; Laner & Kimel; 1977; Lumby, 1978), a finding that has persisted in content analyses of online dating advertisements today (Miller, 2018). Gay men advertising for partnership were also more concerned with physical attractiveness in potential partners than personality characteristics relative to their lesbian counterparts and were more likely to seek information regarding the attractiveness, physique, age, ethnicity, and athletic interests of

potential partners (Hatala & Prehodka, 1996). It is worth acknowledging however that personal advertisements may have appealed to a particular subset of SMM with a particular set of attitudes and therefore may not be representative of SMM as a whole. Altogether, these findings and this history of sexual minority men's disproportionate use of print dating services nonetheless reflects their deep-seated needs for inconspicuous companionship, community, and sexual gratification and serve as insightful prelude to the advent of the Internet and with it the personal advertisements of the World Wide Web.

Internet Dating & Contemporary Use

Though many might consider online dating a phenomenon of the last decade, its history dates nearly to the beginning of the World Wide Web (available to the general public in 1991) with the creation of Match.com in 1995 (Groves et al., 2014). The earliest generation of online dating began with Internet-based personal advertisement sites not unlike the magazine and newspaper sourced personals of the day (Finkel et al., 2012). Such sites catered to a broad range of consumers, acting as a search engine of sorts for potential partners in an ever-expanding field of eligibles. These personal advertisement sites were soon joined by algorithm-based matching services with the invention of eHarmony in 2000 (Finkel et al., 2012). Such sites promised to utilize the full force of budding technologies to dramatically simplify the trial-and-error process of dating and therein usher a new means of match-making founded in "science." In contrast with the personal advertisement sites of the day, these algorithm-based dating sites often came at the cost of monthly or lifetime membership fees. Finally, the most recent wave of online dating technologies was introduced in 2008, when Apple Inc. launched its App Store and

invited third-party companies to develop applications for use on the second-generation iPhone. This necessarily set a standard for other smartphone developers who began hosting applications on their phones, and mobile dating technologies soon followed. Today, distinctions between these three generations of online dating technologies are less pronounced, with many (if not most) popular online dating sites available also as mobile applications and with many personal advertisement sites incorporating limited match-making algorithms in their platforms. Further, online dating venues today often offer two-tiered services, with freely accessible public profiles limited by paywalls for certain advanced amenities (e.g., Grindr's free-for-use service only allows users to access 100 other users nearest to them, with up to 600 available for a monthly fee).

Since its inception, sexual minority men have disproportionately utilized the Internet for romantic and sexual partnering relative to their heterosexual counterparts. For example, at the turn of the century, online dating became the primary means by which same-gender couples met and today fully dominates the context of sexual minority men's dating lives (Prestage et al., 2015), with nearly 70% of same-gender couples meeting online in 2010 (Rosenfeld & Thomas, 2012). This is due to a number of group-specific factors, including fears of being out and therein the appeal of online anonymity (Mills, 1998), a lack of geographic proximity to other SMM and the appeal of Internet-connectivity (Blackwell et al., 2015), the relative abundance of romantic and sexual partners available online (whether to later meet in-person or for remote "cyberfantasy"; Bull & McFarlane, 2000), and the overall convenience of the Internet for sexual and romantic exploration (which outside of the Internet may carry a greater risk of violence or unintentional "outing").

Certainly, the reasons for which SMM utilize online dating apps and websites are diverse. However, much of the research on their online partner-seeking has been limited to HIV/AIDS prevention and intervention research. Though doubtlessly serving an important purpose, this narrow scope has severely limited our understanding of sexual minority men's online dating media use, reified existing tropes of SMM as excessively and exclusively sexual beings, and left one group of authors to "only wonder what other questions might have been explored were [researchers] not so focused on preventing HIV" (Groer et al., p. 403). Further, proprietary research produced by algorithmic match-making services has been similarly limited, as many of the earliest match-making sites exclusively catered to and collected data from heterosexual partner-seeking persons (to the extent that e-Harmony was successfully sued for discrimination in 2005; Finkel et al., 2012).

Though consequently limited, the literature on sexual minority men's online dating use nonetheless remains informative and paints a rather nuanced picture of SMM's online dating that is both mired in challenges (McKie et al., 2017) and enhanced by unique opportunities (Pingel et al., 2013). For example, Gudgelunas (2012) sought to explore the "uses and gratifications" of online social networks via six focus groups of a total 76 gay men between two cities, as well as 65 "intercept interviews" of individual gay and bisexual men intended to confirm qualitative themes that emerged in the focus groups. Eighty-seven percent of focus group participants and 92% of interview participants were current users of at least one social networking site (SNS) designed for seeking sexual encounters (e.g., Grindr), compared to the 39% and 38% of these participants, respectively, who had an active profile on sites more explicitly intended for

long-term dating (e.g., Match.com), though such distinctions are largely artificial today (e.g., Grindr is used for diverse gratifications) and at the time may have been due to a paucity of dating apps specifically developed for SMM. A number of themes emerged in these conversations. For one, it appears that SMM use a number of different SNSs for distinct purposes, with each having a unique appeal; for example, one may be ideal for sexual encounters with a particular type of man, whereas another may be better suited for making friends. Although sex was the most frequently cited primary motivation for SNS use, other gratifications such as the ability to openly express oneself as a sexual minority person, to engage in conversations about taboo topics, to seek community among other SMM, and the “sliding scale of anonymity” (p. 359), wherein men could manage their identities and identifiability across different SNSs, emerged as important themes of their use. Altogether, Gudelunas concluded that there is no singular motivation for sexual minority men’s SNS use, but instead that an “elaborate network” (p. 359) of a variety of SNSs and correspondent identity presentations serve to gratify SMM’s diverse needs.

This understanding of SMM’s dating and hook-up app use has since been explored quantitatively. For example, Rice and colleagues (2012) sought to better understand the intentions behind dating and hook-up app use for a sample of Grindr users between the ages of 18 and 24. When asked “What are the reasons you use Grindr?” and provided with a series of non-exclusive responses, participants endorsed a variety of motivations for its use, from making new friends (79.5% of the sample), to meeting people to date (64.6%), to pursuing hook-ups (65.1%), to simply “killing time” (85.1%). When asked more specifically, “What is your number one reason for using Grindr?” respondents were still fairly distributed, with some primarily using the app to make

friends (20.5%), to meet people for sex (26.7%), to find someone to date (22.1%), to connect with the gay community (7.2%), or, again, to simply kill time (21.5%). While the generalizability of these findings is necessarily limited by the age of the participants (a mean age of 21.8 years old) and the intentional sampling of Grindr users specifically, these findings offer insights into the myriad reasons SMM gravitate toward dating and hook-up apps and the needs gratified by them that may otherwise make “leaving” them behind a complicated affair (Brubaker et al., 2016).

It is apparent that the intentions of SMM’s dating app use today is varied, and it would stand to reason that their experiences of such apps would similarly vary considerably. While this “new geography of gay community” (Roth, 2016, p. 442) sits atop the cartography of everyday life, it promises to radically simplify the conditions by which sexual minority men find one another, thus supplanting the hankies and subtle glances of yesteryear with easily accessible interfaces of would-be partners. It is hard to imagine that these rapidly expanding networks of interconnectedness are without consequence for the lived experiences of SMM today, and scholars have appropriately begun to turn their attention toward the ways in which SMM may become ensnared by the webs initially spun to connect them to one another. One such consideration is that of the effects of dating and hook-up app use on the body image concerns of SMM.

Body Dissatisfaction & Sexual Minority Men

Much of the recent research examining men’s body image concerns has focused on a bifactor model of men’s bodies that emphasizes drives for muscularity and lower levels of body fat (i.e., leanness) as major aspects of male body image ideals (Drewnowski et al., 1994; Jones & Crawford, 2005). This so-called *mesomorphic body*

ideal is believed to be particular to men in general (Tiggerman et al., 2007), and perceived discrepancies between this ideal and men's actual bodies often explain men's body image concerns (Pope et al., 2000). Some researchers suggest that these two factors of men's body image ideals are to some degree conflictual or contradictory, as the pursuit of muscularity and the pursuit of lower levels of body fat represent mutually exclusive physiological processes (i.e., caloric surplus versus caloric deficit, respectively), though the interconnectedness of these demands has been similarly acknowledged (i.e., since excess body fat may conceal musculature; Hildebrandt et al., 2004). Nonetheless, each represents a distinct facet of how men evaluate their bodies and uniquely predict body dissatisfaction in samples of heterosexual and gay men (Bergeron & Tylka, 2007; Blashill, 2010).

Both heterosexual and sexual minority men struggle under the pressure to achieve this body image ideal (Vasilovsky & Gurevich, 2017). As explored later in this review, studies that overemphasize their differences harm both SMM, by perpetuating stereotypes about their exaggerated appearance-based concerns, *and* heterosexual men who in intimating their body image concerns more cautiously (for fear of being perceived as feminine or gay; Pope et al., 2000) may see them minimized in the comparative research literature. Nonetheless, a substantive and mixed literature suggests SMM may be uniquely dissatisfied with their bodies (Morrison et al., 2004). Imprecise and inconclusive as some of this research may be (Kane, 2009, 2010), such studies offer insights into the experiences of SMM and the particular etiology of their body image concerns.

In order to better understand sexual minority men's body image concerns, I examine a few threads of relevant research in the following sections of this review,

notably: (a) the early comparative research of clinical and non-clinical samples of heterosexual and sexual minority men and the theoretical, assumed differences between these groups drawn from such research, and (b) a number of significant, broad-strokes findings regarding sexual minority men's body image concerns specifically. I later complement these threads of literature with an examination of the objectification and social comparison theory literatures and the ways in which these may offer additional insights into the findings outlined in this section of the literature review.

Relative to Heterosexual Men

Research on sexual minority men and concerns about their bodies has been limited relative to that of heterosexual men, but nonetheless has been the focus of over 30 years of empirical investigations (Kane, 2010). The majority of such studies have focused on the discrepancies between gay (and sometimes bisexual) and heterosexual men in their pursuit of thinness and muscularity. For example, in the period between 2000 and 2007, 13 of the 14 cross-sectional studies of gay men's body image concerns compared them against heterosexual participants (Filault & Drummond, 2009). For this reason, it is worth considering this robust body of literature when attempting to understand the ways in which sexual minority men experience their bodies.

This comparative literature began first with studies of heterosexual and gay men pursuing clinical treatment in hospitals and outpatient settings for anorexia and bulimia (e.g., Herzog et al., 1984; Schneider & Agras, 1987). These early authors began to note the unusual overrepresentation of gay and bisexual men in treatment for eating disorders (e.g., Carlat et al., 1997) and began offering explanations for these disparities largely premised on gay and bisexual men's relative gender non-conformity (e.g., Fichter &

Daser, 1987). Such studies have since been rightly criticized for their limited sample sizes (often fewer than thirty heterosexual and SMM altogether, with a fraction of such samples identifying as gay or bisexual; e.g., Herzog et al., 1984), their failure to acknowledge selection bias of SMM electing into clinical treatment at higher rates than their heterosexual counterparts (Liddle, 1997; Olivardia et al., 1995), and the otherwise wide bridge researchers built between the evidence they collected and the inferences they inevitably drew (Kane, 2009). Nonetheless, this early orthodoxy of clinical research into the eating pathologies of sexual minority men laid the foundation for what would be a difficult narrative to disrupt in descendent lines of inquiry: that same-gender attraction in men is a risk factor for eating pathology, and consequently, that same-gender attraction itself was to be pathologized.

Following these foundational clinical investigations, seven non-clinical studies produced in the 1980s and 1990s found comparable support for the early assertions of clinical researchers. These studies, now oft-cited, formed the “seven pillars” (Kane, 2009, p. 22) of what contemporary authors of critical psychology have dubbed mainstream psychology’s *gay male body dissatisfaction imperative* (Vasilovsky & Gurevich, 2017). These studies found that gay men relative to their heterosexual counterparts were overall more concerned and dissatisfied with their appearance and bodies (Beren et al., 1996; French et al., 1996; Silberstein et al., 1989; Yager et al., 1988), had a higher drive for thinness and a considerably lower ideal body weight (Brand et al., 1992; Herzog et al., 1991), and were more fearful of being fat or believed themselves to appear fat to others (Yager et al., 1988). They were also more likely to have demonstrated attitudes associated with disordered eating (Siever, 1994; Silberstein et al., 1989) and to have

engaged in a host of behaviors intended to modify their appearance, including more frequent dieting (French et al., 1996), exercise motivated to improve attractiveness (Silberstein et al., 1989), binge eating and purging (French et al., 1996; Yager et al., 1988), and diuretic use (Yager et al., 1988). However, as Kane (2009) dutifully detailed, each of these studies suffered from one or more significant flaws, whether those be unrepresentative and unbalanced sampling procedures (e.g., Brand et al., 1992; Herzog et al., 1991), violations of statistical assumptions and precarious statistical decision-making (e.g., Yager et al., 1988), exaggerations of findings (e.g., Siever, 1994; Silberstein et al., 1989), or theoretical oversimplifications of their otherwise limited results (e.g., Beren et al., 1996). Invariably, these foundational non-clinical studies emphasized the differences between sexual minority and heterosexual men's attitudes toward their bodies (e.g., drive for thinness, muscularity), behaviors (e.g., use of diuretics, self-induced vomiting), and prevalence of clinically significant eating pathology, neglecting to acknowledge the similarities between sexual minority and heterosexual men also evidenced in their datasets and the inconclusivity or modesty of their findings. Just as these studies emphasized the dissimilarity between sexual minority and heterosexual men's body image concerns, many of these authors moreover emphasized the similarities between sexual minority men and heterosexual women, as well as heterosexual men and lesbian women in their samples. In doing so, these studies, not unlike earlier clinical investigations, promulgated the belief that SMM's disposition to body dissatisfaction is an artifact of their relative gender nonconformity, embodied femininity, and a desire to appeal to the male gaze (Kane, 2009).

The “almost universal and uncritical assimilation” (Kane, 2010, p. 311) of these early studies has since served as the foundation for continued investigations into SMM’s body dissatisfaction and its manifestations, and as such, conclusions drawn from descendent research should be considered with this ancestry in mind. Nonetheless and notwithstanding such critiques, a number of empirical investigations detailed significant distinctions between both the levels of body dissatisfaction among SMM and heterosexual men and their proposed etiology. Morrison et al. (2004) in their meta-analysis of 27 studies (20 published, 7 unpublished) from 1983 to 2003 sought to synthesize such findings in the new millennium. Of these studies, 20 (14 published, 6 unpublished) compared heterosexual and gay men directly. For this more limited subset, Morrison et al. evidenced a “a small, but real, difference between heterosexual and gay men in terms of body satisfaction” (p. 132) when comparing combined samples of 1397 heterosexual men and 984 gay men. Using a diversity of measures examining different elements of body dissatisfaction, these studies averaged a weighted Cohen’s *d* of 0.29, following the removal of one outlier from the set of 20 (prior to this removal, the averaged effect size was an astounding 0.74, highlighting significant concerns in the methodologies of this particular outlier; i.e., Beren et al., 1996). This meta-analysis has since been criticized (Kane, 2009), however, both for its failure to evaluate the quality of the studies included (which the authors described as having “at the very least... a modicum of quality”; p. 136) and for its inclusion of eight published studies with questionable recruitment methods (see Hausmann et al., 2004), which together accounted for 19 of the 36 effect sizes analyzed. Altogether, this analysis and these accompanying

critiques leave the question of whether SMM struggle more severely with body image concerns inconclusively answered.

Despite this lack of clarity on this central question, emergent research following the previously detailed clinical and non-clinical studies continued, with many evidencing limited differences between gay (and sometimes bisexual) and heterosexual men in body dissatisfaction and related outcomes. These studies have largely focused their interest and couched their findings in four theoretical sources of SMM's heightened body dissatisfaction, namely: (a) gender nonconformity, (b) HIV/AIDS, (c) gay culture, and (d) minority stress. In the following subsections, I briefly describe each of these lines of research, before exploring a competing perspective from authors who argue that, in fact, differences between gay and heterosexual men's body dissatisfaction do not exist or are at best modest.

Gender Nonconformity

The earliest emergent explanation for gay men's disproportionate rate of disordered eating was premised on their relative gender nonconformity when compared to heterosexual men. In perhaps the earliest explicit iteration of this argument, Fichter and Daser (1987) in their study of 42 male patients with anorexia (both heterosexual and gay) concluded that they "showed several signs of a disturbed *psychosexual* and *gender identity development*" [emphasis added] (p. 409). These authors found that such anorexic patients recalled more frequent childhood and adolescent "crossgender behavior," such as a preference for "cooking, sewing, playing with dolls and cleaning to tougher and more boyish games" (p. 412), and given the higher prevalence of gay men in their sample (26%), concluded that "transsexualism, paedophilia [*sic*], and homosexuality in anorexic

patients gives further support to the hypothesis of disturbed gender identity development in male anorexia nervosa” (p. 415).

This explanation for the disproportionate representation of gay men in treatment for eating pathology would continue to be reiterated in further non-clinical studies. For example, in a study of college-aged heterosexual ($n = 52$) and gay ($n = 129$) men, Strong et al. (2000) found that gay men both experienced higher rates of body dissatisfaction and recalled more childhood gender atypical behaviors when compared to their heterosexual counterparts. Interestingly, when controlling for recalled atypical gender role behaviors, these group differences were non-significant, suggesting childhood gender nonconformity largely accounted for discrepancies in body dissatisfaction. Strong et al. further divided their sample of gay men into “high feminine” and “low feminine” subtypes and concluded that more highly feminine gay men were more dissatisfied with their bodies, offering compelling evidence of the link between gender nonconformity, femininity, and body dissatisfaction. This study and its generalizability are necessarily limited by its snowballing recruitment method, which solicited gay male participants from “homophilic social clubs and environments” (p. 431) and heterosexual men from such “predominantly heterosexual social clubs” as fraternities and workplaces.

The perceived effects of gender nonconformity have since been articulated in literatures examining gay men’s drives for thinness and muscularity, with either literature providing theoretical explanations for gay men’s body dissatisfaction premised on their gender presentation. In the drive for thinness literature, this focus is placed on gay men’s femininity relative to their heterosexual counterparts and consequently their participation in Western feminine beauty ideals and efforts to appeal to the male gaze (Meyer et al.,

2001; Kassel & Franko, 2000). Conversely, in the drive for muscularity literature, this focus is placed on muscularity as proxy for gay men's masculinity relative to other gay men (Drummond, 2005b) and compensation for gay men's perceived femininity, and therein inferiority, relative to heterosexual men (Gil, 2007). The latter focus on muscularity may take precedence today over concerns about thinness for gay men (Levesque & Vichesky, 2006), though this may be due in part to gay men's thinner bodies overall and therefore lesser concern with achieving a thinner body ideal (Boisvert & Harrell, 2009).

These findings are representative of a larger literature suggesting gay men recall more frequent "cross-gender" behaviors in childhood (Bailey & Zucker, 1995) and through a process of *defeminization* (Harry, 1983) come to be dissatisfied with this perceived femininity in adulthood (Taywaditep, 2001). For example, adult gay men in one study rated themselves as less masculine and more feminine than they ideally would like to be, with around one-third to two-thirds of this sample considering masculine appearances and behaviors important in themselves and partners (Sánchez & Vilain, 2012). This preferencing is apparent in content analyses of their advertisements for romantic and sexual partners, in which they are often explicit in their desire for masculine (Bailey et al., 1997; Laner & Kimel, 1977; Lumby, 1978) and fit men (Hatala & Pewhodka, 1996), as well as in their espousal of anti-feminine attitudes (Clarkson, 2006) and explicit preferences for masculinity and fit or athletic bodies in online dating environments (Miller & Behm-Morawitz, 2015; Miller, 2015, 2018). That said, a meta-analysis of the relationship between gender roles and eating pathology, body dissatisfaction, and muscle dissatisfaction found that femininity was not significantly

associated with any of these variables for gay men, but that multidimensional measures of masculinity were positively associated with muscle dissatisfaction in men regardless of sexual orientation (Blashill, 2011). Though the associated link between gender presentation and body image concerns remains unclear, it is possible issues of gender and gay men's body dissatisfaction are related, whether this manifests as compensatory drives for muscularity as reaction to perceived stereotypes that gay men are effeminate, as an identification with such stereotypes and therein a pursuit of thinness as a feminine body ideal, or as some confluence of both.

The HIV/AIDS Epidemic

The HIV/AIDS epidemic of the 1980s and 90s ravaged sexual minority male communities. Since the beginning of the epidemic, 700,000 people have died of AIDS-related complications in the United States, and it is estimated that gay and bisexual men represent 330,000 of these deaths (Centers for Disease Control and Prevention [CDC], 2019). One purported consequence of this history is the emergence of the “wasted” body stereotype of men living with (and consequently often dying of) HIV (Klein, 1993). Though a thin, athletic ideal had pervaded male beauty standards to this point in time, the introduction of this new image of gay male bodies and its association with leanness is hypothesized to have led gay men of the day to pursue a muscular physique for fear of being perceived as ill otherwise (Harvey & Robinson, 2003). This, taken with the community-level trauma of the epidemic, is hypothesized to explain the emergence of a reactionary and conciliatory gay male aesthetic celebrating muscularity and youthful vitality (Filiault & Drummond, 2007).

It is not hard to imagine the appeal of this fantastical ideal in the wake of such a devastating disease, and perhaps there is some credence to this theory given gay men's greater concern today with muscularity than thinness necessarily (Levesque & Vichesky, 2006), despite formerly having been evenly split between these concerns (Drewnoski & Yee, 1987). That said, this theory of gay men's body dissatisfaction has also been troubled as "historically disingenuous" (Kane, 2010, p. 315), with its popularity attributed to the fact that much of the research on gay men's body dissatisfaction coincidentally began at the height of the HIV epidemic. It is somewhat limited further by its lack of attention to similarly shifting trends in heterosexual beauty ideals (Pope et al., 2000). Although some authors have suggested that similarity in these trends are the result of gay men's increasing acceptance in society, and consequently the more frequent objectification of male bodies in public media (Pope et al., 2000), this too appears an explanation more convenient than it is robust. Further, this particular explanation of gay men's body dissatisfaction fails to consider how or if the changing landscape of gay men's sexual health concerns has implications for today's gay male body ideals. With the introduction of effective treatments for living with HIV and pre-exposure prophylaxis (PrEP), a once a day pill that prevents its transmission, HIV is a much less significant threat to gay men than it once had been, to the extent that many engage in condomless sex at increasing rates (CDC, 2013). These waning concerns likely leave HIV and the "wasted" body less of a preoccupation for gay men today, though it could be argued that this emergent beauty ideal pervades beyond the threat associated with its genesis (Drummond, 2005b). Conversely, it may be more appropriate to assume that body dissatisfaction, insofar as it heightens sexual anxieties and challenges sexual self-efficacy

in sexual minority men (Blashill et al., 2016), leaves gay men more vulnerable to HIV-transmission (Blashill & Safren, 2015), rather than the reverse.

Gay Culture

Naturally, if gay men are more dissatisfied with their bodies, it warrants a consideration of the cultural factors implicated in these disparities, and many authors have considered various elements of gay culture in pursuit of this understanding. For example, scholars have implicated “gay gym culture” (Alvarez, 2010), gay media (Levesque & Vichesky, 2006), and numerous other elements of sexual minority men’s cultural experiences (Atkins, 1998). The origins of this consideration can be found in a study by Beren and colleagues (1996), in which affiliation with gay community was a significant predictor of body dissatisfaction in one sample of gay men, though the authors were unable to offer little more than conjecture as to why this may have been. Follow-up examinations of this hypothesis continued, with one study finding that sense of belonging to the gay community moderated the relationship between self-esteem and body image dissatisfaction, such that individuals more intimately connected to gay community more strongly identified their self-esteem with their feelings about their bodies (Kousari-Rad & McLaren, 2013). However, the findings of this particular study are in some contradiction to previous examinations. For example, studies have found that perceived acceptance in the gay community (Levesque & Vichesky, 2006) and participation in “gay-affirmative community events” are actually associated with lower levels of body dissatisfaction (Williamson & Spence, 2001). Further, at least one study found that involvement in the gay community is unrelated to body dissatisfaction altogether (Tiggemann et al., 2007), though this may be due to the conflation of gay community involvement with a

psychological sense of community, the former of which was associated with body dissatisfaction whereas the latter was unrelated in one study (Davids et al., 2015).

Nonetheless, it is likely that anti-fat bias pervades sexual minority men's communities, not unlike that of society at-large. For example, Foster-Gimbel and Engeln (2016) sought to better understand the effects of both experiencing and witnessing anti-fat bias in sexual minority communities. In the first of two studies, these researchers found that over one-third of 215 gay male participants had experienced anti-fat bias from other gay men, with higher frequencies of such experiences significantly associated with eating disordered behavior, body dissatisfaction, and drives for muscularity attitudes, even when controlling for BMI and age (drive for thinness was not measured, though the measure of eating disordered behavior used focuses in-part on thinness motivations and concerns). A much greater percentage of participants (65%) had themselves witnessed anti-fat bias, which itself was significantly associated with drives for muscularity attitudes and eating disordered behaviors. Individuals who had themselves experienced anti-fat bias were also more likely to have witnessed it and that such participants were significantly older and heavier than those who had not. That said, as many as 17% of participants indicating that they had experienced anti-fat bias were either "underweight" or at a "healthy" weight according to weight status categories based on their BMIs, suggesting either some lifetime risk for anti-fat bias or that perhaps conceptualizations of what qualifies as "overweight" may be less forgiving among SMM. In a second study, the authors presented heterosexual and gay men with scenarios in which an overweight man ("John") approached either a woman (in the heterosexual condition; "Danielle") or another man (in the gay condition; "Dan"). Although the heterosexual men perceived a

greater discrepancy in the attractiveness between the targets, gay men were more likely to expect that John would be outright ignored, insulted behind his back, or explicitly rejected by Dan. Gay participants were also more likely to anticipate that others at the bar in this fictitious scenario would mock John for his attempt and that John, consequently, would attribute this rejection to his weight.

That said, anti-fat bias tacitly pervades society at-large (Burmeister & Carels, 2014), and theories regarding elements of gay culture implicated therein should be offered cautiously, as such theories often border on essentialist, if not heterosexist, and create a monolith of what are diverse communities of sexual minority persons (Filiault, 2010). For example, one oft-cited exception to these conceptions of sexual minority men is that of so-called “bear” communities, a subculture of SMM who “reject the image often associated with members of the gay male community: hairless, thin, fashionable, and feminine” (Maki, 2017, p. 6) and who instead prefer a stocky, more traditionally masculine presentation (Gough & Flanders, 2009; Manley et al., 2017). Perhaps unsurprisingly, this subculture is thought to have proliferated in response to the AIDS epidemic (Wright, 1997). Many other subcultures exist and vary considerably with respect to their body image ideals and their conceptions of gender presentation (Alvarez, 2010; Maki, 2017). Each likely creates unique pressures for SMM to “measure up” to a particular ideal, while also conceivably permitting greater variety in SMM’s bodily aspirations.

Further, such theories fail to recognize the implications of living as sexual minority men in a broader and often hostile heterosexist culture. For example, the earliest iteration of this theory began with Beren and colleagues’ (1996) comparative study of

gay men, lesbian women, and heterosexual men and women. The authors acknowledged that their findings linking gay community involvement with body dissatisfaction may be partially explained by the extraneous variable of childhood teasing— that gay men, insofar as they fail to perform heteromascularity, may be harassed as children and internalize sociocultural beauty ideals and learn to surveil their bodies to avoid harassment. In fact, this association has since been supported empirically, with childhood harassment for gender nonconformity directly associated with increased internalization of cultural beauty standards, body surveillance, and body shame, as well as indirectly associated with eating disorder symptomology via internalization, surveillance, and body shame (Wiseman & Moradi, 2010). This commonality of experience may itself account for greater community involvement; that is, those gay men who most fiercely gravitate toward the gay community are likely those most outcast by heterosexist society, perhaps due in-part to their relative gender nonconformity. Beren et al. scarcely considered this, instead turning their attention to the pressures gay culture may place on gay men to diet, despite their measure of social pressures to diet failing to account for participants' body dissatisfaction. While it is important to consider the ways in which adult SMM reify cultural body ideals and consequently how these inform sexual minority cultures, doing so in the absence of a more robust consideration of SMM's experiences of discrimination and the ways in which they resist such ideals paints only a partial (and perhaps deleteriously propagandist) picture of SMM communities and cultures.

Minority Stress & Internalized Heterosexism

The final set of explanations for sexual minority men's body dissatisfaction focuses on the stress experienced by SMM who must come to terms with their identities

and the sociocultural implications of living as SMM while managing all the same demands as their heterosexual counterparts. Though not always specific to minority stress theory, these perspectives generally fit into the construct articulated by Meyer (1995), described as the “excess stress to which individuals from stigmatized social categories are exposed as a result of their social, often a minority, position” (Meyer, 2003, p. 3).

One of the earliest examples of a related explanation comes from Williamson and Hartley’s (1998) study of British gay and heterosexual men’s body dissatisfaction, self-esteem, and eating disturbances. The authors found that gay men were significantly more dissatisfied with their bodies and evidenced higher levels of eating disturbance, while also desiring a significantly slimmer body ideal relative to their heterosexual counterparts. Self-esteem, body dissatisfaction, and eating disturbance among gay men were all strongly correlated (similar relationships were non-significant for the heterosexual sample), suggesting that self-esteem may be implicated in gay men’s body image issues. The authors postulated that gay men’s environments may be to blame, such that “[i]n the typically hostile and homophobic environment of the school, college and peer group, it would appear likely that the young (gay) male adult may project feelings of the ‘bad me’ onto his body leading to increased vulnerability to eating disorders” (p. 166). Williamson (1999) soon after articulated his belief that these experiences may have implications for one’s gay identity and consequently affect their body concerns, with Williamson and Spence (2001) promptly implicating both internalized homonegativity and dissatisfaction with one’s sexual orientation as risk factors for eating disturbance among gay men.

Subsequent investigations into internalized homonegativity and other measures of gay men's minority stress have found it accounts for at least some of the variance in gay men's body dissatisfaction and disordered eating (e.g., Brewster et al., 2017; Kimmel & Mahalik, 2005; Reilly & Rudd, 2006; Wiseman & Moradi, 2010), lending further evidence to the minority stress view. However, many of these studies have noted the relatively limited explanatory value of minority stress factors when exploring gay men's body image issues, with such factors accounting for a mere 5% of the variance in body dissatisfaction in one study (Kimmel & Mahalik, 2005). It may be that intersectional identity characteristics (e.g., being gay *and* of color, effeminate, disabled, or fat) that organize SMM within intracultural hierarchies of desirability better account for body image concerns than internalized heterosexism itself, as these may be more intimately attached to evaluations of one's body as a sexual minority man.

A Competing Perspective

Some authors have offered an alternative examination of sexual minority men's body image issues relative to their heterosexual counterparts, one that at times appears to minimize these distinctions altogether and at others encourages mainstream psychology to interrogate the bias inherent to its formulations and therein reconceive its understanding of SMM's bodies. For example, in their influential text *The Adonis Complex*, Pope et al. (2000) devoted a mere 13 pages of their main-body 243-page exploration of men's body image issues to those of gay men specifically. Though one may unwittingly critique this lack of attention to gay men's concerns as problematic, the brevity of this particular chapter can be whittled down to its title: "Straights and Gays: Not So Different After All" (p. 213-225). In large part, Pope et al. dismissed findings of

comparative investigations into gay and heterosexual men's body dissatisfaction as inadequate or inconclusive, whether due to methodological issues in their designs (e.g., sampling methods), the differential influence of social desirability bias in gay and heterosexual men's responses to self-assessments, or simply the modesty of their findings. Although they concede that norms of gay culture may dispose gay men to body image concerns, Pope et al. more greatly emphasize the ways in which gay men's experience as minoritized persons, particularly experiences of teasing about their appearance and behaviors as adolescents, may better explain observed differences between them and heterosexual men (this of course representing the minority stress theory view). These authors further contend that heterosexual men, for fear of appearing effeminate or gay were they to focus too intimately on their appearance, likely discuss their body image concerns less regularly and in lesser detail (e.g., Jankowski et al., 2004) and therein underreport concerns about their bodies, or that they simply lack awareness of the resultant preconscious body image concerns they harbor. Ultimately, Pope et al. concluded that their critiques of the extant literature and findings from their own studies cast "doubt on the stereotyped notion that gay men are much more neurotic than straight men about their levels of fat and muscularity" (p. 215) and that body image issues may simply be "more *announced* in the gay community, not necessarily more *pronounced*" [emphasis in original] (p. 217).

The lack of acknowledgment of limitations in the research methodologies of the early orthodoxy of comparative research may be to blame for the often inappropriately firm assertion that SMM struggle more deeply with body image concerns (Kane 2009, 2010). These studies and their results have left a legacy that future research has attempted

to assimilate, despite mixed findings, and which may cast doubt on successive studies that fail to corroborate previously established differences between sexual minority and heterosexual men. This failure to evidence a significant difference between sexual minority and heterosexual men's body image concerns is perhaps uncommon, but *is not* unheard of in the comparative literature (e.g., Borough & Thompson, 2002; Herzog et al., 1991; Husmann et al., 2004; Olivardia et al., 1995; Pope et al., 1986), particularly when considering muscularity dissatisfaction (Blashill, 2010; Duggan & McCreary, 2004; Martins et al., 2007). Troubling as it may be, surprise remains when researchers are met with evidence to suggest that SMM may in fact be satisfied with their bodies, which itself may contribute to publication bias. One example can be found in Reilly and Rudd's (2006) discussion of their study results, in which they warn:

These results should be interpreted with caution given that the [young men who have sex with men] participants had a *relatively high level of self-esteem, a relatively high level of body satisfaction, and a relatively low level of internalized homonegativity*. Moreover, any discussion about the connection between these variables must be tempered by the fact that this sample had *relatively low internalized homonegativity and a relatively healthy body image*. That these two variables were skewed may have affected the outcome. No doubt, a sample that more broadly represented internalized homonegativity and body image would have yielded different results. Therefore, the discussion should be read with this in mind. [emphasis added] (p. 67)

Further consideration of the critiques of this precedence for such results to be met with surprise is therefore warranted when considering future investigations (Filiault & Drummond, 2009; Filiault, 2010; Kane, 2009, 2010).

Conclusion

The previous exploration in mind, the question remains, “Do SMM in fact suffer more significantly from body dissatisfaction and related issues than their heterosexual counterparts?” Dissatisfying an answer as it may be, it appears that *whether* and *why* gay men have more significant body dissatisfaction and higher rates of eating pathology is as much a matter of *who* and *how* one asks the question. Though authors on either side of this debate have been met with their respective share of supportive evidence and penetrating criticism, it is perhaps worth preserving the proverbial baby from the bathwater (however muddied the water may be); that is, perhaps SMM do in fact suffer from body dissatisfaction uniquely (if not more deeply), and perhaps the road to their discontent at times diverges from and adjoins with that of their heterosexual counterparts. For the purpose of continued investigations, it is worth asking whether the answer to this question may be as unimportant as it is unclear—SMM, whether relative to heterosexual men or not, are suffering significantly from body dissatisfaction and related issues (Blashill et al., 2016). Perhaps that is reason enough to study these urgent concerns more deeply. I therefore turn my attention now to the significant research findings regarding SMM’s body dissatisfaction and the relevant literatures, irrespective of their comparability to the experiences of their heterosexual counterparts when possible.

Major Findings

Sexual minority men are often dissatisfied with one or more aspects of their bodies (Frederick & Essayli, 2016; French et al., 1996). For example, Frederick and Essayli (2016) reviewed data from five surveys comprising a sample of 4,398 gay men and found that one-fifth to half of their participants reported dissatisfaction with their self-rated attractiveness, appearance overall, or some particular aspect of their appearance, such as their weight or musculature. A combined 55% of these participants responded affirmatively to the question, “Are you self-conscious about your weight?” A similar study found that 32% of gay men have a low evaluation of their appearance overall (Peplau et al., 2009). This dissatisfaction can be broadly understood in terms of two factors of men’s body image: thinness and muscularity. Though lowly correlated with one another (Martins et al., 2007), drive for and dissatisfaction with muscularity and thinness in SMM represent unique factors in their experience of body dissatisfaction (Blashill & Vander Wal, 2009). That said, it may be that SMM are more concerned with muscularity than with thinness. For example, in one study of gay men’s ($n = 64$) body image concerns, 75% of participants expressed that their ideal body shape was more muscular than they currently were, compared to 17.2% that expressed a desire to be thinner (notably, only 7.8% of this sample indicated that their current body was their ideal body shape; Levesque & Vichesky, 2006). It has been theorized that this discrepancy between concerns regarding thinness and those concerning muscularity may not be reflective of sexual minority men’s actual body image preoccupations themselves but instead the success with which they are able to achieve a thin ideal versus a muscular ideal, given their relatively lower BMIs (Boisvert & Harrell, 2009; Strong et al., 2000).

Unsurprisingly, BMI has been significantly and positively associated with current-ideal discrepancies in gay men (Levesque & Vichesky, 2006), and overweight and obese gay men express concern with being too heavy at a greater rate than concerns with their muscle size or definition (Frederick & Essayli, 2016). Whether distressed by their weight or not, as many as 1 in 4 gay men in one study reported being on a diet to lose weight (Duggan & McCreary, 2004), suggesting that many are intentional in their body modification efforts.

Related to sexual minority men's body dissatisfaction is their appearance consciousness. Gay men more frequently engage in both positive and negative conversations about their appearance, which when controlled for may account for disparities between gay and heterosexual men's body dissatisfaction (Jankowski et al., 2004). Gay culture has largely been blamed for this hyper-focus on appearance in the research literature (e.g., Beren et al., 1996), though this may also be due in-part to the internalization of stereotypes about sexual minority men and cisheterosexist harassment and resultant self-monitoring. For example, in one study of heterosexual and gay men and women, gay men were in fact more oriented toward their appearance than their heterosexual counterparts; however, the overall mixed sample of heterosexual and gay men and women predicted that gay men would be significantly more dissatisfied with their bodies and concerned with their appearance than the gay men in the study actually were (Gettelman & Thompson, 1993). These inaccuracies in perception between the anticipated levels of appearance consciousness and those actually observed within this sample of gay men suggest that stereotypes about gay men may over-assume their

appearance-based concerns, which may then inform how gay men are represented in the public zeitgeist and consequently conceive of their own bodies.

There is no singular “sexual minority male body,” and concerns about SMM’s bodies likely intersect with specific concerns about their race/ethnicity (e.g., Drummond, 2005a), age (Drummond, 2006; Tiggemann et al., 2007), serostatus (Kelly et al., 2008), and other cultural identities (e.g., Maki, 2017). Further, while much of the focus has been on sexual minority men’s dissatisfaction with their appearance overall or their musculature or weight specifically, other authors have examined the role of height (Blashill & Vander Wal, 2009; Blashill, 2010), clothing (Drummond, 2005a; Martins et al., 2007), and even penis size (for cisgender gay men; Drummond & Filiault, 2007) in sexual minority men’s appearance-based concerns.

Mental Health Implications

Certainly, SMM’s body image woes cast a wide net, with even wider reaching implications for their mental health. Studies examining the mental health implications of SMM’s body dissatisfaction offer critical insights into the relationships among this and several related psychoemotional variables. Body dissatisfaction overall has been demonstrated to positively and prospectively predict depressive symptoms in both gay and bisexual men (Blashill et al., 2016; Brennan et al., 2012). More specifically, researchers discovered significant and positive associations between muscle dissatisfaction in gay men and lower self-esteem (Tiggemann et al., 2007), greater depressive symptoms (Blashill, 2010), and disordered eating attitudes (Brennan et al., 2012), trends paralleling those of body fat dissatisfaction (Smith et al., 2011). The effects of these body image concerns are played out not only in sexual minority men’s

psychology, but in a number of troubling behaviors. Perhaps unsurprisingly, body image dissatisfaction in SMM has been associated with external motivations for working out (Siconolfi et al., 2009). Of further concern, drive for muscularity in one study of SMM positively predicted compulsive exercise, or exercise of an obsessive quality, as well as intentions to use anabolic steroids (Brewster et al., 2017). Further and as previously summarized, there is evidence to suggest that SMM engage in more frequent dieting (French et al., 1996), exercise motivated to improve attractiveness (Silberstein et al., 1989), binge eating and purging (French et al., 1996; Yager et al., 1988), and diuretic use (Yager et al., 1988) than their heterosexual counterparts, all of which may be indicators of eating disorder pathology or risk thereof. Certainly, the effects of SMM's body image concerns on their mental and physical health are sweeping.

Theoretical Explanations

A number of explanations have been offered regarding the etiology of SMM's body image concerns, many of which have been previously summarized, namely: (a) atypical gender role behaviors, attitudes, and the experience of resultant harassment for gender nonconformity, (b) the role of the HIV epidemic in shaping SMM body ideals, (c) pressures and influences of "gay culture," and (d) the effects of minority stress. While these offer some insights into SMM's body image concerns, perhaps more instructive are theoretical examinations of the pressures by which SMM come to conform to a mesomorphic body ideal, given SMM generally report greater pressure to be attractive than their heterosexual counterparts (Carper et al., 2010), which some authors (Frederick & Essayli, 2016; Tylka & Andorka, 2011) have theorized to come from five sources, namely pressures from (a) partners, (b) involvement in the gay community, (c) the media,

(d) family, and (e) friends. This “expanded tripartite model” of influence considers the unique roles of romantic and sexual partners and involvement in the sexual minority communities in SMM’s body image concerns (the original including only the media, family, and friends; Thompson et al., 1999) which may be a useful model for contextualizing SMM’s experience. Indeed, desirability concerns within sexual minority communities and when imagining sexual and romantic partners may play an important role in SMM body image concerns. For example, one study found that gay men’s actual-ideal body discrepancies were greater when considering the body participants believe they ought to have to attract a partner versus that which they ideally want for themselves, with concerns regarding current versus partner ideals predicting weight, shape, and eating concerns in this sample (indicators of eating disorder symptomology; Fussner & Smith, 2005). Body dissatisfaction overall has implications for gay men’s sexual wellness too, with dissatisfaction predicting lower sexual self-efficacy and increased sexual anxiety (Blashill et al., 2016). Further, 20% of gay men in one study reported that their feelings about their bodies led them to not have sex with a partner at some point in the past month, with 39% having reported that they attempt to hide at least some aspect of their bodies during sex (Frederick & Essayli, 2016). It is therefore likely that an exploration of SMM’s body image concerns warrants an exploration of their sexual and romantic partnering experiences, as either involves an engagement with the pressures sourced from partners and involvement in sexual minority communities. However, while the previously summarized tripartite model offers insight into the pressures related to SMM’s body dissatisfaction, it offers little regarding the mechanisms by which these pressures come to affect SMM body image concerns and therein opportunities for practitioners and public

health officials to interrupt these processes. Alternatively, two models for considering these psychoemotional mechanisms are those of objectification theory (Festinger, 1954) and social comparison theory (Frederickson & Roberts, 1997), the first of which I now direct the attention of this review.

Objectification Theory

Frederickson and Roberts (1997) first articulated objectification theory (OT) in an attempt to detail the deleterious effects of women's socialization and experiences of sexual objectification on their body images. Since its inception, the focus of OT has been on the implications of persistent and disproportionate surveillance of women's bodies by the male gaze, which has since been linked to a host of mental health outcomes including depression, eating disorders, and sexual dysfunctions (Moradi & Huang, 2008). The authors further suggested that while objectification may be just one form of gendered oppression, it is likely interrelated with others, including sexual violence, employment discrimination, and even the trivialization of women's work. Suffice to say, the implications of objectification were thought to be sweeping, a view that has since been supported in empirical research in the decades since its initial articulation (Moradi & Huang, 2008; Szymanski et al., 2011).

The consideration of objectification as a construct well-predates the specification of objectification theory, with feminist theorists decrying its harmful effects decades prior. Fundamentally, sexual objectification is the experience of being reduced to one's body or its component parts and of having one's value reduced to their usefulness to or consumption by others. In this process, women *are* their bodies; that is to say, women's humanity is stripped from them, and what remains are objects to be used by or for the

pleasure of others. Such objectification experiences occur in interpersonal exchanges, in which women are gazed at more than men (Hall, 1984) often with accompanying sexual remarks (Gardner, 1980), as well as in popular media, in which women are disproportionately represented as bodily objects (Frederickson & Roberts, 1997). This incessant and often insidious sexual objectification of women is a hallmark of cisheterosexual patriarchal society, and its effects on the socialization and experiences of women and girls is simply incalculable.

Since the advancement of OT, a number of key constructs and significant relationships have been detailed. The first of these is the socialization process women and girls undergo by which they come to view themselves as objects, a process termed internalization (Frederickson & Roberts, 1997). It is through this internalization of societal beliefs and expectations that women and girls begin to take ownership of such ideals, believing them to be beliefs and expectations that are “freely chosen or even natural” (Frederickson & Roberts, 1997, p. 179). Internalization leads women to self-objectify, therein taking a disembodied, observer’s view of their bodies and evaluating their worth based largely on appearances and desirability to others rather than on alternative merits. This incorporative system of beliefs has been distinguished from cognizance (also referred to as awareness), wherein women may be aware of sociocultural beauty ideals but not necessarily adopt them as their own (Moradi, 2013). The association between internalization and body image concerns is significantly larger than that of cognizance and body image concerns (Cafri et al., 2005), suggesting the more proximal the beliefs become, the more insidiously they operate on women’s views of themselves.

The internalization of sociocultural beauty ideals leads in-part to the second of OT's key constructs: *body surveillance*. Body surveillance (sometimes used interchangeably with *self-objectification*) represents a process by which women and girls experiencing sexual objectification observe their own bodies with increased scrutiny. This “habitual monitoring” (Fredrickson & Roberts, 1997, p. 180), though perhaps preconscious and certainly deleterious, is to some degree strategic, insofar as the objectification of women in society and the prizing of their bodies is institutionalized. This institutionalization limits access to sociopolitical (and, consequently, monetary) capital to women whose bodies meet sociocultural beauty ideals. This is not mere feminist conjecture: in one nationally representative study of anti-fat discrimination ($n = 2,838$), women were 16 times more likely than men to report employment discrimination resulting from their weight (Brim et al., 2004). Such discrimination among obese women translates to a “wage penalty” that is 1.6% to 2.7% higher than that of obese men (Baum & Ford, 2004). While anti-fat bias is just one form of appearance-based discrimination to disproportionately affect women, the resultant disparities in healthcare, employment, education, interpersonal relationships, and media representation by gender (Puhl & Heuher, 2009) might dispirit any woman hoping to resist cultural expectations for her body and, alternatively, encourage its meticulous inspection.

The unfortunate reality of sociocultural beauty ideals is that they are just that—ideals. Such ideals are necessarily unrealistic and their attainment precariously maintained, as prototypic paragons shift with the impermanence of the cultural milieu. For this reason, internalization itself has been directly linked to body shame, or negative affective reactions resulting from failure to meet cultural expectations, as well as

indirectly via body surveillance (Moradi & Huang, 2008). Body shame cuts more deeply than body dissatisfaction alone: in addition to representing a general displeasure with one's body, body shame assumes a moralistic position that one's failure represents a characteristic flaw, that one is "wrong" or is "bad" for failing to measure up. This shame is unsurprising when considering the disembodiment characteristic of objectification; if one is only her body, then everything from one's righteousness to her respectability is a matter of her appearance. Again, this is not simply speculation: one need look no further than thematic analyses of popular media to appreciate the ways in which fatness is framed as a miscarriage of morals (Sandberg, 2007) or a failure of individual willpower (Boreo, 2007) deserving of ignominy. In contrast, the ever-parroted "success stories" of transformative weight-loss and even sympathetic tales of eating disorder victims suggest that the pursuit of thinness— even at the risk of disorder— is normative, if not virtuous (Saguy & Gruys, 2010). Given society's excessive prizing of women for their bodies relative to men, it stands to reason that this moralistic anti-fat prejudice would disproportionately affect women. Indeed, fatness is more strongly predicative in women than of men of employment discrimination, lower wages, poorer treatment at work, poorer experiences in educational settings and consequently lower educational attainment, lack of success in the "marriage market," and ultimately worse socioeconomic status (Fikkan & Rothblum, 2012). It is therefore unsurprising that the internalization of sociocultural beauty ideals is intimately linked with the moralistic justifications characteristic of body shame.

It is worth noting before continuing that internalization is necessarily socioculturally constructed, and that just which ideals will be internalized and their

implications for body surveillance and shame vary by cultural membership. For example, in one study of African American college women, it was predicted that issues of colorism would inform African American women's experiences of objectification (Buchanan et al., 2008). As hypothesized, body surveillance specific to skin tone was associated with skin tone dissatisfaction, as well as more general measures of body shame and size dissatisfaction. It is unlikely that similar issues would pervade White women's body image concerns. Unfortunately, the vast majority of the OT literature has focused squarely on the concerns of White women or women non-specifically, creating what Moradi (2013) has termed the "illusion of generic neutrality" (p. 165) wherein one set of internalization and resultant body surveillance concerns are considered normative and others considered "group-specific." For this reason, it is important to consider the ways in which OT has successfully and unsuccessfully mapped onto the experiences of SMM, a limited literature to which I now turn the attention of this review.

Applicability to the Experiences of Sexual Minority Men

Though initially proposed to describe the experiences of women, objectification theory has since been extended for use with men. Generally, men and boys experience lower levels of objectification, body surveillance, and body shame than women and girls (e.g., Lowery et al., 2005). This comes as little surprise in the objectification literature, which largely emerged to bring attention to this disparity in experience. That said, many of the key relationships among variables in objectification theory remain consistent in studies of men and by and large are of a similar magnitude for men as they are for women (Moradi & Huang, 2008).

Few studies have examined central relationships of objectification theory as they map onto the experiences of SMM specifically. In perhaps the earliest examination of this applicability, Martins et al. (2007) theorized that objectification experiences in gay men would operate similar to those experienced by women, given both are objects of the male gaze. Martins et al. sought to explore this empirically across two comparative studies of heterosexual and gay men. In the first of these studies, 98 gay men and 103 heterosexual men completed a series of measures assessing traditional concepts and relationships of OT. As predicted, gay men in the study scored significantly higher on measures of self-objectification, body surveillance, body shame, body dissatisfaction, and drive for thinness. They did not differ on their reported levels of drive for muscularity. Though the authors did not present effect sizes for these comparisons, differences between these two groups on self-objectification, body surveillance, and body shame were generally medium to large.

In the second of these studies, the authors sought to establish causality among these relationships by experimentally inducing objectification. Utilizing samples of 57 gay men and 68 heterosexual men, the researchers told participants they would be participating in a fictitious evaluation of three products: a cologne, a men's clothing item, and food. All participants first sampled a cologne before either being asked to try on a revealing men's speedo (the objectification condition) or a turtleneck sweater (the non-objectification condition). Still wearing either item, men were asked to complete a series of measures. Finally, participants were asked to taste test a bowl of Chex Mix as a measure of eating restraint following the manipulation. Regardless of sexual identity, men in the swimsuit condition evidenced higher rates of state self-objectification and

body surveillance, thus replicating findings in previous experiments with women. However, the authors discovered an interaction between sexual identity and condition, such that the effects of the swimsuit condition were especially marked for gay men on their reports of body shame, lower body dissatisfaction (of the stomach, hips, thighs, etc.; the same was not true of upper body dissatisfaction), and the amount they ate for the subsequent taste test. It would seem based on these initial experiments that both sexual minority and heterosexual men are susceptible to the distress inherent to objectification but that this may be especially pronounced for SMM.

These findings were replicated in a subsequent study of heterosexual men, heterosexual women, gay men, and lesbian women intended to assess the generalizability of OT pathways established in previous investigations of heterosexual women. Engeln-Maddox et al. (2011) asked participants to complete measures of sexual objectification, body shame, body surveillance, and eating disordered behavior before modeling these constructs for each group. As expected, heterosexual women and gay men reported higher levels of sexual objectification experiences, body surveillance, body shame, and eating disordered behaviors when compared to heterosexual men. Lesbian women reported sexual objectification at rates similar to that of gay men and heterosexual women, but did not report similar levels of body surveillance, body shame, or eating disordered behavior, which may offer insight into the protective quality of their unique position as an object of the male gaze (hence, similar rates of sexual objectification) but perhaps not a pursuer of male desire. When evaluating the fit of pathways originally modeled in samples of women, the findings for SMM were remarkably similar: greater surveillance of their bodies was positively associated with body shame, which itself was

positively associated with eating disordered behavior. However, unlike heterosexual women, sexual objectification experiences for gay men were not associated with increased body surveillance, despite evidencing similar rates of body surveillance overall. This particular distinction may be less to do with the unique experience of gay men and more to do with that of heterosexual women, given neither the model of heterosexual men nor lesbian women replicated this particular relationship. It may also be that the failure to replicate this relationship between sexual objectification experiences and body surveillance in gay men is a limitation of the measure that was used to assess sexual objectification, which was originally developed for use with heterosexual women. For example, when examined using instruments developed specifically to capture experiences of sexual objectification as they are likely to occur in the lives of SMM, a direct and positive relationship between these experiences and body dissatisfaction has been evidenced (Davids et al., 2015), a relationship mediated by body surveillance specifically when considering objectification experiences on- (Breslow et al., 2019) and offline (Wiseman & Moradi, 2010).

As with heterosexual women, the internalization of sociocultural ideals is likely to play a role in the objectification frameworks of SMM. For example, in one study of SMM, a measure of internalization was positively associated with measures of body surveillance and drive for muscularity, the latter of which was positively associated with and fully mediated internalization's relationship to SMM's intentions to use anabolic-androgenic steroids and compulsive exercise (Brewster et al., 2017). This internalization of sociocultural beauty ideals was further associated with greater levels of internalized heterosexism, which itself contributed to SMM's body dissatisfaction. Relatedly, findings

from a similar study of SMM were consistent with those of existing OT literature (Wiseman & Moradi, 2010), such that sexual objectification was directly and indirectly associated with internalization of cultural standards of attractiveness, body surveillance, body shame, and eating disorder symptomology. As in previous investigations with samples of women, internalization mediated the relationship between objectification and body surveillance, which mediated the link between internalization and body shame, which mediated the link between body surveillance and eating disorder symptomology. Further, measures of childhood harassment for gender nonconformity and internalized heterosexism played a unique role in this framework, suggesting familiar networks of OT variables may be uniquely aroused by experiences specific to SMM.

One such unique experience may be that of their relationship to the male gaze. As suggested by Martins et al. (2007), it is likely that SMM's relatively greater rate of self-objectification is a result of their intimate relationship to the male gaze given their position as both object and perpetrator of it. Consistent with Martins et al. (2007), Kozak and colleagues (2009) found that gay men in their sample reported greater rates of self-objectification than did their heterosexual counterparts. They further reported greater rates of objectification of other men (whereas heterosexual men more frequently objectified women). This objectification of other men (but not of women) was moderately, positively associated with self-objectification for gay men exclusively, whereas objectification in general was not associated with self-objectification among heterosexual participants. It would seem that whereas heterosexual men might objectify women without necessarily provoking concern of the reverse, sexual minority men, insofar as the objects of their desire are not so dissimilar from themselves, may

reasonably anticipate an identical reaction from others and therein conceive of their body as an object to appeal to the male gaze. Further, the very nature of observing other men's bodies may provoke SMM to reflect on their own (i.e., engage in body surveillance) and the ways in which they "measure up," a process unlikely to be activated for heterosexual men visually consuming women's bodies for which there exist distinct societal beauty standards. This so-called "circle of objectification" (Lindner et al., 2012) likely invokes a number of social comparison processes, which are further detailed later in this review.

It is likely that certain SMM are more vulnerable to objectification than others. For example, Syzmanski et al. (2019) in their study of 450 gay ($n = 360$) and bisexual ($n = 90$) men found that greater appearance-focus, involvement in the LGBT community, and pornography use, as well as less restrictive behavior between men, were all positive predictors of SMM's objectification of other men. In particular, older men were more likely to engage in objectification, as were gay men when compared against their bisexual counterparts. Given the relationship between the objectification of others and the objectification of oneself for SMM, it is likely that predictors of self-objectification would parallel those of other-objectification evidenced in this study. What remain unclear however are the ways in which particular contexts may promote objectification or the ways in which self-selection into particular environments may be informative. As far as I am aware, only one study has examined traditional OT pathways with a consideration of the experiences of SMM online specifically (i.e., Breslow et al., 2019). This study of 230 SMM replicated familiar relationships between internalization, body surveillance, body dissatisfaction, and self-esteem. However, novel to this investigation was its assessment of how many dating or hook-up apps participants had used in the in the past year, as well

as the frequency with which they used them and the resultant frequency with which they have experienced objectification online. As hypothesized, online objectification functioned similar to sexual objectification in previous investigations, such that it predicted greater internalization of sociocultural beauty standards and body surveillance, the latter of which in turn predicted lower self-esteem. Unique to this formulation was the influence of app use frequency and the number of apps used by participants. The number of apps used was negatively, indirectly associated with self-esteem through a series of intermediary OT variables, whereas the frequency with which one used such apps was not. The failure to establish a meaningful association between app use frequency and similar variables may be due to a truncation of the original response categories and with it a limitation of the measure used, with 80% of participants in one study selecting the two most frequent of the six response categories (Rice et al., 2012). Nonetheless, this initial investigation offers insights into the unique context of dating and hook-up apps and the many questions remaining regarding their influence on SMM's objectification experiences and consequently their body image concerns.

A Pantheoretical Model

In a conceptual sense, it can be difficult to distinguish objectification from dehumanization and both constructs from discrimination (Gervais, Bernard, Klein, & Allen, 2013). Dehumanization has been defined as the process by which individuals come to be seen as sub- or non-human. Such dehumanization can take the shape of assigning individuals animalistic qualities (e.g., as when groups of people are referred to as “vermin” or “parasites”), denying individuals the fullness of their humanity or the uniqueness of their personhood, relegating groups of people to lower levels of humanity

(e.g., as with infra-humanization; Leyens et al., 2001), mechanizing individuals and therein stripping them of human attributes (e.g., agency, interpersonal warmth, etc.), reducing an individual to their sexual body parts (e.g., as in many forms of pornography and commercial advertising), and transfiguring individuals into inanimate objects (e.g., as when women's bodies are configured into beer bottles, perfumes, lamps, or other commercial items). Historically, the dehumanization and objectification literatures have differed primarily in focus, with the former focusing on intergroup relations and the latter devoting almost exclusive attention to the experiences of women in society (Gervais et al., 2013). These lines have since blurred, with some suggesting that objectification is merely a form of dehumanization (i.e., so-called mechanistic dehumanization; Haslam, 2006) or at the very least that there exists a considerable amount of conceptual overlap between these lines of inquiry. I take the latter view, recognizing that objectification can occur in the absence of dehumanization (e.g., as when sexual partners intensely focus on one another's genitals while recognizing one another as no-less human) and that such objectification may in fact be liberatory for sexual minority men. I borrow from the insights of Teunis (2007) on this point, who in his exploration of White SMM's objectification and dehumanization of sexual minority men of color (SMMOC) cautioned:

In [the traditional objectification] viewpoint, it is the element of commodification of bodies and their instrumentalization that makes it impossible to have a relationship that is characterized by equality, respect, and consent with someone who objectifies (Nussbaum, 1999). For gay men, however, the possibility that objectification may highlight a previously forbidden sexuality is, it is suggested,

the very reason why so many gay men make sexual objectification a central feature of their sexual lives. [...] *To equate sexual objectification with exploitation alone disallows gay men from reaffirming their own and their partner's sexuality in a culture that attempts to deny them exactly that possibility.* [emphasis added] (p. 267)

Central to Teunis' view is a "symmetrical and mutual" experience of objectification; that is, it is important to distinguish those objectification experiences that are dehumanizing from those in which the objectified is involved in a mutually pleasurable exchange, the latter of which may itself be humanizing for individuals whose sexuality has historically been suppressed. Nonetheless, many experiences of objectification are by definition dehumanizing, and many as described in the empirical literature are motivated by prejudice and intergroup conflict (e.g., the dehumanization and objectification processes that characterize acts of genocide, slavery, segregation, and related atrocities). In these scenarios, dehumanization can be considered both an artifact of differential access to power, as well as a mechanism by which such inequities are maintained.

Given the interrelations of objectification, dehumanization, and discrimination processes, Moradi (2013) sought to develop a pantheoretical model focused on the ways in which these processes are experienced by their targets. In doing so, she borrows largely from objectification theory, minority stress theory, and dehumanization research. In this pantheoretical framework, Moradi conceptualized discrimination experiences (e.g., heterosexism) as operating similarly to the objectification experiences of traditional OT, in that they lead victims of discrimination to more deeply surveil their bodies and

therein either internalize societal beliefs about their group membership (e.g., internalized heterosexism) or to become more cognizant of or vigilant to experiences of discrimination (e.g., expectations of heterosexist bias). Moradi believed these proximal results of discrimination to be distinct, though interrelated; for example, a racial minority person may strategically code-switch in particular settings to avoid harassment or to access social capital, even in the absence of internalized stigma regarding their racial identity. Either effect is nonetheless expected to be positively associated with a set of negative affective (e.g., shame, anxiety, anger), cognitive (e.g., disrupted attention), and physiological responses (e.g., biomarkers of stress, lower internal awareness), which themselves are expected to affect more distal consequences such as poorer mental and physical health, worse educational and vocational outcomes, or increases in related deleterious behaviors.

One application of this pantheoretical model can be found in a study earlier produced by Wiseman and Moradi (2010) which sought to imbue the existing objectification model of eating disorder pathology (i.e., via body surveillance, internalization, and shame) with a consideration of internalized heterosexism and recalled childhood harassment for gender nonconformity in a sample of 231 SMM. A path analysis largely supported the propositions of the would-be pantheoretical model: childhood harassment was positively, directly associated with internalization, surveillance, and shame, as well as indirectly associated with eating disorder symptomatology via paths mirroring those of sexual objectification experiences. Further, internalized heterosexism was positively associated with body shame and indirectly associated with eating disorder pathology. Though this study was conducted prior to

Moradi's (2013) later articulation of a pantheoretical model, it set a clear foundation for it by successfully marrying objectification theory parameters with those of the minority stress view, and therein expanding our understanding of what qualifies as objectification and what activates familiar networks of internalization, body surveillance, body shame, and resultant disordered eating symptomatology. This perspective has since been extended in other investigations of sexual minority (Brewster et al., 2017; Breslow et al., 2019; Davids et al., 2015) and transgender men (Velez et al., 2019). For individuals of multiple minority statuses in particular, this model holds promise above and beyond that of objectification theory, which since its formulation has focused most intently on the experiences of White women (e.g., Cafri et al., 2005), and minority stress theory, which describes the intermediary intrapersonal consequences of oppressive experiences in lesser detail. For multiply minoritized SMM, it is likely that this integrative framework will most appropriately capture their experiences. For this reason, this pantheoretical model serves as one of two theoretical foundations for this research project, the second to which I now direct the attention of this review.

Social Comparison Theory

Social comparison theory (SCT; Festinger, 1954) may offer additional insights into the intra- and interpersonal intermediary factors associated with SMM's objectification experiences in an online context and consequently their body image concerns. Given our inherently social nature, SCT posits that humans are predisposed to compare themselves to one another (Suls & Wheeler, 2000). The quality and implications of these social comparisons vary considerably and have the potential to negatively affect our moods and self-perceptions (Smith, 2000). These effects are necessarily dependent on

the focus of the comparisons (self- versus other-focused comparisons), the perceived control over the differences assumed (contrastive versus assimilative comparisons), and how we “measure up” as a result (upward versus downward; Fiske & Taylor, 2017). Negative effects such as depressed mood are expected to result from comparisons that are upward, contrastive, and self-focused (Pyszczynski et al., 1985; Smith, 2000; Wood, 1989). In particular, social comparison has been moderately, positively associated with body dissatisfaction across studies, with one meta-analysis of 156 studies and 189 effect sizes of this relationship producing an average Cohen’s *d* effect size of 0.77 (Myers & Crowther, 2009). The relationship between social comparison and body dissatisfaction across studies was especially pronounced for women, though it remains unclear whether sexual identity or some interaction thereof might similarly moderate this relationship.

Social networking sites are one recent environment in which researchers have been curious to explore the implications of social comparisons. *Social networking sites* (SNSs) broadly refer to those Internet-based technologies that connect others in networks of social engagement. Boyd and Ellison (2007) identified three characteristics of such sites, namely that they allow users to “(1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system” (p. 211). The third of these characteristics is perhaps nonessential by today’s definition, as a variety of SNSs now either allow users to hide their networks from the view of others or have simply done away with public facing “friends lists” and the like. SNSs are today not limited to desktop or tablet computers, but are regularly accessible via mobile applications. Dating and hook-up apps are indeed SNSs (Gudelunas, 2012),

though more commonly one might associate the term with Facebook, Instagram, Snapchat, or Twitter (at least at the time of this writing). Conversely, such popular SNSs may themselves be considered online dating venues, despite this not being their primary or stated purpose.

Online dating venues exist within the broader context of SNSs, for which an emerging research literature has detailed unique and sometimes concerning opportunities for social comparison. Several authors have suggested that SNSs allow for unparalleled impression management and the presentation of our “best selves” (Gonzales, & Hancock, 2011; Rosenberg & Egbert, 2011), a skewed dataset that leaves SNS users only with information that others have deliberately presented to them. This is true also of online dating environments in which profiles are regularly built around the presentation of our “ideal selves” (Ellison et al., 2006) and so-called “strategic misrepresentations” (Hall et al., 2010), a finding generalizable to sexual minority men and their use of SNSs for sexual and romantic gratifications (Gudelunas, 2012). However, when reviewing social media content, this skewed data can be compared against our interior selves for which we may have a greater and more balanced perspective; that is, we have personal insight into our perceived shortcomings in ways we simply do not when reviewing other people’s carefully curated social media content. This creates an abundance of opportunities for social comparison, specifically encouraging upward social comparisons (in which we believe others to be better than ourselves) given these imbalanced presentations (Chou & Edge, 2012).

Prolonged exposure to this distorted view of others is likely to negatively impact one’s self-esteem (Vogel et al., 2014), or the emotional evaluative component of oneself

(Heatherton & Wyland, 2003) traditionally considered a proxy of mental health (Mann et al., 2004), and consequently increases one's risk for depressive symptoms (Feinstein et al., 2013). For SMM in particular, it may have serious implications for their body image concerns, as SNS use has been positively associated with body dissatisfaction, eating disorder symptoms, and considerations about using anabolic steroids (Griffiths et al., 2018). These and related relationships are likely moderated by the content of one's comparisons and their dispositions for comparison in general when using SNSs. Specifically, regularly comparing oneself to other social media users and believing them to be better off (i.e., upward social comparison) leaves one particularly vulnerable to these deleterious effects (Vogel et al., 2015). This may also suggest that those social networking sites that allow for greater impression management and encourage social comparison are that much more dangerous to our mental health, and dating and hook-up apps designed for SMM may be one venue ripe with such opportunities. However, much of the research extending social comparison theory to SNS use has been limited to mediums like Facebook, Instagram, and Twitter, rather than online dating environments, and these findings have been modeled on samples not explicitly comprised of sexual minority men. For this reason, the extent to which these findings generalize to other SNSs, including online dating apps, remains unclear.

Social Comparison, Sexual Minority Men, & Online Dating

Upon speculation, it is somewhat unsurprising that social comparison has not found its niche in the online dating literature, as heterosexual pairings on whom most dating research is conducted generally discourage social comparison. That is, differences between heterosexual partners upon which social comparisons might otherwise be based

may be expected rather than concerning, as either gender is prescribed separate sets of norms of desirability and therein different metrics against which to compare themselves (Diekmann & Goodfriend, 2006). This is not to suggest that social comparison cannot or does not occur in heterosexual relationships, and it very well may when partners are comparable in some important aspect of their identities (e.g., both are lawyers), when there are especially large disparities between both partners on some desirable attribute (e.g., an exceedingly poor and rich partner), or with respect to more global evaluations (e.g., overall fitness level or level of attractiveness). Instead, such comparisons are likely discouraged by the differential socialization and norms of desirability for men and women that make direct comparisons less informative. The same is seemingly less true for sexual minority pairings, for whom clearly distinct social scripts and expectations are less rigidly defined. For example, while it has been observed that heterosexual couples often subscribe to distinct and gendered expectations (Van Eeden-Moorefield et al., 2011), the same is less clearly true for same-gender couples (Riggle, et al., 2008). On the one hand, this is a positive characteristic of same-gender pairings that may encourage more egalitarian partnerships (Shechory & Ziv, 2007); on the other, it stands to reason that this may create opportunities for social comparisons between partners. For example, when considering the positive, significant relationship between sexual minority men's objectification of self and others evidenced in OT research (e.g., Kozak et al., 2009), it may be that social comparison plays an important role.

Upward Social Comparisons

Online dating venues are not unlike other SNSs in the opportunities that they provide for impression management and therein perceptual distortions of normative

desirability (Jaspal, 2017). These may therefore be particularly fertile ground for upward social comparison among SMM, in which they compare themselves against others they believe to be in some way “better” than themselves. Two lines of research regarding sexual minority men’s dating and hook-up app use behavior may offer insights into specific comparison opportunities prevalent therein: (a) research on SMM and masculinity, and (b) research on SMM and physical fitness. While sexual minority men are somewhat critical in their perspective of traditional masculinity (Sánchez et al., 2009), they are also often insecure about their own perceived masculinity and wish they and their partners were more visibly masculine (Sánchez & Vilain, 2012). This has been thoroughly examined in content analyses of SMM’s print advertisements for dating and sex, in which they are generally consistent and explicit in their expectations of masculinity in partners (Bailey et al., 1997; Laner & Kimel, 1977; Lumby, 1978; Sánchez & Vilain, 2012). Similar trends have been observed online, with more troubling *femmeophobic*, or anti-effeminate, language pervading SMM’s online dating environments (Clarkson, 2006; Miller, 2015).

It has been theorized that this trend finds its origins in social comparison (Connell, 2005). SMM, as they become aware of their marginalized status relative to heterosexual men (i.e., an upward social comparison), risk losing already limited social capital should they be perceived as both sexual minorities *and* feminine, and therefore strive to appear especially masculine (Kimmel, 1994). As a result, many SMM harbor anti-effeminacy attitudes (Taywaditep, 2001) and are likely to distance themselves from feminine gay men when threatened in their masculinity (Hunt et al., 2016). This trend has been observed on popular dating apps and websites specific to SMM as well, as SMM

routinely construct their online personas around masculine presentations, at times employing femmephobic language (Miller, 2015; Walker & Eller, 2016). These findings suggest that concerns about masculinity pervade sexual minority men's dating experiences, and that dating apps may prove fertile ground for comparing one's masculinity against a skewed dataset of other SMM who themselves are attempting to appear masculine. This communicates messages about normative desirability in SMM communities (Blackwell et al., 2015) and may negatively affect the mental health of SMM who perceive themselves as failing to be masculine relative to other users.

Another opportunity for social comparison in online dating contexts is that of body image. Though inherently related to issues of masculinity (Wood, 2004), body image issues may be particularly insidious for SMM. A number of explanations for this have been previously summarized, including the numerous and many sources of pressure that inform SMM's body image concerns (e.g., Tylka & Andorka, 2011). It is important when considering the context of SMM's romantic and sexual lives to also consider the pressure to achieve an "ideal body" that comes specifically from partners and sexual minority communities and the role this may play in shaping SMM's body dissatisfaction (Hutson, 2010; Miller, 2015). Similar to the privileging of masculinity, dating advertisements by SMM are regularly explicit in their desire for particular physical characteristics such as thinness and muscularity (Hatala & Prehodka, 1996), and users of dating apps may therefore erroneously infer what is both normative and desirable based on these advertisements.

Further, such apps are often constructed in a way that may encourage social comparison of superficial attributes such as bodily characteristics. For example, on the

most popular dating and hook-up app intended for SMM, Grindr, men upload profile images and are offered a limited amount of characters to describe themselves to would-be partners. The first of these images are then organized and presented to the primary user as a grid of thumbnails, based on the geospatial relativity of each profile to the user (Blackwell et al., 2015). Users, perhaps for fear of being outed or associated with a taboo dating app, often conceal their identities by posting a faceless photo of themselves that is sometimes accompanied by an exposed, fit and thin torso (what are colloquially called “faceless torso pics”). In one content analysis of a dating and hook-up app designed for SMM, as many as 1 in 5 primary photos were faceless and shirtless, with a similar rate of profiles textually representing the user’s fitness level, body type, or gym interest (Miller, 2018). When considering both primary and secondary photos together, nearly 1 in 3 men posed shirtless in at least one picture. Further, muscular men (evaluated by coders) were overrepresented in both profiles with shirtless photos and profiles with full or partial face photos. To the uncritical consumer of these dating technologies, it would appear based on this biased sampling that SMM are more fit and muscular than they are in reality. This may create a uniquely contentious context of dating for a user questioning whether they measure up, severely worsening the inherent mental health implications of rejection by risking comparison to other SMM bodies as explanation for one’s failings (i.e., inducing body shame).

Downward Social Comparisons & Sexual Discrimination

Though online dating venues clearly provide opportunities for upward social comparison, the same is true for downward social comparison in which individuals think less of the object of their comparison. This downward social comparison, and the

associated drive to positively differentiate one's in-group and protect against threats to self-esteem, is part and parcel of prejudicial thoughts and feelings (Brewer, 1999; Crocker et al., 1987). Online dating environments, insofar as they are microcosms of our greater social world (DiMaggio et al., 2001), are vulnerable to the same manifestations of prejudice otherwise pervading SMM's dating lives (e.g., Robinson, 2015). Further, given the assumed anonymity and distance characteristic of online contexts, explicit partner preferences based in prejudice may be especially prominent in online dating environments (Plummer, 2008).

Though themselves a marginalized group, SMM seeking partners are not above reproach for their prejudicial views. Nonetheless, within the social hierarchies of dating, SMM regularly reify systemic inequities, perhaps in an effort to regain lost social capital for their minoritized status as non-heterosexual (Connell, 2005). Three lines of research provide evidence that prejudice can and does manifest in online dating venues of SMM, namely that it appears (a) in SMM's explicit desire for White and White-passing partners, and therein *sexual racism* and xenophobia (e.g., Riggs, 2013; Robinson, 2015); (b) in SMM's explicit desire for masculinity in partners, and therein associated *sexual femmephobia* (e.g., Clarkson, 2006) which itself is racialized (e.g., Han, 2008); and (c) in SMM's explicit desire for traditionally muscular and fit bodies, and therein *sexual sizeism* (Miller, 2015). I refer to these taken together as *sexual discrimination*, which I further consider to be a form of objectification given each involves the reduction of individuals to elements of their gender presentation, their size or shape, or the color of their skin and other racial-ethnic characteristics. I have already summarized the ways in which sizeism and femmephobia manifest on SMM dating and hook-up apps when

considering upward social comparison and will therefore briefly turn my attention to sexual racism specifically.

Though there is some evidence to suggest that White sexual minority men have more progressive attitudes on race and racism than their heterosexual counterparts (e.g., greater willingness to acknowledge White privilege, lower rates of colorblindness, more racially-based empathic feelings, more positive attitudes toward people of color; Ansolabehere & Schaffner, 2016; Grollman, 2018; Kleiman et al., 2015), many of their attitudes converge with the culture at large (Swank, 2019). It is likely that how White SMM's racial attitudes manifest is at-least partially specific to their unique cultural contexts (Han, 2007), and perhaps nowhere is this clearer than in the context of sexual racism. Sexual racism has been defined as the "discrimination faced by men of color in sexual and dating contexts based on their ethnicity" (Bhambhani et al., 2019, p. 143). Such discrimination pervades online dating environments developed for use by SMM over and above that which is likely to occur in-person (Plummer, 2008; Smith, 2012). For example, in a series of six focus groups and across dozens of interviews of SMM of color, Paul et al. (2010) discovered a number of persistent themes regarding their treatment online. Participants recalled a number of discriminatory experiences based on their race, from outright rejection to sexual objectification based on their race to racialized slurs and attacks. The slurs and attacks included both rejection and fetishization based on their race, wherein men of color were prized for their minoritized race-ethnicity. This fetishization is itself a form of objectification, insofar as it reduces men of color to their skin color and perceived racial-ethnic characteristics, and was considered by participants to be sexually limiting (e.g., Asian SMM may be considered

submissive and therein pigeon-holed into a receptive sexual role; Han, Proctor, & Choi, 2013). The implications of chronic exposure to this sexual discrimination were not lost on participants, with one summarizing it thus:

As far as you know, feeling like you don't want to be Black anymore, I, that thought has crossed my mind on several occasions on those long hours online and you're just trying and trying and trying. And everybody's turning you down. ... You're just like, "Damn, you know, is it because I'm Black?" (African American, 24 years old) (p. 534)

The experience of sexual racism has negative implications for SMM of color's body image concerns, such that more frequent experiences of sexual racism has been associated with greater body dissatisfaction in at least one sample of SMM of color (Bhambhani et al., 2019), as well as greater rates of depression, anxiety, and overall stress (Bhambhani et al., 2018). This may help to explain SMM of color's overall greater engagement in behaviors intended to change their bodies when compared against their White counterparts. Nonetheless, many SMM tolerate sexual racism as a fact of life in online dating. For example, in one study of 2177 Australian men, 96% shared that they had at some point viewed a profile that engaged in some form of sexual racism, with as many as 15% of participants admitting that their own dating profile contained discriminatory content. Nearly 2 in 3 participants nonetheless affirmed that it is okay to indicate a racial preference when dating online; perhaps unsurprisingly, White participants were significantly more likely to endorse this belief, which itself was associated with a measure of generic racist attitudes. Given the real and lasting implications of minority stress (Meyer, 2003), the risk inherent to these online dating

contexts for doubly marginalized persons are seemingly grave and warrant further investigation.

An Integrative View of Objectification & Social Comparison Theory

The relationships between key concepts in OT and that of SCT have only seen a limited amount of attention empirically, though social comparison's role in the objectification framework has been considered since its articulation (Frederickson & Roberts, 1997). As far as I am aware, no study has examined the role of social comparison in an objectification theory framework with a sample of SMM, and only a handful have modeled a similarly integrative framework using samples of women. The first of these was a model evaluation conducted by Tylka and Sabik (2010), in which they proposed an integrative model of OT constructs and SCT that considered body comparison (a form of social comparison specific to evaluations of one's body) as an intermediary link between traditional associations of body surveillance, body shame, and disordered eating. Using data collected from a sample of 274 college women, the authors found their model fit the data well, such that body comparison partially mediated the relationship between body surveillance and body shame, and such that sexual objectification via appearance feedback was indirectly linked to disordered eating via body surveillance, body comparison, and body shame. Further, body comparison moderated the relationship between body surveillance and eating disorder pathology, such that women with higher levels of body surveillance were especially vulnerable to eating disorder pathology when engaging in body comparisons at greater rates. To this end, it would appear that the effects of surveilling one's body are worsened when

juxtaposing it against those of others, though it remains unclear to what degree these findings may generalize to the experiences of SMM.

A similar attempt by Lidner et al. (2012) sought to address the role of social comparison in the relationships among objectification of others, self-objectification, body shame, body image, and eating disorder pathology. Utilizing a sample of 549 college women, the researchers tested a series of nested models using structural equation modeling and demonstrated good fit for an integrative model of OT and SCT constructs. In the model that best fit the data, self- and other-objectification were positively associated with one another, as well as positively associated body image disturbance and eating disorder pathology. Further, the relationships between these forms of objectification and the outcome variables were partially mediated by social comparison, providing further evidence of social comparison's important yet understudied role in existing OT frameworks.

It is likely that body comparisons play an important role in the objectification experiences of sexual minority men, who in desiring others of the same gender may activate networks of internalization, body surveillance, and body shame. That is, every occasion of viewing and evaluating the bodies and bodily characteristics of other men for romantic or sexual exchanges may provoke social comparisons, and depending on which societal ideals have been internalized and the content of these comparisons, each may provoke one to surveil their bodies and, should they “come up short,” to experience body shame. Downward social comparisons, including those characteristic of sexual discrimination, may in fact bolster the self in the immediate by prizing some bodily characteristic of oneself above that of others. Alternatively, insofar as they reinforce and

represent a more rigid adherence to sociocultural beauty ideals, downward social comparisons and discriminative behaviors may in fact make SMM more susceptible to the effects of objectification in the long-term. Given that elements of desirability such as masculinity, youthfulness, and size are often precariously maintained, the long-term consequence of downward social comparisons may be more harmful to SMM's body images and mental health than otherwise.

Conclusion

Ultimately, our understanding of SMM's body image concerns remains limited relative to that of heterosexual men and women, despite SMM perhaps struggling with body dissatisfaction more greatly than their heterosexual counterparts (Morrison et al., 2004). Existing theoretical explanations for this disparity in many respects fall short, with historical considerations of the roles of gender nonconformity, HIV/AIDS, sexual minority cultures, and minority stress at best painting only part of the picture and at worst obscuring it entirely. Further, there remains a dearth of psychological research literature considering the unique context of online dating environments and the implications of these on the body image concerns of users (Finkel et al., 2012). Given their disproportionate use of the Internet for sexual and romantic partnering since its inception (Grov et al., 2014) and its near ubiquity in their partnering experiences today (Rosenfeld & Thomas, 2012), it would stand to reason that further investigations into SMM's body image concerns would benefit from a consideration of their use of dating and hook-up technologies, and that investigations into the latter would benefit from a consideration of their most ardent consumers.

For SMM in particular, online dating is rife with dangers that may leave them more susceptible to body image concerns. The very context of online dating environments—that they allow for a “sliding scale of anonymity” (Gudelunas, 2012) that may encourage disinhibition (Suler, 2004), unparalleled impression management opportunities (Hall et al., 2010), and an altogether distorted view of reality—may itself dispose SMM who use them more frequently or more intensely to these effects. Further, experiences of objectification, dehumanization, and sexual discrimination may worsen these effects for multiply marginalized SMM. For these men, experiences of sexual sizeism, sexual femmephobia, sexual racism, and other forms of sexual discrimination act both as obstacles to the gratification of their sexual and romantic needs and as direct assaults to their evaluations of themselves.

Although this and related research remains in its infancy, a number of well-articulated and deeply researched theories provide fertile ground for conceptualizing these experiences. Namely, objectification theory (Frederickson & Roberts, 1997)— and more recently a pantheoretical model of objectification, dehumanization, and discrimination theories (Moradi, 2013)— as well as social comparison theory (Festinger, 1954) are of considerable merit for this research project. Taken together, these theories offer a diligently detailed model of the intermediary psychoemotional effects of objectification (and sexual discrimination by extension) on the body images of SMM, as well as opportunities for prevention and intervention when working with SMM struggling in their bodies. This project serves as an opportunity to evaluate the applicability of these theories to the experiences of SMM facing sexual discrimination on online and dating and hook-up apps, as will it further serve to deepen our understanding of the

circumstances under which SMM come to disapprove of their bodies and consequently themselves.

Appendices

Appendix A: Eligibility Form

1. Which of the following best describes your gender? *Select one answer only.*
 - a. Woman
 - b. Man
 - c. Gender non-binary or genderqueer
 - d. Questioning or uncertain
 - e. None of the above options accurately describe my gender.
2. Do you identify as transgender?
 - a. Yes
 - b. No
3. Please select your age from the drop-down menu of ranges below:
 - a. Less than 15 years old
 - b. 15 to 17 years old
 - c. 18 to 24 years old
 - d. 25 to 34 years old
 - e. 35 to 44 years old
 - f. 45 to 54 years old
 - g. 55 to 64 years old
 - h. 65 years old or older
4. What is your race/ethnicity? Select as many as apply:
 - a. African American/Black
 - b. Middle Eastern
 - c. East Asian/East Asian American
 - d. South Asian/South Asian American
 - e. Southeast Asian/Southeast Asian American
 - f. Native American Indian or Alaskan Native
 - g. Native Hawaiian or Pacific Islander
 - h. Multiracial and/or Multiethnic
 - i. White
 - j. Hispanic or Latino/a/x
 - k. None of the above options accurately describe my race/ethnicity.
5. What is the highest level of education you have completed?
 - a. Less than high school
 - b. High school/GED
 - c. Some college
 - d. Associates degree
 - e. Bachelors degree
 - f. Graduate degree

6. Which of the following best describes your sexual identity/orientation?
 - a. Bisexual
 - b. Gay
 - c. Lesbian
 - d. Heterosexual
 - e. Pansexual
 - f. Queer
 - g. Asexual
 - h. Questioning or uncertain
 - i. None of the above options accurately describe my sexual identity/orientation.
7. What socioeconomic class have you spent the majority of your life in?
 - a. Lower class
 - b. Working class
 - c. Middle class
 - d. Upper middle class
 - e. Upper class
8. Do you currently use any mobile dating or hook-up apps to pursue sexual and/or romantic experiences with MEN (e.g., Grindr, Tinder, Jack'd, Adam4Adam), even if only to chat? If so, how frequently do you use them?
 - a. No, I DO NOT use mobile dating or hook-up apps.
 - b. No, I use mobile dating or hook-up apps, but NOT to meet men.
 - c. Yes, I use them AT LEAST once a day.
 - d. Yes, I use them AT LEAST once a week.
 - e. Yes, I use them AT LEAST once a month.
 - f. Yes, I use them LESS THAN once a month but AT LEAST once a year.
9. Do you currently live within the United States?
 - a. No.
 - b. Yes.

Appendix B: Masculine Appearance Norm Violation Subscale (MANV)

Measure: Masculine Appearance Norm Violation (MANV) subscale of the Sexual Minority Men's Body Objectification Experiences Scale (SMM-BOES; Wiseman, 2009)

Scale: 5-point Likert scale; frequency, 1 = never, 5 = always; valence, 1 = bad, 5 = good

Descriptive Text:

1. Please indicate how often you have experienced the following events during the past year.
2. Please indicate how you think each event would make you feel.
 - a. If you have experienced the event, please report how the event usually makes you feel when it has occurred in the past.
 - b. If you have never experienced the event, please report how you think the event would make you feel if it were to happen.

Items:

1. How often have you been criticized for being "too gay" or "too feminine?"
 - a. When this happens, how does it usually make you feel? If you answered "never," consider how you would feel if this event were to happen to you.
2. How often have you been made fun of for appearing "too gay" or "too feminine?"
 - a. When this happens, how does it usually make you feel? If you answered "never," consider how you would feel if this event were to happen to you.
3. How often have you heard someone refer to your body posture, bodily movements, or gestures with a label implying that you are "too gay" or "too feminine?"
 - a. When this happens, how does it usually make you feel? If you answered "never," consider how you would feel if this event were to happen to you.
4. How often have you been harassed for appearing "too gay" or "too feminine?"
 - a. When this happens, how does it usually make you feel? If you answered "never," consider how you would feel if this event were to happen to you.
5. How often have you heard someone refer to the way you were dressed with a label implying that you are "too gay" or "too feminine?"
 - a. When this happens, how does it usually make you feel? If you answered "never," consider how you would feel if this event were to happen to you.
6. How often have you been criticized for not being masculine enough?
 - a. When this happens, how does it usually make you feel? If you answered "never," consider how you would feel if this event were to happen to you.
7. How often has someone used an insult against gay or bisexual men (e.g., faggot) to put you down for being "too gay" or "too feminine?"
 - a. When this happens, how does it usually make you feel? If you answered "never," consider how you would feel if this event were to happen to you.
8. How often have you heard someone refer to you as a "sissy" or a "girl" or some similar word?

- a. When this happens, how does it usually make you feel? If you answered “never,” consider how you would feel if this event were to happen to you.
- 9. How often have people avoided hanging out with you for appearing “too gay” or “too feminine?”
 - a. When this happens, how does it usually make you feel? If you answered “never,” consider how you would feel if this event were to happen to you.

Scoring: scores are summed and averaged. Separate scores are produced for the frequency and valence items.

Appendix C: Experienced Racism in Gay Community Measure

Measure: Stress-from-Racism in Gay Community Measure (Han et al., 2015)

Scale: 0 – 4, 0 = strongly disagree, 4 = strongly agree

Items:

1. Sexual partners have wanted me only because of my race or ethnicity; they pay no attention to other personal characteristics.
2. I've been turned down for sex because of my race or ethnicity.
3. I've been made to feel unwanted online because of my race or ethnicity.
4. I've felt [men of other races or ethnicities] have acted as if they're better than me because of my race or ethnicity.
5. I've felt ignored or invisible where [men of other races or ethnicities] hang out because of my race or ethnicity.
6. I've felt that [men of other races or ethnicities] are uncomfortable around me because of my race or ethnicity.
7. ~~I've felt unwelcome or that I didn't fit into West Hollywood because of my race or ethnicity.~~
8. ~~Overall, when you have been treated differently based on your race/ethnicity, how stressful have these experiences been for you?~~

Note: items slashed-through were included in the original measure but will not be used in this project.

Scoring: scores are summed and average to produce a total score.

Appendix D: Perceived Sociocultural Pressure Scale (PSPS)

Measure: Perceived Sociocultural Pressure Scale (PSPS; Stice, Ziemba, Margolis, & Flick, 1996), amended (Tylka & Andorka, 2011)

Scale: 1 – 5, 1 = never, 5 = always

Scoring: for either scale, scores are summed and averaged.

Leanness Pressures

Items:

1. I've felt pressure from my friends to be lean
2. I've noticed a strong message from my friends to have a lean body
3. I've felt pressure from my family to be lean
4. I've noticed a strong message from my family to have a lean body
5. I've felt pressure from people I've dated to be lean
6. I've noticed a strong message from people I've dated to have a lean body
7. I've felt pressure from the media (e.g., TV, magazines) to be lean
8. I've noticed a strong message from the media to have a lean body

Muscularity Pressures

Items:

1. I've felt pressure from my friends to be more muscular
2. I've noticed a strong message from my friends to have a muscular body
3. I've felt pressure from my family to be more muscular
4. I've noticed a strong message from my family to have a muscular body
5. I've felt pressure from people I've dated to be more muscular
6. I've noticed a strong message from people I've dated to have a muscular body
7. I've felt pressure from the media (e.g., TV, magazines) to be more muscular
8. I've noticed a strong message from the media to have a muscular body

Appendix E: Perceived Stress Scale (PSS)

Measure: Perceived Stress Scale (PSS-10; Cohen & Williamson, 1988)

Scale: 0 – 4, 0 = never, 4 = very often

Descriptive Text: The questions in this scale ask you about your feelings and thoughts during the last month. In each case, please indicate with a check how often you felt or thought a certain way.

Items:

1. In the last month, how often have you been upset because of something that happened unexpectedly?
2. In the last month, how often have you felt that you were unable to control the important things in your life?
3. In the last month, how often have you felt nervous and “stressed”?
4. In the last month, how often have you felt confident about your ability to handle your personal problems?*
5. In the last month, how often have you felt that things were going your way?*
6. In the last month, how often have you found that you could not cope with all the things that you had to do?
7. In the last month, how often have you been able to control irritations in your life?*
8. In the last month, how often have you felt that you were on top of things?*
9. In the last month, how often have you been angered because of things that were outside your control?
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Scoring: scores are summed and average to produce a total score.

Note: items ending with an asterisk are reverse-scored.

Appendix F: Attentive Responding Scale (ARS-18)

Measure: Attentive Responding Scale (ARS-18; Maniaci & Rogge, 2014)

Scale: 1 to 5, 1 = not at all true, 5 = very true

Infrequency Subscale

Items:

1. I don't like being ridiculed or humiliated*
2. My favorite subject is agronomy
3. I enjoy the music of Marlene Sandersfield
4. I don't like getting speeding tickets*
5. It feels good to be appreciated*
6. I'd rather be hated than loved

Note: * = item is reverse-scored

Scoring: responses are appropriately reverse-scored and summed for a total score.

Cut-score: 7.5

Inconsistency Subscale

Item pairs:

1. I am an active person
2. I have an active lifestyle

3. I enjoy the company of my friends
4. I like to spend time with my friends

5. I enjoy relaxing in my free time
6. In my time off I like to relax

7. I spend most of my time worrying
8. I worry about things a lot

9. It frustrates me when people keep me waiting
10. It's annoying when people are late

11. I am a very energetic person.
12. I have a lot of energy.

Scoring: absolute differences within pairs are summed across pairs.

Cut-score: 6.5

Appendix G: App Use Measures

Number of Apps Used

Item: “Which of the following apps do you use or have you used in the past year?”
(Landovitz et al., 2013)

Scale: 4-point nominal scale, based on the total number of apps indicated; 1 (one app), 2 (two or three apps), 3 (four or five apps), 4 (six or more apps).

Frequency of App Use

“How often do you log onto online dating apps?” (Rice et al., 2012)

Scale: 7-point nominal scale, with response categories including (a) more than 10 times a day, (b) more than 5 but fewer than 10 times a day, (c) more than once a day but less than 5 times per day, (d) once a day, (e) a few days a week, (f) about once a week, and (g) less than once a week.

Adapted Facebook Intensity Scale

Measure: Adapted version of the Facebook Intensity Scale

Scale: 1 = strongly disagree to 5 = strongly agree

Items:

1. [Online dating and hook-up apps] are part of my everyday activity
2. I am proud to tell people I'm on [online dating and hook-up apps]
3. [Online dating and hook-up apps] have become part of my daily routine
4. I feel out of touch when I haven't logged onto [online dating and hook-up apps] for a while
5. I feel I am part of a community [on online dating and hook-up apps]
6. I would be sorry if [online dating and hook-up apps] shut down

Note: brackets indicate where the word “Facebook” has been replaced with “online dating and hook-up apps”

Score: responses are summed for a total composite score.

Appendix H: Body Surveillance Subscale of the Objectified Body Consciousness

Scale (OCS)

Measure: Body Surveillance subscale of the Objectified Body Consciousness Scale (OCS; McKinley & Hyde, 1996)

Scale: 7-point scale; strongly disagree to strongly agree

Items:

1. I rarely think about how I look.*
2. I think it is more important that my clothes are comfortable than whether they look good on me.*
3. I think more about how my body feels than how my body looks.*
4. I rarely compare how I look with how other people look.*
5. During the day, I think about how I look many times.
6. I often worry about whether the clothes I am wearing make me look good.
7. I rarely worry about how I look to other people.*
8. I am more concerned with what my body can do than how it looks.*

Note: * = item is reverse-scored

Scoring: responses are appropriately reverse-scored, summed, and averaged for a composite score.

Appendix I: Internalization Subscales of the Sociocultural Attitudes Toward

Appearance Questionnaire-4 (SATAQ-4)

Measure: Internalization subscale of the Sociocultural Attitudes Toward Appearance Questionnaire-4 (SATAQ-4; Schaefer et al., 2015)

Scale: 5-point scale, strongly disagree to strongly agree

Scoring: for either subscale, responses are summed and average to produce a scale score.

Muscular/Athletic Subscale

Items:

1. It is important for me to look athletic.
2. I think a lot about looking muscular.
3. I spend a lot of time doing things to look more athletic.
4. I think a lot about looking athletic.
5. I spend a lot of time doing things to look more muscular.

Thin/Low Body Fat Subscale

Items:

1. I want my body to look very thin.
2. I think a lot about looking thin.
3. I want my body to look very lean.
4. I think a lot about having very little body fat.
5. I want my body to look like it has little fat.

**Appendix J: Body Shame Subscale of the Objectified Body Consciousness Scale
(OCS)**

Measure: Body Shame subscale of the Objectified Body Consciousness Scale (OCS; McKinley & Hyde, 1996)

Scale: 7-point scale; strongly disagree to strongly agree

Items:

1. When I can't control my weight, I feel like something must be wrong with me.
2. I feel ashamed of myself when I haven't made the effort to look my best.
3. I feel like I must be a bad person when I don't look as good as I could.
4. I would be ashamed for people to know what I really weigh.
5. I never worry that something is wrong with me when I am not exercising as much as I should. *
6. When I'm not exercising enough, I question whether I am a good enough person.
7. Even when I can't control my weight, I think I'm an okay person. *
8. When I'm not the size I think I should be, I feel ashamed.

Note: * = item is reverse-scored

Scoring: responses are appropriately reverse-scored, summed, and averaged for a composite score.

Appendix K: Upward/Downward Physical Appearance Comparison Scales
(UPACS/DACS)

Measures: Upward/Downward Physical Appearance Comparison Scales (UPACS/DACS; O' Brien, 2007)

Scale: 1 to 5, 1 = strongly disagree 5 = strongly agree

Scoring: for either subscale, scores are summed and average to produce a total score.

Upward Physical Appearance Comparison Scale

Items:

1. I compare myself to those who are better looking than me rather than those who are not.
2. I tend to compare my own physical attractiveness to that of magazine models.
3. I find myself thinking about whether my own appearance compares well with models and movie stars.
4. At the beach or athletic events (sports, gym, etc.) I wonder if my body is as attractive as the people I see there with very attractive bodies.
5. I tend to compare myself to people I think look better than me.
6. When I see a person with a great body, I tend to wonder how I 'match up' with them.
7. When I see good-looking people I wonder how I compare to them.
8. At parties or other social events, I compare my physical appearance to the physical appearance of the very attractive people.
9. I find myself comparing my appearance with people who are better looking than me.
10. I compare my body to people who have a better body than me.

Downward Physical Appearance Comparison Scale

Items:

1. When I see a person who is physically unattractive I think about how my body compares to theirs.
2. I tend to compare my body to those who have below average bodies.
3. At the beach, gym, or sporting events I compare my body to those with less athletic bodies.
4. I compare myself to people less good looking than me.
5. I think about how attractive my body is compared to overweight people.
6. At parties I often compare my looks to the looks of unattractive people.
7. I often compare myself to those who are less physically attractive.
8. I tend to compare my physical appearance with people whose bodies are not as physically appealing.

Appendix L: Multidimensional Body-Self Relations Questionnaire

Measure: Multidimensional Body-Self Relations Questionnaire (MBSRQ; Brown, Cash, & Mikulka, 1990)

Available for purchase [here](#).

Appendix M: Demographics Questionnaire

1. Which of the following best describes your gender? *Select one answer only.*
 - a. Woman
 - b. Man
 - c. Gender non-binary or genderqueer
 - d. Questioning or uncertain
 - e. None of the above options accurately describe my gender. I describe my gender as _____
2. Do you identify as transgender?
 - a. Yes
 - b. No
3. Please write in your age (in years): _____
4. What is your race/ethnicity? Select as many as apply:
 - a. African American/Black
 - b. Middle Eastern
 - c. East Asian/East Asian American
 - d. South Asian/South Asian American
 - e. Southeast Asian/Southeast Asian American
 - f. Native American Indian or Alaskan Native
 - g. Native Hawaiian or Pacific Islander
 - h. Multiracial and/or Multiethnic
 - i. White
 - j. Hispanic or Latino/a/x
 - k. None of the above options accurately describe my race/ethnicity. I describe my race/ethnicity as _____
5. What is the highest level of education you have completed?
 - a. Less than high school
 - b. High school graduate or GED
 - c. Some college
 - d. Associate's degree (AA)
 - e. Bachelor's degree (BS or BA)
 - f. Professional degree (MA, MS, JD, MD, MBA, etc.)
 - g. Doctoral degree (PhD)
6. What is your current employment situation? (Please select all that apply):
 - a. Part-Time Student
 - b. Full-Time Student
 - c. Employed Part-Time
 - d. Employed Full-Time
 - e. Self-Employed
 - f. Retired

g. Unemployed

7. In what year were you born? _____

8. Which of the following best describes your sexual identity/orientation?

- a. Bisexual
- b. Gay
- c. Lesbian
- d. Heterosexual
- e. Pansexual
- f. Queer
- g. Asexual
- h. Questioning or uncertain
- i. None of the above options accurately describe my sexual identity/orientation. I describe my sexual identity/orientation as _____.

9. Please describe your sexual orientation/identity in your own words:

_____.

10. To what degree would you consider yourself physically attracted to the following groups of people?

| | Not at all | A little bit | Somewhat | A great deal | Completely |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Men | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Women | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Gender non-binary or genderqueer people | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

11. To what degree would you consider yourself romantically attracted to the following groups of people?

| | Not at all | A little bit | Somewhat | A great deal | Completely |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Men | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Women | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Gender non-binary or genderqueer people | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

12. In the past 12 months, which of the following groups of people have you had any type of consensual sexual experience of any kind with? Please select as many as apply.

- a. Men
- b. Women
- c. Gender non-binary or genderqueer people
- d. I have not had any sexual experience of any kind in the last 12 months

13. In all of your lifetime, which of the following groups of people have you had any type of consensual sexual experience of any kind with? Please select as many as apply.
- a. Men
 - b. Women
 - c. Gender non-binary or genderqueer people
 - d. I have never had any sexual experience of any kind
14. Do you currently live within the United States?
- a. Yes
 - b. No
15. In which state or United States territory do you currently live?
16. What area do you live in?
- a. Urban
 - b. Suburban
 - c. Rural
17. Approximately what is your height? Please enter your response in feet and inches in the boxes below.
- ____ Feet ____ Inches
18. Approximately what is your weight? Please enter your response in pounds (lbs).
- ____ lbs
19. How important is your sexual identity (e.g., gay, queer, pansexual, bisexual, etc.) to you?
- a. Not at all important
 - b. Slightly important
 - c. Moderately important
 - d. Very important
 - e. Extremely important

20. What is your current relationship status?
- Single
 - Casually dating one partner
 - Casually dating multiple partners
 - In a committed relationship (including marriage) with one partner
 - In committed relationships (including marriage) with multiple partners
 - In both committed relationship(s) (including marriage) and casual relationship(s)
21. What are the gender(s) of your current romantic/sexual partner(s)? If you have multiple partners, please select as many genders as apply.
- Man
 - Woman
 - Gender non-binary or genderqueer
22. Think of the following options as a ladder representing where people stand in the United States. At the TOP of the ladder (score = 10) are the people who are “the best off”—those who have the most money, the most education, and the best jobs. At the BOTTOM (Score = 1) are the people who are “the worst off”—who have the least money, least education, and the worst jobs or no job. Where would you place yourself from 1-10 on this ladder? Please select the number that best represents where you think you stand on the ladder.
23. Please select the degree to which you agree or disagree with the following statement: "My current body is pretty close to the body I would ideally like to have."
- Strongly agree
 - Agree
 - Neither agree nor disagree
 - Disagree
 - Strongly disagree
24. Compared to most people my age, I would say that I am . . .
- 1 = Unattractive
 - 5 = Average
 - 10 = Extremely Attractive
25. A person's appearance, style, or dress may affect the way people think of them. On average, how do you think people would describe your appearance, style, or dress? (Mark one answer)
- Very feminine
 - Mostly feminine
 - Somewhat feminine
 - Equally feminine and masculine
 - Somewhat masculine
 - Mostly masculine

g. Very masculine

26. A person's mannerisms (such as the way they walk or talk) may affect the way people think of them. On average, how do you think people would describe your mannerisms? (Mark one answer)

- a. Very feminine
- b. Mostly feminine
- c. Somewhat feminine
- d. Equally feminine and masculine
- e. Somewhat masculine
- f. Mostly masculine
- g. Very masculine

27. In your view, how if at all has the COVID-19 pandemic affected your online dating and hook-up behaviors and experiences?

28. In your honest opinion, should we use the data you have provided in our analyses for this study?

- a. Yes
- b. No

Appendix N: Final Sexual Discrimination Measures

Instructions: We want to learn more about your experiences pursuing sexual and romantic experiences with other men ONLINE. Please let us know how often you've had the following experiences on mobile dating or hook-up apps (e.g., Grindr, Tinder, Jack'd, Hornet) IN THE LAST SIX MONTHS.

Sexual Racism Measure

| In the last six months... | Never | Rarely | Sometimes | Often | Very often |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. Men online have rejected me because my race does not match their racial "preference." | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. When chatting with men online, it has been clear that some are not interested in me due to my race. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. Because of my racial identity, it has been difficult to find men online who want to have sex with me when I'm horny. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. I've experienced racism while dating online. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. I've felt that men online are willing to have sex with me but not to date me given my race. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. I've felt that men online have treated me like a sexual object because of my race. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. Men online have made assumptions about my sexual role preferences (e.g., top, bottom, vers) based on racial stereotypes. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. I've felt pressure to pay more attention to my appearance to receive the same level of attention online as men of other races. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. Because of my race, men online have chatted with me in a degrading way. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Sexual Femmephobia Measure

| In the last six months... | Never | Rarely | Sometimes | Often | Very often |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. Men online have made assumptions about what turns me on based on my feminine presentation. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. I've been discriminated against while dating online for my feminine presentation. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. I believe that because I am viewed as feminine, men I've met online feel it is okay to pressure me into sexual experiences I do not want to have. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. Men online have reacted negatively to aspects of my appearance traditionally viewed as feminine. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. When men online have realized how feminine I am, they have rejected me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. Men I've met online have reacted negatively to how feminine I am when meeting in person. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. Because I am viewed as feminine, men online have chatted with me in a degrading way. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. Men online have mocked or made fun of me for being too feminine. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. I believe men online have blocked or unmatched with me because they perceive me as feminine. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Sexual Sizeism Measure

| In the last six months... | Never | Rarely | Sometimes | Often | Very often |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. Men online have told me I would be more attractive if I either lost or gained weight. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. Men online have told me they are not attracted to me in reaction to my body size. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. I have received uninvited health advice while dating online in reaction to my body size. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. Men online have reacted to my body size with disgust. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. Men online have asked for information about my body size (e.g., weight, height, shape) that they wouldn't ask of men viewed as being "in good shape" or "fit." | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. I've been discriminated against while dating online because of my body size. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. I've sensed that men online are willing to have sex with me but not to date me due to my body size. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. Men online have mocked or made fun of me for my body size. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. Men online have reacted negatively after viewing a shirtless photo of me. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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