

Running Head: Body Image Among Sexual Minority Men

Body Image And Associated Factors Among Sexual Minority Men: A Systematic Review

Genevieve P. Nowicki^{1,4}, Breana Marchwinski^{1,4,5}, Jennifer L. O’Flynn^{1,6}, Scott Griffiths³, &
Rachel F. Rodgers^{1,2}

¹ APPEAR, Department of Applied Psychology, Northeastern University, Boston, USA

² Department of Psychiatric Emergency and Acute Care, Lapeyronie Hospital, CHRU
Montpellier, France

³ Melbourne School of Psychological Sciences, University of Melbourne, Melbourne, Australia

⁴ Simmons University, Boston, USA

⁵ Division of Adolescent/Young Adult Medicine, Boston Children’s Hospital, Boston, USA

⁶ Department of Psychiatry, Cambridge Health Alliance, Cambridge, MA, USA

Funding: Breana Marchwinski was supported in part by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of a MCHB T71MC00009 LEAH training grant. The contents are those of the authors and do not

necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the U.S. Government. For more information, please visit [HRSA.gov](https://www.hrsa.gov).

Abstract

Research suggests that the risk of body image concerns among sexual minority men is high. Recent work has increasingly examined body image in relation to psychological, interpersonal, and behavioral constructs, but these findings have yet to be consolidated and critically examined to identify potential risk and protective factors. The present study sought to systematically review and synthesize published findings on body image among sexual minority men. The present study included 136 articles published between January 2011 and March 2022. Sexual minority men were generally reported to have more negative body image compared to heterosexual men, yet findings varied across body image constructs. In correlational work, body image was often examined in relation to disordered eating, mental health, internalization of appearance ideals, objectification, sexual behavior and relationships, gay community identification and discrimination, and health concerns (e.g., HIV, AIDS). Robust relationships emerged among body image and stigma variables, including internalized homophobia and harassment related to LGBTQ+ presentation and intersecting minority identities. Sociocultural, objectification, and minority stress theories were employed to interpret findings and to delineate future directions grounded in intersectional approaches. Additional work focused on the role of stigma and discrimination in the development of these concerns across the lifespan is needed.

Keywords: body image, sexual minority men, systematic review, eating disorders, appearance ideals, stigma

1. Introduction

A growing body of research suggests that body image concerns, which constitute a primary risk factor, maintenance factor, and component of eating disorders (Stice, 2002), vary in their nature and intensity for men of different sexual orientations. Specifically, this research demonstrates that sexual minority men (SMM) experience greater body image concerns compared to heterosexual men (Morrison et al., 2004). Despite increased interest and focus on body image among SMM, this growing body of recent literature has not been systematically reviewed with focused attention to correlates of body image, and emerging risk and protective factors in this population. An updated review would provide a comprehensive overview of the current understanding of body image among SMM and identify useful directions for future research. Thus, the aim of the present study was to conduct a systematic review of research examining body image and associated factors among SMM published between 2011 and 2022.

Body image is a multidimensional construct, and for the purpose of this review, is conceptualized as an individual's perceptions, thoughts, and feelings about their body or specific body parts (Grogan, 2017). Thus, body image concerns are considered to be perceptions, thoughts, and feelings that are negative, distressing, preoccupying, or impairing. For the purpose of this review, "sexual minority men" refers to men who are gay, bisexual, or pansexual, among a variety of other non-heterosexual sexual identities (Calzo et al., 2017), as well as individuals of any sexual orientation with same-sex attractions or same-sex sexual contact, as specified in earlier work identified in this review (Jampel et al., 2015; Kwan & Lee, 2018).

Different theories of body image have consistently suggested that SMM may be more concerned with their bodies than heterosexual men. Sociocultural theories propose that the "appearance potent" subcultures, that many SMM exist within, result in greater exposure to the

factors precipitating body image concerns, including unrealistic appearance ideals, appearance pressures, and disproportionate value placed on appearance (Jankowski et al., 2014; Tiggemann et al., 2007). While objectification theory explains gender differences in body image concerns due to the highly sexually objectifying male gaze upon women, the extension of this theory to SMM proposes that the sexualized male gaze may render SMM similarly vulnerable to experiencing body image concerns compared to heterosexual women, and perhaps more vulnerable compared to heterosexual men (Engeln-Maddox et al., 2011; Fredrickson & Roberts, 1997; Wiseman & Moradi, 2010). Finally, minority stress theory has been adapted to frame experiences related to body image among SMM (Meyer, 2003). Specifically, prior research has highlighted how the negative experiences related to bearing a minority identity may create a context of chronic stress for SMM (Kimmel & Mahalik, 2005). In addition to common pathways linking stress to psychological distress, chronic stress in SMM may specifically increase desire for a muscular physique as a defense against stigmatization, as individuals who are perceived as more physically formidable may be less likely to be victimized by others and feel more confident in their capacity to physically defend themselves (Kimmel & Mahalik, 2005). These theories also highlight how social stigma may become internalized by sexual minority individuals, possibly to varying extents dependent on sexual orientation, leaving them vulnerable to poorer mental health outcomes (Austen et al., 2020; Perrin et al., 2020).

Intersectionality theory provides an additional important theoretical lens, examining how multiple social identities converge in interactive ways to modulate resilience and risk in the context of mental health, including in body image concerns (Burke et al., 2020). Grounded in critical race theory and scholarship from Black feminists (Crenshaw, 1989), the theory places emphasis on how certain identities are minoritized while others convey power and privilege, and

the ways in which structural oppression and discrimination serve to maintain these existing constructs of capital. In the context of body image, many dimensions beyond shape and weight are associated with body capital, while others are discriminated against. Thus, the appearance ideals described by sociocultural theories are not only thin, toned, and muscular, but also able-bodied, White, fair, and youthful. When exploring body image among SMM, intersectionality theory builds on the frameworks above by highlighting how individuals who identify as holding a minoritized identity, such as a non-heterosexual sexual orientation, may be at varying levels of risk for body image concerns and associated behaviors, such as androgen abuse, depending on other visible minoritized identities (Griffiths et al., 2021).

Overall, past research has supported these theories and identified SMM as a vulnerable population for body image concerns. These previous reviews found SMM to be at heightened risk for body image concerns, with Morrison et al. (2004) reporting greater body satisfaction among heterosexual men. Since then, increased research attention has been focused on body image concerns among SMM. The more recent efforts to review the literature pertaining to SMM focused on behavioral outcomes, such as disordered eating and weight control behaviors, rather than body image itself (e.g., Calzo et al., 2017; Miller & Luk, 2018). Although it is important to recognize the potential behavioral outcomes of negative body image (i.e., disordered eating, compensatory behaviors, etc.), poor body image alone is a public health issue, being associated with lower quality of life and higher psychological distress (Griffiths et al., 2016).

Although previous reviews of the literature on body image among sexual minority groups have been conducted (Badenes-Ribera et al., 2018; Bosley, 2011; Dahlenburg et al., 2020; Morrison et al., 2004), these reviews revealed one or more of the following limitations: (i) they are narrowly focused on gay men only, lacking inclusion of other SMM groups; (ii) little

examination occurred of how sexual minority status was assessed or operationalized in the studies; and (iii) they examined constructs that subsume body image but are not specific to body image, such as disordered eating. Public and scholarly understandings of sexual orientation have shifted, such that contemporary understandings of “sexual minority” have expanded to include not just those who identify as gay, but also those who identify as bisexual, pansexual, or asexual, among various other sexual identities (Calzo et al., 2017; Filiault & Drummond, 2009; O’Flynn, 2019). Furthermore, as sexual orientation is multifaceted, it may be important to consider other dimensions of sexual diversity among men, including sexual attraction and sexual behavior. Finally, recent changes in gay rights, such as the 2015 legalization of gay marriage in all fifty states of the United States, and shifts in social representation, such as increasing television representation of LGBTQ+ individuals (GLAAD, 2021), affect the experiences of SMM and may be associated with changes in body image and risk factors.

As research accumulates, explorations of body image in this population will increasingly benefit from examining how body image intersects with other factors, particularly those unique to sexual minorities, to inform the development of effective interventions. Therefore, this updated summary of the extant literature focusing on body image and its correlates among SMM fills an important gap, identifying emerging risk and protective factors to advance this area of research. The aim of this study was thus to conduct a systematic review of the literature from the past 11 years focusing on body image and related factors among SMM and to present a critical summary of the findings.

2. Methods

2.1. Search Process

Four electronic database searches were conducted for this review. The first three were conducted between June 2018 and August 2021 using Pubmed, ScienceDirect, and PsychInfo. A final search was conducted in March 2022, substituting Embase for ScienceDirect, as it contains a larger representation of Elsevier publications with improved search functionality for the extensive list of search terms. The searches included publications from January 2011 onwards, to identify and examine articles published since the last systematic review was conducted on this topic (Bosley, 2011). The final search included all dates from January 2011 to March 2022, to ensure the identification of eligible articles that may have been missed through previous searches of ScienceDirect. The search syntax was extracted and updated from previous work by author J.O. (O’Flynn, 2019). Search terms were as follows: (a) "sexual minority" or “sexual minorities” or "bisexual" or "gay" or "homosexual" or "non-heterosexual" or "queer" or "GLB" or "LGB" or "LGBT" or "mostly heterosexual" or "men who have sex with men" or "discordant heterosexual" or “pansexual” or “asexual” AND (b) “weight concern” or “shape concern” or “appearance” or “body dissatisfaction” or “body image” or “drive for muscularity” or “muscle dysmorphia” or “bigorexia” or “thin ideal” or “body esteem” or “body satisfaction” or “body dysmorphia” or “muscular ideal” or “physique anxiety”.

Across the four searches, a total of 2,855 articles were initially identified (see Figure 1). After removing 605 duplicates, 2,250 articles were included in the initial screening phase. This screening resulted in the exclusion of 2,022 articles that failed to meet the eligibility criteria described in the next section. A total of 228 articles advanced to full-text screening. Out of the 228 full-text articles assessed, 92 articles were excluded. The rationale for exclusion were as follows: (a) the absence of an eligible body image measure ($n = 34$); (b) failing to provide body image data for SMM only (i.e., merging SMM with another non-SMM group for analyses; $n =$

54); (c) utilizing a duplicate or overlapping sample, without measuring additional variables ($n = 1$); or (d) collecting only qualitative data ($n = 3$). When multiple studies utilized overlapping or identical samples, all were included if each addressed a unique research question, assessing at least one distinct variable. Such studies belonging to groups of overlapping or duplicate samples are marked using superscript letters in Table 1. The PRISMA diagram outlining the full screening process is shown in Figure 1.

2.2. Eligibility Criteria

Articles were eligible for inclusion if they met the following criteria: (a) the study measured participant body image through a subjective appraisal of body size, shape, composition, attractiveness, appearance, and/or satisfaction with those dimensions; (b) the study included sexual minority adult men or youth, as defined by any sexual orientation other than exclusively heterosexual, men who are attracted to other men, or alternatively, men who self-report as heterosexual but endorse having had sex with other men at least once in their lifetime; (c) the article text was available in English or could be translated into English; (d) the publication date was 2011 or later; and (e) the study gathered quantitative data. Review articles and dissertations were excluded, as the goal was to provide a critical overview of the published literature. Studies were excluded if they were not empirical or collected only qualitative data, as although those studies provide rich data, the focus of this study was to provide an updated review of the literature employing measures of body image.

Studies assessing body types, weight, or body mass index (BMI) were included if participant body satisfaction, dissatisfaction (including when this was assessed as a current-ideal discrepancy), or attractiveness was measured concurrently. Studies that focused on body image related to specific body parts, such as the genitals, were included.

2.3. Risk of Bias and Study Quality

Data extraction was performed by two authors (G.N. and B.M.), and study quality assessment was performed by G.N. under the supervision of R.R. An adapted five-item version of the Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies (National Heart, Lung, and Blood Institute, n.d.) was used to obtain study quality scores for all 96 studies identified in this review. Criteria 1-4 were coded with a binary yes/no response, while the final criterion was scored as either “yes”, “no”, or “not applicable” if only body image variables were assessed in the study. The maximum study quality score was five if all criteria were met with a “yes” response or four in the case of studies where body image was the only outcome.

3. Results

3.1. Sample Characteristics

This systematic review identified 136 articles containing 99 discrete samples. All articles were assigned reference numbers in Table 1, which are listed in parentheses to refer to relevant studies throughout the results section. Sample sizes of SMM ranged from 40 to 2,733. The mean ages (*SD*) of SMM in the samples ranged from 20.7 (2.0) to 64.5 (7.0) years, with the exception of three studies that focused exclusively on youth of all sexual orientations aged 20 or below (26, 27, 109) and two studies that recruited sexual minority male adolescents only (86, 117). Sexual minority status was assessed through participant self-report in all studies, although the way in which it was conceptualized and measured varied. The majority of studies conceptualized sexual minority status as identity-based alone (e.g., self-identified as gay, bisexual, or queer), while others assessed behavior (e.g., recent sexual contact with another man) or attraction to other men, usually in combination with identity. These assessments yielded either nominal categorical or ordinal categorical, considered continuous (e.g., Kinsey scale), data. While most study samples

included primarily White participants, six focused exclusively on SMM from racial or ethnic minority backgrounds in the United States and Canada, including Latino SMM (17, 38, 39, 111), and SMM of color (19, 71). In addition, 18 articles contained samples of primarily participants with non-White racial or non-European ethnic backgrounds (8, 29, 31, 34, 41, 46, 57, 60, 69, 70, 84, 89, 99, 109, 112, 115, 119, 135). Publication dates ranged from January 2011 through March 2022, and the year that saw the greatest number of articles published was 2021, with 17 publications. From 2011-2014, the number of annual publications hovered between five and seven, while from 2015 onwards each full year saw at least 12 publications on the topic. In total, 87 studies utilized samples recruited at least partially from the United States, while 49 studies utilized samples exclusively recruited from countries other than the United States, most commonly Canada and Australia. All countries were upper-middle or high-income countries (The World Bank, 2022).

The study quality assessment scores for the studies ranged from 2-5. For studies scored out of five ($n = 115$), the mean was 4.3, the median was 5, and the mode was 5. For studies scored out of four ($n = 21$), the mean was 3.4 and the median was 3.5, and the mode was 4. These descriptive statistics indicated that overall, the studies identified in this review were of high quality.

3.2. Body Image Characteristics and Levels of Body Image Concerns

3.2.1. Among SMM Only

Seventy-two studies examined body image among samples of SMM only. Additionally, 10 notable studies examined the prevalence of body image concerns across multiple sexual orientations within SMM. Regarding the prevalence of various forms of body dissatisfaction among SMM, an examination of body dysmorphia reported that 15.3% of the sample was at risk

for at least one form of body dysmorphia, with muscle dysmorphia posing the greatest risk (44). Additionally, this study examined differences in risk among younger SMM aged 18-34 ($n = 150$) compared to older SMM aged 35+ ($n = 111$), finding younger SMM at almost four times greater risk for muscle dysmorphia (44). A separate study focused exclusively on SMM adolescents similarly reported differences in muscularity concern by age, finding that SMM aged 17-19 years reported significantly greater muscularity dissatisfaction than SMM aged 15-16, with a moderate effect size (86).

In terms of variations in body image between SMM identities, one study showed that gay men reported greater body dissatisfaction, with a small to moderate effect size, compared to bisexual men as measured through current-ideal body discrepancy (96), while another study reported similar levels of body dissatisfaction between gay and bisexual men as measured with the Body Shape Questionnaire (Cooper et al., 1987) (35). Looking across a range of SMM identities, others found that body image did not significantly differ (2, 3, 26, 43, 88, 102, 132, 134). While some of these studies with null findings may have been underpowered, others (2, 3, 102, 132) were less limited by sample size. Other aspects such as the specific dimensions of body image measured and noise from the variability in assessment tools selected to assess these constructs may further explain these discrepancies.

While 24 studies crucially incorporated an intersectional examination of body image among SMM, focusing on underrepresented ethnicity, race, or gender identity, the common aim was to characterize the relationships between body image and other variables positioned as risk factors or outcomes of body image concerns (8, 17, 19, 29, 31, 34, 38, 39, 41, 46, 57, 60, 69, 70, 71, 84, 89, 99, 109, 111, 112, 115, 119, 135). Thus, these are described in detail in relevant subsequent sections. Only one study explored differences in body image between White SMM

and SMM of color (8). Their findings revealed that SMM of color reported poorer body image flexibility with an albeit small effect size but no differences on several muscularity and leanness-oriented indices of body image (8). In the only study examining body image among transgender men who also identify as sexual minority (i.e., gay, bisexual, or MSM), 20% of the sample reported high levels of sexual body image concerns, while 37.4% and 42.6% reported moderate and low levels, respectively (7). A final article assessed the prevalence of seasonal body image, i.e., increased body image concerns in warmer months and lower levels in colder months, among SMM (62). Findings revealed that an estimated 70% of participants experienced some variation in body image by season, with 25% experiencing severe seasonal body dissatisfaction (62).

3.2.2. SMM Compared to Heterosexual Men

Thirty-seven of the identified studies specifically compared body image among SMM to body image among other groups, most commonly to heterosexual men. Most often, these studies found that SMM in general reported poorer body image compared to heterosexual men. However, results were mixed when considering specific SMM identities in these comparisons or satisfaction with specific dimensions of appearance. For example, one study with a small sample of SMM found no differences in sexual body esteem between heterosexual men and SMM, while a later study with a much larger sample reported that a bisexual identity, but not gay identity, was weakly but significantly associated with more negative sexual appearance evaluation compared to a heterosexual identity among men (50). Further, within one study, differences emerged between SMM and heterosexual men depending on the body image construct assessed, with drive for thinness moderately lower among heterosexual men compared to gay men, but no significant variability in global body dissatisfaction (28).

Regarding muscularity concerns, four studies found no difference between SMM and heterosexual men (27, 57, 61, 120), four others found increased concerns among SMM, typically with moderate effect sizes (26, 43, 77, 106). One study reported greater muscularity/athleticism internalization among heterosexual men compared to both bisexual and gay men, although the effect size was small (52). SMM and heterosexual men reported similar levels of internalization of the muscular ideal (32), and in a sample comprised of youth with HIV, desire to have a larger body size (135). With respect to current-ideal body discrepancy, one study reported no difference (57), while another showed moderately greater current-ideal discrepancy among gay men, indicating higher levels of body dissatisfaction (96). Other studies found no difference between SMM and heterosexual men in height dissatisfaction (46, 77) or genital self-image (90), but greater facial appearance dissatisfaction among SMM compared to heterosexual men (53). Notably, in one study examining body image among transgender men, neither body dissatisfaction nor physical appearance congruency significantly differed by sexual attraction to either men or women, although sexual orientation identity was not assessed (131).

Six studies comparing SMM and their heterosexual peers on attitudes towards leanness indicated that SMM reported significantly higher levels of leanness and body fat concerns, although effect sizes varied from very small to moderate (27, 28, 52, 77, 122, 123), and a large-scale study indicated that only gay SMM, not bisexual men or SMM with an “other” sexual orientation, reported significantly greater thin-ideal internalization and body surveillance than heterosexual men, with small to moderate effect sizes (52). A final study examined the relationship between asexuality and body image, among a sample of men with a range of heterosexual and non-heterosexual identities, reporting that higher levels of asexuality were

associated with poorer body image, above and beyond the effects of self-reported sexual orientation (125).

It is notable that although sample sizes varied widely across the studies examining these differences, statistical power issues did not seem to consistently explain the patterns of findings, with some larger studies reporting null findings for muscularity-related concerns but group differences for leanness (27, 50, 122, 123), while a smaller study found significant differences for both muscularity and leanness concerns (77). Across these studies, the composition of the SMM groups varied (e.g., gay participants only, gay and bisexual participants, etc.), as well as how sexual minority status was conceptualized for recruitment and data analysis (e.g., self-reported sexual orientation identity, attraction, or sexual behavior), which may have influenced these inconsistent results. Nevertheless, particularly robust group differences between SMM and heterosexual men emerged most clearly for leanness-related dimensions of appearance.

3.3. Body Image Correlates

One hundred and five articles described the relationships between body image and other variables among SMM. Nineteen of the studies included disordered eating variables, 13 included variables related to muscularity and exercise behaviors, 23 included psychological functioning and mental health variables, 25 included variables related to the internalization of appearance ideals and objectification, 7 included gay community identification variables, 16 included discrimination and internalized stigma variables, 35 included sexual behavior and relationship variables, 6 included variables relating to appearance and appearance enhancement, and 15 included health concerns. A list of all variables examined in relation to body image for each article is provided in Table 1.

3.3.1. Disordered Eating

Eighteen studies described the relationships between body image variables and eating disorder symptomatology in samples including SMM. While correlational work does not allow for directionality of relationships to be examined, the theoretical framing of most studies positioned eating disorder symptomatology as an outcome of body image. Eight studies provided converging evidence for an association between poorer body image, including lower body appreciation (1), body dissatisfaction (35, 124, 127), body shame (124), muscularity drive and concern (18, 30), social appearance anxiety (71), and higher levels of disordered eating among SMM, with most studies reporting moderate effect sizes. Further, one interventional study noted that body-ideal internalization fully mediated the beneficial effects of a dissonance-based eating disorder prevention program for gay men on bulimic symptoms and that this intervention also significantly reduced muscularity concerns with a moderate effect size (23). Of note, one sample was composed exclusively of SMM of color, extending these findings to a commonly underrepresented group (71).

Seven other studies evaluated the relationship between body image and disordered eating in SMM versus heterosexual men (35, 54, 57, 96, 108, 124, 132), and both heterosexual and sexual minority men and women (92). While three studies found similar associations between poorer body image and greater disordered eating similarly among groups (54, 57, 92), others reported differences between groups (35, 96, 108, 124, 132). Among gay men, but not bisexual or heterosexual men, body dissatisfaction was a unique predictor of eating disorder symptomatology (35). Further, muscularity-related attitudes were associated with greater eating disorder symptoms with small to moderate effect sizes among both SMM and heterosexual men, but muscularity-related behaviors were only correlated with eating disorder symptoms in

heterosexual men (108). In contrast, the positive relationship between body shame and disordered eating was found to be stronger among SMM compared to their heterosexual counterparts (124). In a separate study, an unhealthy weight control behavioral profile was significantly associated with an almost 40% greater risk for body dissatisfaction among SMM self-identifying as mostly heterosexual or unsure, but no significant differences in body dissatisfaction by behavioral profile emerged for gay or bisexual men (132). Taken together, these studies suggested that among SMM, poorer body image and greater disordered eating symptoms occurred together frequently, although nuances emerged when specific sexual orientation identities were separated and comparatively analyzed.

3.3.2. Behaviors Related to Muscularity and Exercise

Thirteen studies examined the association between body image and muscularity and exercise behaviors among SMM. Again, the cross-sectional nature of the data precluded the examination of directionality, but the theoretical underpinnings of the majority of studies positioned muscularity and exercise-related behaviors as outcomes of body image. Evidence of a moderate to strong relationship between muscularity-related dissatisfaction and muscularity-related behaviors emerged among SMM (8, 37). In a comparative study of SMM and their heterosexual counterparts, muscularity dissatisfaction was found to be positively associated with muscularity-related behaviors in both groups (108). However, group differences in mean levels emerged only for muscularity dissatisfaction, not in behaviors (108).

Five studies explored the use of muscle-building substances and products (27, 65, 105, 123, 127). In a large sample of United States youth, SMM reported lower frequencies of using muscle-building products in two out of three age groups compared to heterosexual peers, yet no statistically significant sexual orientation differences were found in the likelihood of developing

a combined index of muscularity-related concerns or using muscle-building products (27).

Among SMM, small to moderate relationships were found between some, but not all, indices of poorer body image and increased thoughts about using steroids (22, 65, 127), with one noting an unexpected inverse relationship between body fat dissatisfaction specifically and thoughts about using steroids (65). A more recent study examined the relationship between Muscle Dysmorphic Disorder Inventory (MDDI; Hildebrandt et al., 2004) scores and appearance/performance-enhancing drug use (APEDS) (105). While higher total MDDI score was associated with greater APEDS use among both gay and bisexual plus men, all MDDI subscales were significantly associated with APEDS use among gay men, compared to the Drive for Size subscale only in the bisexual plus group (105).

Two studies examined the relationships between exercise and body image, revealing that while compulsive exercise was weakly but significantly associated with poorer body image (22), frequency of general physical activity was weakly but significantly associated with better body image (20). While multiple studies described significant small to moderate correlations between poorer body image and greater use of appearance and performance-enhancing drugs among SMM (31, 72, 79), a comparative study showed this relationship did not significantly differ between SMM and heterosexual men (123). Thus, overall findings suggest increased body image concerns are associated with more muscularity-oriented behaviors among SMM, and highlight the need for an improved understanding of how these relationships may influence substance use patterns among specific groups of SMM.

3.3.3. Psychological Functioning and Mental Health

Twenty-three studies examined the relationships between body image and various measures of psychological functioning and mental health. Here again, mental health was largely

considered to be an outcome of body image, although it should be noted that bidirectional relationships may also exist. While most studies focused on only SMM, five included both SMM and heterosexual samples (4, 42, 94, 108, 115). The most frequently assessed mental health correlate of body image was depression, measured in 12 studies (13, 14, 18, 38, 39, 42, 70, 71, 108, 115, 119, 134). Among these 12 studies, the results of nine studies suggested that greater depressive symptoms were associated with several indices of body image among SMM with most commonly moderate effect sizes, including greater drive for muscularity (18, 71), lower body appreciation (119), poorer physical self-concept (115), and overall greater appearance dissatisfaction (14, 38, 39, 70, 134) with generally moderate effect sizes. Further, another study investigated the relationship between several body dissatisfaction measures and suicidality, reporting that while muscularity dissatisfaction and suicidality were not associated, thin-ideal internalization was significantly associated with suicidality at higher levels of body fat dissatisfaction (69). Of the studies that included SMM and heterosexual men, one indicated the relationship between greater depression and poorer body image was only significant among SMM although effect sizes were moderate for both groups (115), another indicated significant moderate correlations in the expected directions among both groups, but differences when indirect relationships were examined (108), while a third indicated sexual orientation moderated the relationship between body image and depression (42). Providing additional support for the comorbidity of body image concerns and depressive mood, in a sample of SMM with HIV, cognitive behavioral therapy for body image and self-care was effective at reducing both body image disturbance and depression scores compared to a control treatment condition, with a very large effect size (13). Thus, evidence exists for the co-occurrence of body image concerns and

depressed mood among SMM, and that risk and maintenance factors may differ for SMM compared to heterosexual men.

Four studies evaluated the relationship between body image and other indices of psychological distress, including anxiety (37, 71, 73, 119). Poorer body image was associated with greater psychological distress in all four of these studies, and effect sizes varied from small-moderate to moderate-large. In addition, six studies explored associations between indices of body image and quality of life variables (4, 68, 73, 93, 94, 127). All six of these studies reported significant associations between poorer body image and lower quality of life, or life satisfaction, across a variety of indices, although effect sizes ranged considerably from very small (127) to moderate-large (4). In addition, some evidence emerged in non-adjusted models for a stronger relationship between internalized weight bias and poorer psychological functioning in SMM men compared to heterosexual peers (4). Overall, these findings suggested a relationship exists between body image concerns and poorer mental health among SMM.

3.3.4. Internalization of Appearance Ideals, Gender Norms, and Objectification

Twenty-five articles evaluated the relationships between body image and various measures of internalization of appearance ideals, such as gender norms, societal standards of attractiveness, and objectification. Here the implied sequencing of the variables was less clear, as objectification theory and sociocultural theory would position social pressures and norms as possible precursors of individual-level body image. The results of three studies indicated that the internalization of gender norms and pressures was significantly associated with poorer body image among SMM across a variety of indices (1, 3, 98). Among SMM, adherence to masculine gender norms, such as emotional restraint, was moderately associated with greater self-perceived sexual attractiveness and body esteem (3), and lower body appreciation with a small effect size

(1). Similarly, a small but significant association was found between low self-perceived masculinity and greater drive for muscularity, while moderate associations were found between awareness and anxiety related to appearing masculine and both body dissatisfaction and drive for muscularity (98). A fourth study reported nuances in gender role orientation and body image among SMM (35). Among bisexual men, greater femininity was significantly associated with greater body dissatisfaction, with a small to moderate effect size. Among gay men, there was no significant relationship between body image and femininity, while greater masculinity was significantly associated with less body dissatisfaction, with a small to moderate effect size (35).

Eight studies explored relationships between the internalization of appearance ideals or appearance pressures and body image, overall providing support for an association between greater internalization and poorer body image among SMM (1, 4, 22, 32, 86, 123, 124, 130), while one reported a moderately strong positive correlation between appearance-ideal internalization and body surveillance, but not body satisfaction (21). Internalization of appearance ideals was associated with greater shape concern among SMM (32), greater body shame (124), and lower body appreciation (1), and effect sizes were small, moderate-strong, and small-to-moderate, respectively. Similarly, among gay, bisexual, mostly gay, and mostly bisexual men, internalization of sociocultural standards of attractiveness was associated with greater body surveillance, body dissatisfaction, and drive for muscularity, with medium to large effect sizes, as well as intention to use anabolic-androgenic steroids and compulsive exercise, with small to large effect sizes (22). Separately, appearance pressures from the media, but not family or peers, were strongly and significantly associated with greater muscularity dissatisfaction among adolescent SMM (86), and the internalization of general and athletic appearance ideals was associated with lower body appreciation (1). One paper, comprised of two

studies, explored the relationship between body dissatisfaction and pluralistic ignorance of attractiveness among gay men, described as the degree to which an individual's own appearance ideals are different from their beliefs about others' appearance ideals (45). Only the first study found a significant relationship between greater pluralistic ignorance and greater body dissatisfaction, although the effect size was small, and pluralistic ignorance was assessed differently in each sub-study (45). A final study reported that increased weight bias internalization was strongly associated with greater body dissatisfaction among SMM (4).

Seven studies provided evidence for other relationships and indirect pathways outlined by sociocultural theories among SMM (1, 21, 23, 35, 57, 130, 136), although one failed to replicate these (94). Two studies assessed the relationships between body image and appearance comparison in SMM, reporting that less favorable or upward appearance comparisons were moderately associated with poorer body image among SMM (1, 35). When contrasting this relationship between gay, bisexual, and heterosexual men, one study indicated significance only among gay, but not bisexual or heterosexual men (35), and another reported that unfavorable appearance comparisons mediated the relationship between sexual orientation and body appreciation, with greater body appreciation among heterosexual men, while appearance pressures from the media and general appearance ideal internalization did not (1). Conversely, one study found no evidence of an indirect effect of internalization of athletic ideals in the relationship between sexual orientation and dissatisfaction with muscularity (94), while a larger study reported that paths to appearance satisfaction from appearance pressures and lean and muscular ideal internalization were significantly stronger for heterosexual men compared to bisexual men, but not gay men (51). Four studies examined indirect relationships between body image, the internalization of appearance ideals, and disordered eating (23, 57, 94, 136). The

internalization of appearance standards was found to mediate the relationship between sexual orientation and disordered-eating symptoms (57), while another reported that indirect paths from internalization to disordered eating through body dissatisfaction and drive for thinness were both stronger among SMM compared to heterosexual men (136), suggesting that greater internalization of appearance ideals and body dissatisfaction might contribute to higher levels of disordered eating among SMM. In further support of the mechanisms put forth by sociocultural theories, in a randomized controlled trial of an eating disorder prevention program for gay men, internalized standards of attractiveness were found to mediate the treatment effects on bulimic symptoms (23).

Seven studies examined the relationships between body image and various forms of objectification, including sexual objectification experiences (21, 36, 71), self-objectification (59), objectification based on masculine appearance norm violations (133), and objectification of other men (97, 126) among SMM. The results of six studies indicated with small effect sizes that increased objectification in these forms was associated with poorer body image, including body dissatisfaction (36, 59), social appearance anxiety (71), both body surveillance and body shame (21, 133), and appearance importance (126), although online objectifying experiences were not found to be associated directly with body satisfaction in one study (21). Three studies found support for the pathways predicted by objectification theory (21, 36, 133), such that sexual objectification experiences fully mediated the relationship between gay community involvement and body dissatisfaction (36), and body surveillance was found to fully mediate the association between objectification based on masculine appearance norm violations and body shame (133). Similarly, body surveillance emerged as a mediator between online sexually objectifying experiences and body satisfaction (21). Finally, one experimental study assessed four indices of

body image among SMM and heterosexual men, after viewing either muscularity-idealizing media images or nature images (97). While experimental condition had no effect on body image, SMM reported significantly greater body dissatisfaction, body surveillance, and social physique anxiety, but not greater drive for muscularity, compared to heterosexual men (97).

Overall, the results of these studies suggested that greater internalization of cultural appearance ideals were associated with poorer body image in SMM. Furthermore, results supported the usefulness of objectification theory to understand the relationship between experiences of objectification and poorer body image among SMM.

3.3.5 Gay Community Identification

Seven studies examined the associations between body image and gay community identification, involvement, and pride among SMM. Previous work (e.g., Tylka & Andorka, 2012) has frequently positioned gay community variables as precursors to body image. Higher levels of gay community connection were found to be associated with more positive body image with a small to medium effect size in one study (20), although other findings were more nuanced. For example, in a sample of gay men, greater gay community involvement was associated with greater drive for muscularity but was not significantly associated with drive for thinness (74). Gay community identification and body appreciation were initially positively correlated in a separate study, yet further analyses revealed greater community identification to condition the existence of an indirect relationship between heterosexist harassment and lower body appreciation via depression, suggesting that such a pathway existed only among those with higher levels of gay community identification (119). Another study reported that the relationship between greater body dissatisfaction and lower self-esteem was stronger at higher levels of gay community involvement, and that body dissatisfaction partially mediated the relationship

between lower gay community belonging and lower self-esteem (82). Finally, one study initially reported a bivariate relationship between greater gay community affiliation and improved body image, but this was not supported in multivariate analyses (117).

A final study indicated that BMI moderated the relationship between gay community identification and body image (40). Among SMM with higher BMIs, greater community identification was associated with lower body dissatisfaction but had no significant relation to drive for muscularity; among SMM with lower BMIs, community identification was associated with reduced drive for muscularity, although the authors noted low power in their sample (40). Therefore, perceived appearance norms within the gay community may affect the ways in which community involvement is related to body image. When viewed together, the results of these studies suggested that the relationships between gay community identification, involvement, pride, and body image are complex and likely require further investigation. While all studies seemed to conclude that a relationship existed, its strength and direction was likely influenced by complex indirect effects.

3.3.6. Discrimination and Internalized Stigma

Sixteen studies examined the role of negative social attitudes related to sexual orientation and cultural biases towards sexual minority groups (such as homophobia, heterosexism, and homonegativity) and appearance more broadly. Overall, these variables tend to be positioned as precursors to body image in the predominant theoretical frameworks. Seven studies in this review examined the associations between body image indices and experiences of marginalization, including weight-based bias (4, 63), racism (8, 71), heterosexism (107, 119), and harassment for gender nonconformity (133). Increased experiences of these types of marginalization were associated with adverse body image outcomes among SMM, with varying

effect sizes from small to medium-large, and weight-bias experiences having the strongest relationships with body image. Furthermore, two studies among SMM proposed a serial pathway whereby higher BMI was related to body dissatisfaction, which was in turn associated with poorer quality of life, both directly and indirectly through experienced weightism (4, 63). The robust associations between discrimination based on other minoritized identities SMM may hold (e.g., body size or race) and poor body image in this population warrants further intersectional research.

Consistent with the framework presented above in which the internalization of negative social attitudes towards a group that one identifies with may be related to poor mental health outcomes, five other studies documented a relationship between greater internalized homonegativity and poorer body image, including drive for muscularity (18, 19, 22), body dysmorphic symptoms (107), and overall body dissatisfaction (22, 117), all with small effect sizes. In a sixth study, a small but significant correlation was found between internalized homophobia and greater social appearance anxiety (71). Contrary to these findings, one earlier study noted no significant relationship between internalized homophobia and body image among gay men, although they noted this sample was limited by very low levels of internalized homophobia endorsement in the sample, reducing the capacity to detect a relationship (61).

Three studies examined factors relating to the process of “coming out”, or openly identifying with a non-heterosexual sexual orientation, and their relationship with body image among SMM (9, 74, 86). One indicated self-esteem as a mediator of a weak to moderate relationship between greater sensitivity to sexual orientation-based rejection and greater drive for thinness, but not drive for muscularity, among gay men (74). In a sample of SMM with diverse sexual orientations, when examining levels of sexual openness with family and friends, openness

with family was weakly but significantly associated with lower drive for muscularity (86). Finally, the results of an experimental study further characterized the relationships between sexual orientation expression and body image but was limited by the inclusion of only gay men (9). In this study, an individual's "level of coming out" (i.e., the extent to which one openly expresses their sexual orientation) was assessed, and then participants were exposed to either homophobic or sexual orientation category labels before completing body image measures (9). Individuals with low levels of coming out reported significantly higher concerns related to achieving a more muscular and masculine body ideal when exposed to sexual orientation category labels versus homophobic labels, whereas individuals with high levels of coming out did not have significant differences in body concerns in response to either homophobic or sexual orientation category labels (9). Taken together, these results suggest that dimensions of sexual minority identity may modulate responses to discrimination based on sexual orientation and affect body image outcomes.

3.3.7. Sexual Behavior and Relationships

Thirty-five studies examined the associations between body image and sexual or relationship variables. Together, these studies varied in their positioning of these variables as precursors or outcomes of body image, as interactions in the context of relationships may impact body image, which in turn may affect sexual and dating behaviors. Results indicated with weak to moderate effect sizes that positive body image was associated with greater relationship and sexual esteem and satisfaction (73, 83, 91) and perceived social support among racial/ethnic minority SMM (71). Further, discussing body image with partners was helpful in improving body image in an interventional study, although there was little change in participants' perceptions of their current body (91). Rather, the intervention significantly reduced the

participants' desire for a thinner ideal body similarly among sexual minority men and sexual minority women, although the effect size was small (91). In another study of partnered gay men, poorer body image was associated with greater desire for a commitment ceremony, but body image was not associated with importance placed on the physical appearance of potential partners (114). Finally, one study reported an unexpected positive correlation between sexual satisfaction and appearance evaluation, where greater body dissatisfaction was moderately correlated with increased sexual satisfaction (116).

Seven studies explored the relationships between sexual and broader relationship variables among SMM of varying sexual orientations. One study exploring relationship status (partnered versus single) among gay men found no association with body satisfaction (93), while a larger, more recent study examined the association between relationship status and muscle dysmorphia symptoms, finding a "single" relationship status was associated with significantly greater appearance intolerance, but not drive for size, functional impairment, or total Muscle Dysmorphic Disorder Inventory (MDDI) score among gay men, though the effect size was small (104). A longitudinal study bolstered these findings, reporting greater drive for thinness over time among SMM with a "single" relationship status, but not heterosexual men (24). While one study reported a weak but significant relationship between greater body image self-consciousness during physical intimacy and more sexual difficulties among gay men (78), another found among gay and bisexual men that increased erectile difficulties were moderately associated with body dissatisfaction and body image self-consciousness during sex after controlling for age, but not other indices of body image such as genital self-image or body esteem (88). Among SMM, overall body dissatisfaction and penis size dissatisfaction were

associated with greater body image worries during sex in two studies with small to moderate effect sizes (10, 85).

Seven studies examined the association between sexual risk variables and body image in SMM only (10, 14, 17, 19, 25, 38, 95), with six finding no evidence of a relationship (10, 14, 17, 19, 25, 38). One study reported that self-perceived weight classification, but not appearance evaluation, appearance orientation, or body satisfaction, was moderately associated with sexual risk taking (25). However, a subsequent longitudinal study indicated that negative appearance evaluations appeared to predispose SMM for both increased sexual anxiety and lower sexual self-efficacy, although effect estimates were small (14). These findings were replicated among Latino SMM with a similar pattern of relationships emerging among body dissatisfaction, appearance investment, and condomless anal sex (17). When examining these findings more critically, it appears that findings diverge when different assessment scales are utilized and broad versus specific components of sexual risk-taking are examined. For example, earlier studies reporting null findings utilized questionnaires providing a composite score of multiple sexual practices, including condom usage, high-risk sexual behaviors, sexual partners, and sexual communication and negotiation (25, 38), while later work reporting significant associations between body image and sexual risk examined variables such as condom use only (17, 56) or sexual negotiation self-efficacy only (14).

Four studies explored use of online dating apps and body image (8, 21, 46, 98). One study revealed a small association between poorer body image and increased use of such apps (21), while another noted increased use negatively predicted body dissatisfaction, although the effect size was also small (98). Yet another found that specific negative experiences in the context of these apps, such as sexual racism (discriminating among romantic partners based on

race or overtly expressing racial preference of partners), were weakly to moderately correlated with poorer body image among SMM of color (8). Notably, a separate study reported that the relationship between dating app use and body image among SMM and heterosexual men varied by culture, recruiting Singaporean and Swedish samples of heterosexual and SMM (46). While there was no association between dating app use and body image after controlling for sexual orientation in the Singaporean sample, the Swedish sample revealed a small but significant interaction between app use and sexual orientation such that among SMM, but not heterosexual men, dating app users reported greater muscularity dissatisfaction than nonusers (46). This highlights that future research examining the experiences of SMM on social media would benefit from increased focus on how cultural, racial, and sexual identities converge online.

Seven studies examined the relationship between pornography consumption and body image with three of them failing to find support for any relationship in populations of SMM and heterosexual men (90), SMM of color only (71), and SMM only (58, 83). Notably, one study of only SMM utilized an experimental design and randomly assigned participants to view either pornographic or nature videos, noting no significant differences in body image depending on condition (58). However, three other studies involving only SMM reported weak but significant correlations between greater pornography consumption and poorer body image (64, 89, 134), with one indicating the relationship between pornography consumption and lower body appreciation was fully mediated by body surveillance and shame (89).

Eight studies compared the association between body image and sexual and relationship variables in SMM versus heterosexual men, with only one reporting no between-group differences (33). Specific sexual variables were found to correlate more with body dissatisfaction only among SMM or more strongly among SMM, including greater sexual problems (75), sexual

body image worries (85), and avoiding sex and hiding body parts during sex (48). In contrast, reporting fewer sexual partners was correlated more strongly with poor body image for heterosexual men compared to SMM men (3). While one study found that higher sexual esteem was more strongly associated with positive genital self-image in heterosexual men compared to SMM (2), another found that sexual esteem was similarly related to self-perceived sexual attractiveness among both groups (3), indicating that distinct aspects of body image may have different patterns of association with sexual esteem according to sexual orientation. In addition, heterosexual men and SMM men may differ in how close they believe their current body was to the ideal body needed to attract a partner, with SMM men showing greater discrepancy (54, 120). Thus, while these relationship patterns may not be unique to SMM, their strength may vary by sexual orientation.

In conclusion, the results of these studies were mixed. While healthier body image in SMM samples was consistently associated with improved relationship and sexual satisfaction, its associations with sexual risk behaviors and pornography were less clear, and the strength of associations between body image and sexual or relationship variables may be unique among SMM.

3.3.8. Constructs Related to Appearance and Appearance Enhancement Behaviors

Four studies examined the associations between body image and several variables related to appearance and appearance enhancement, including frequency of engagement in appearance conversations (77), tanning behaviors (12, 80), and appearance-related commentary and appearance-contingent self-worth (29). In addition, one study described mechanisms of change in a body image-focused treatment (81). Generally, these behaviors were considered to be outcomes of body image.

In a study examining potential mechanisms for the association between sexual orientation and body image, SMM were found to report higher engagement in negative appearance conversations than heterosexual men, which emerged as a mediator in the relationship between sexual orientation and poorer body image (77). A separate study examined this relationship further among SMM only, reporting that greater levels of appearance-contingent self-worth strengthened the relationship between positive (e.g., “I wish I had a body like yours”) or negative (e.g., “You need to start watching what you eat”) appearance-related commentary and decreased or increased body dissatisfaction, respectively (29). Regarding tanning, findings from one study revealed that among SMM, darker ideal skin tones were associated with more indoor and outdoor tanning behaviors, even when controlling for race and ethnicity (80). In addition, among SMM, the perception that tanning would improve overall appearance was associated with greater tanning behaviors (12). The results of these studies indicated that poorer body image in SMM was associated with higher frequency of engagement in appearance-enhancing behaviors. While body image was associated with appearance conversations and appearance commentary (29, 77), indirect effects likely influence the direction and strength of this relationship.

Finally, one repeated-measures study explored mechanisms of change in a body image treatment trial among SMM with HIV, describing relationships between greater body image concerns and efforts to modify and improve appearance, as well as situational and experiential avoidance (81). Importantly, their findings also revealed that persistent body image concerns were associated with lower acceptance and cognitive reappraisal, two positive coping skills in the context of body image distress (81). Furthermore, their findings revealed that improvements in body image were mediated by increases in such positive coping skills, providing important

support for models that emphasize how targeting the distress related to appearance, rather than modifying appearance, is a more beneficial treatment approach (81).

3.3.9. Health Concerns

Fifteen studies investigated the relationships between body image and health concerns among SMM. Ten of these studies examined variables related to HIV/AIDS (11, 13, 15, 16, 20, 56, 76, 84, 112), two were concerned with sexually transmitted infection (STI) prevalence in general (18, 110), one with prostate cancer (129), one related to cigarette smoking (111), and one considered body image and party drug use among HIV-positive SMM (128). Again here, health concerns were thought of as both body image precursors and outcomes. Overall, studies found that body image concerns were associated with poorer outcomes related to HIV/AIDS and greater engagement in risk behaviors, with moderate effect sizes overall. However, there was little evidence to suggest body image was directly related to HIV or STI status, with two studies reporting null findings in samples of gay men only (15) and SMM more broadly (110).

Other studies focusing specifically on SMM with HIV found that greater body image disturbance related to HIV symptoms was associated with reduced anti-retroviral therapy (ART) adherence (11, 16), and this was mediated in one study by depressive symptoms (11). Additionally, greater body image disturbance related to HIV was also associated with reduced condom self-efficacy (11) and other HIV sexual transmission risk behaviors (16). Furthermore, SMM who had been tested for HIV had 1.6 times the odds of reporting positive self-perceived attractiveness, compared to those who were never tested (84). In a study of SMM with HIV, higher levels of muscularity concerns were weakly associated with greater methamphetamine use (76). Among older men with HIV ($M = 54.9$, $SD = 3.0$), however, there was no relation between body image and diet quality (112).

Three studies identified indirect relationships between body image and HIV outcomes or sexual health (11, 20, 56). One reported that appearance investment moderated the relationship between body image and condomless anal sex among men with HIV, such that with low levels of appearance investment, body dissatisfaction was associated with fewer instances of condomless anal sex, but increased condomless anal sex when appearance investment was high (56). Another found that HIV status moderated the relationships between gay community connection, fitness engagement, and body image (20). Compared to those without HIV, the relationship between greater community connection and better body image was weaker among those with HIV, while the relationship between greater fitness engagement and better body image was stronger (20). This suggests that physical fitness is more strongly connected to positive body image than community connection among SMM with HIV. Although most studies were cross-sectional, evidence for a causal relationship between poorer body image and HIV outcomes was provided by an interventional study targeting body image that reported a large effect size increase in ART adherence for the group receiving the body image intervention compared to control (13). In sum, while HIV or STI status among SMM was not directly associated with poorer body image, HIV status did influence the associations between body image and other variables, and body image was connected to variables that could impact HIV outcomes in SMM, such as ART adherence and condom self-efficacy.

In a study of gay and heterosexual men with and without prostate cancer, no overall group differences or interactions were found related to appearance orientation (129), suggesting that in this population, appearance orientation may not be impacted by the illness. Finally, among a sample of Latino SMM, similar to the pattern described above regarding engaging in

risky sexual behavior, body dissatisfaction was found to moderate the relationship between appearance investment and cigarette smoking (111).

4. Discussion

The aim of this study was to provide an updated review of the recent literature, published between 2011 and 2022, examining body image among SMM. Taken together, the findings from the systematic review highlight that this population is at heightened risk for body image concerns and related behaviors. Although patterns were not entirely consistent, most studies comparing body image concerns among SMM, and heterosexual men reported higher levels of concerns among the SMM sample on at least one of the indices of interest. Specifically, the most consistent differences were found on indices of drive for leanness and, to a lesser extent, muscularity, which suggests that body image concerns among SMM might be particularly heightened for characteristics that are salient in contemporary male appearance ideals (Calzo et al., 2015; Gigi et al., 2016).

In terms of variables generally positioned as outcomes of body image, our review revealed consistent associations between poor body image and disordered eating outcomes, as well as muscularity-oriented behaviors, product, and substance use. Consistent with this, body image concerns were also found to be associated with a range of appearance-related behaviors, including conversations with peers, investment in appearance-related products, and self-tanning. Previous work has characterized engagement in appearance-focused conversations, appearance-improving behaviors, and behaviors aiming to modify weight and shape as coping strategies for body image concerns (Cash et al., 2005). The findings here are consistent with such a view. In addition, the present findings suggested that body image concerns among SMM were associated with poorer psychological functioning, including greater anxiety and depression and overall

lower quality of life. Again, these findings are consistent with those among other groups and emphasize the importance of not trivializing body image concerns and of recognizing their public health impact (Paxton et al., 2006, Griffiths et al., 2016). However, one of the findings that may be more specific to this group was the relationship between poorer body image and poorer HIV outcomes, with emerging support for a direct relationship such that poor body image might negatively impact outcomes (Blashill et al., 2017). Given the vulnerability of individuals with minority statuses to mental health concerns related to minority stress and discrimination (Calzo et al., 2017; Goldbach & Gibbs, 2015), understanding the ways in which poor body image may incrementally contribute to these concerns and negatively impact outcomes is important.

An emerging body of research has focused on sexual and relationship outcomes as correlates of body image among SMM. In both correlational and longitudinal work, findings suggested that poorer body image was associated with greater sexual risk behaviors (Blashill et al., 2016). This is of concern given the elevated risk status of SMM for various sexually transmitted infections including HIV (Blashill et al., 2016). Research exploring online dating and body image suggests that while social media may provide a range of benefits for minoritized groups through the opportunity for community building and safe spaces, engaging with certain online environments, such as dating apps specifically tailored to SMM, may also provide space for negative online experiences with potential detrimental consequences for body image (Bhambhani et al. 2019). More broadly, given the heterogeneity in norms related to dating, intimate, and sexual relationships across sexual minority subcultures (Surace & Levitt, 2015), future work focusing on the relationships between body image and sexual and relationship variables would benefit from aiming to disaggregate subcultures and norms insofar as possible. Furthermore, as social norms and legislation continue to evolve in terms of LGBTQ+ rights, it

will be important to maintain this as an area of research focus. For example, the recognition of relationships through marriage may play a role in the potentially bidirectional associations between relationship factors and body image.

In terms of correlates positioned as predictor variables, patterns of associations provided support for several of the models used to conceptualize body image concerns among SMM. In particular, empirical support is emerging for sociocultural models of body image among SMM (Gigi et al., 2016) highlighting the usefulness of continuing to ground research investigating risk factors for body image concerns within these frameworks (Tylka & Andorka, 2012). Specifically, research focused on how SMM may feel exacerbated pressure to pursue unrealistic appearance ideals, as well as how ideals may vary among SMM, would be valuable directions. In addition, emerging evidence appeared for the usefulness of objectification theory as another conceptual framework for examining body image concerns among SMM (Hart et al., 2015). To date, although the constructs of objectification theory have proven useful, examinations of models based on the pathways predicted by objectification theory have produced mixed findings (Engeln-Maddox et al., 2011; Wiseman & Moradi, 2010). It may be important to consider both theoretical and empirical advances in this domain, including different forms of objectification and the resulting oppression (Nussbaum, 1995). In addition, it may be useful to consider how interpersonal behaviors vary across contexts, including how they are appraised with regards to objectification and sexual attractiveness, and the implications for body image. Further work refining these models for use both among SMM in general and within subcultures of SMM is warranted.

An additional important area explored in relation to body image was experiences of sexual orientation-based discrimination. Overall, findings were consistent, with greater

discrimination associated with poorer body image. This is aligned with past research documenting the negative effect of stigmatization and discrimination for visible identities on body image (Neumark-Sztainer et al., 1998; Stevens et al., 2017). The relationships between discrimination based on sexual orientation and body image are complexified by issues related to self-presentation and outness. While it is not surprising that experiences of sexual orientation-based discrimination were associated with poorer body image, further examination of how these relationships may vary across contexts and self-presentations, as well as strength factors that provide resilience, is important (Perrin et al., 2020). The findings regarding the relationship with discrimination also highlight the usefulness of using a critical lens when exploring body image concerns among SMM and considering how structural oppression may be a key factor in body image concerns and other poor mental health outcomes in this group.

In addition to the patterns that emerged between discrimination and poorer body image, a smaller number of studies indicated an association between internalized stigma and indices of poor body image (e.g., Brewster et al., 2017; Hart et al., 2015; Siconolfi et al., 2016). These findings are consistent with recent minority stress perspectives that highlight the role of oppressive sociocultural contexts, with the accompanying shift in focus from the individual to society (Puckett & Levitt, 2015). Accordingly, it would be interesting to explore how engagement in activism or related activities might be implicated in these relationships, potentially providing a pathway towards reduced internalized stigma and improved body image. Given the opportunities afforded by social media and technology for such efforts, these relationships could open valuable avenues for intervention if supported.

Experiences of belongingness and positive identity affirmation were approached through studies that examined gay community involvement and identification. However, the findings

from the studies on this topic included in this review were highly variable, making it difficult to draw clear conclusions. This lack of convergence highlights it as an important area for future research. One possible reason for this is that three studies identified in this review examined relationships between body image and “gay community” involvement in samples of SMM while including non-gay identities (Doyle and Engeln, 2014; Siconolfi et al., 2016; Simpson et al., 2016). Therefore, moving forward, rather than asking participants to report on their involvement with the “gay” community, it might be more useful to consider the heterogeneity of the SMM community when conducting research in this area, as well as ascertaining which group(s) SMM might be referring to when answering such questions. This more fine-grained approach would likely assist in clarifying findings, as would the application of relevant frameworks such as the rejection-identification model (Branscombe et al., 1999).

From a methodological standpoint, it is also notable that the recent research reviewed here included a number of studies focused on the development, validation, or establishment of norms, or tools for the assessment of body image among SMM (Compte et al., 2021; Convertino et al., 2019; DeBlaere and Brewster, 2017; Hart et al., 2015; Kiss et al., 2019; Klimek et al., 2021; Nagata, Capriotti, et al., 2020; Nagata, Compte, et al., 2020; Nagata et al., 2021; Scharmer et al., 2020; Soulliard and Vander Wal, 2019; Talbot et al., 2019). This is a critical step forward, as advancing our understanding of body image among SMM relies on the existence of tools that have been supported as appropriate among this population.

4.1. Implications for Future Research

The findings from the present literature review have several important implications for future research directions. These implications are best organized according to five themes, including capturing the heterogeneity of SMM, improving study design, developing models of body image

specific to SMM, identifying modifiable risk and protective factors and critical periods through longitudinal research, and integrating factors unique to the SMM experience which may influence body image.

4.1.1. Capturing the Heterogeneity of SMM

Although recent improvements have been made to better conceptualize and measure sexual orientation, overall the extant literature continues to represent SMM as a largely homogenous group, impeding our capacity to understand the ways in which different SMM identities may differ with respect to body image and related behaviors. In this review, while most studies reported only the self-identified sexual orientation of participants, some also measured the lifetime or recent same-gender sexual activity of participants as part of the inclusion process, as described in Table 1. Due to the importance of validating and acknowledging the various stages of sexual identity formation, including those who are unsure or questioning, this review calls for future research to assess both, and clearly define the criteria used to classify sexual minority groups included in research. Moreover, the artificial homogenization of sexual minority groups may obscure systematic existing differences between sexual minority groups. Examining such groups separately would be critical to identifying such patterns.

Ultimately, future works should move away from dichotomous measures and towards ones that are better suited to reflect the complexity of sexual orientation. This will also help research to be appropriately applied in clinical practice with groups that are being increasingly recognized (e.g., those who may self-identify as heterosexual but report sexual contact with same-gender individuals) as our culture moves further from a reductionistic to a nuanced understanding of sexual orientation. In addition, future work focusing on sexual minority men beyond those who identify as gay would be important. The present review included literature focused on pansexual

and asexual individuals yet only one study examined the construct of asexuality specifically (Swami et al., 2019), and none sought to characterize body image among pansexual individuals. Expanding findings to other sexual minority groups through adequate sampling of individuals with identities other than gay or bisexual is a critical direction. Moreover, when considering predictors of body image, adopting more fluid and nuanced conceptualizations of sexual orientation might reposition the importance of contextual and relational variables (such as sense of belonging and social support, or in contrast pressures to achieve appearance standards, perceived importance of appearance, and appearance feedback and conversation).

In addition, the homogenization of SMM as a group limits our capacity to investigate the ways in which intersectional and multiple minority identities, such as racial or ethnic minority SMM, may be important to account for (Burke et al., 2020). Further, it is noted that examinations of body image among sexual minority men often fail to intersectionally explore transgender identity and sexual orientation, with only two identified studies in this review doing so (Bauer et al., 2013; Van de Grift, et al., 2016). Previous work has identified unique body image concerns among transgender individuals, often specific to the most frequently gendered aspects of appearance, although it is not yet clear how sexual orientation identity affects this experience (Jones et al., 2016).

Some notable exceptions to this occurred in the most recent studies, in particular with increased consideration of ethnic minority SMM (Bhambhani et al., 2019; Brady et al., 2019; De Santis et al., 2011; De Santis et al., 2012; Gonzales and Blashill, 2021; Rozzell et al. 2020). Nevertheless, future efforts should be made to increase the recognition of intersectional differences. Despite these notable exceptions, the work examining body image among SMM from an intersectional perspective is scant. This is an important gap as dimensions such as age,

race, and ethnicity have been found to influence body image (Matsumoto & Rodgers, 2020; Ricciardelli et al., 2007), and these effects may be modulated by sexual orientation. Further efforts to examine how sexual minority identity might intersect with other identities, and the compounded effects of discrimination towards SMM groups with other types of discrimination such as sexism, ableism, fatphobia, and racism, as well as others. For example, it has been noted that sexual minority men of racial and ethnic minority status may face particular threats to maintaining positive body image (Bhambhani et al. 2019). At the same time, some of these identities may provide valuable protective factors; racial and ethnic identity have been found to be protective of body image concerns in other groups (Quiñones et al., 2022), and these findings may extend to SMM. Exploring these factors would provide valuable additional identification of particularly vulnerable groups and strength and resilience factors.

4.1.2. Improving Study Design

In addition to the issues related to the conceptualization and assessment of sexual minority status and identity, the use of appropriate measures for outcomes and appropriate recruitment and sampling strategies are also critical areas of focus moving forward. While the measures used to assess body image in the studies reviewed here were overall appropriate for men and capable of capturing aspects of body image that may be specific to this group, additional efforts to tailor outcome measures are needed. For example, it was noted that several of the included studies examined body satisfaction as related to specific areas of the body. It may be that appearance concerns specific to this group would be important to consider, e.g., SMM may be more concerned about body hair as compared to heterosexual men (Martins, Tiggeman, & Churchett, 2008). In addition, measures of involvement in the LGBTQ+ community versus specific assessment of “gay community” involvement, or of involvement in various sexual minority

subcultures, should be developed and utilized in future research examining this correlate of body image among SMM. These forms of involvement may be directly associated with body image, as well as indirectly as risk or protective factors by affecting one's perception of minority stress and experiences of discrimination. Varying degrees of appearance orientation among groups that an individual identifies with and the role of appearance in their interpersonal environment may differentially affect an individual's pressure to achieve appearance ideals, and therefore developing a more detailed understanding of these dynamics might shed light on contradictory findings.

Furthermore, while not always the case, some of the discrepant findings in terms of group comparisons may have been attributable to sample size. Moving forward, it would be important to ensure that such comparisons are not limited by statistical power, and that this is explicitly considered in studies. For example, a small number of studies explored differences in body image (e.g., degree of thin ideal internalization) within SMM, an important direction of research and consistent with the aim of capturing the heterogeneity in these groups (Amos & McCabe, 2016a; Amos & McCabe, 2016b; Calzo et al., 2018; Eik-Nes et al., 2018; Frederick et al., 2022a; Frederick et al., 2022b; Frederick et al., 2022d; Frederick et al., 2022e; Laska et al., 2015; Levitan et al., 2019; Meneguzzo et al., 2020; VanKim et al., 2016; Whitfield et al., 2018). Nevertheless, such examinations require purposeful sampling strategies and ensuring that studies are adequately powered to detect effects that may be small.

4.1.3. Developing Models of Body Image Among SMM

While the breadth of the correlates of body image considered in recent research is useful, the majority of the studies did not explicitly ground their questions in theoretical frameworks, or better, set out to test the hypothesized pathways proposed by such models. This lack of

theoretically-driven work highlights the need for further refinement of appropriate theoretical models of the development of body image concerns and related behaviors, including disordered eating and exercise behaviors specifically among SMM. Although earlier research had elaborated useful models of the development of body image among SMM, few of the studies included in this review utilized and extended these models, with notable exceptions (e.g., Blashill et al., 2018; Breslow et al., 2020; Convertino et al., 2021; Griffiths et al., 2018; Simone et al., 2021, Tylka & Andorka, 2012). In contrast, recent research focused on developing such models among sexual minority women has been valuable in identifying testable models and providing a guiding framework for future work (Mason, Lewis, & Heron, 2018). Refining explanatory models of the development of body image concerns among SMM, including those proposed by sociocultural, objectification and minority stress theories, will be useful in the generation of hypothesis-driven research. This will ultimately increase our understanding of these concerns among SMM and further characterize their specific risk and protective factors. In addition, such theoretical conceptualizations will allow for the examination of the underlying mechanisms in the development of body image concerns and related behaviors among SMM, as well as inter-individual characteristics that may serve as moderating factors.

4.1.4. Identifying Modifiable Risk and Protective Factors and Critical Periods Through Longitudinal Research

Longitudinal research is needed to confirm risk and protective factors, as well as identify modifiable targets for intervention. As described above, grounding research in established theoretical risk models will be useful to achieve this. As for other areas of research in the field of body image (Tylka & Wood-Barcalow, 2015; Webb et al., 2015), the focus to date in the extant literature among SMM has largely been on pathological and dysfunctional dimensions of body

image. Therefore, further work on positive body image and protective factors is also needed. For example, body appreciation, a measure of positive body image, was included in only seven studies identified in this review (Alleva et al., 2020; Gauvin et al., 2021; Griffiths et al., 2021; Liu and Zheng, 2021; Simpson et al., 2016; Souillard and Vander Wal, 2019; Swami et al., 2019). Moving forward, it will be useful to increase our understanding of the development of positive body image, as well as focusing on protective factors from broad appearance pressures that may be specific to SMM.

Furthermore, future research should be expanded towards conducting longitudinal and developmentally-informed research that will seek to clarify the directionality of the relationships revealed by correlational research and identify critical developmental time periods. It follows that particular attention should be paid to adolescents and young adults when sexual orientation and identity are developing, as well as midlife and older adults who are overlooked populations and may constitute a particularly high-risk group among SMM due to cohort and developmental factors. A few studies included in this review laid preliminary work in this direction (e.g. Brennan-Ing et al., 2021; Calzo et al., 2015), with Calzo et al. reporting that SMM were more likely than their heterosexual peers to transition from a healthy (low body image concern) class to a lean-concerned class throughout development from ages 15 to 20. However, more research building on these findings is needed.

4.1.5. Integrating Factors Unique to the Experiences of SMM

Extended characterization of elements that are specific to the sociocultural context and relational experience of SMM, which may be relevant to body image and eating concerns, should be a research focus. The findings from the present review suggest that social norms regarding gender roles, as well as heterosexism and social bias against sexual minority individuals, may

play an important role with respect to body image and eating concerns in SMM. Moreover, internalized stigma that may result from living in a prejudiced social environment has also emerged as an important factor to consider. Notably, these factors may differ across sexual orientation groups, which provides additional compelling rationale for examining body image among different sexual orientation groups of men separately. However, the ways in which these factors influence body image in SMM, and how they can be integrated into theoretical models of body image and eating concerns, requires empirical investigation. In addition, increasing the understanding of the role of investment and involvement within the SMM community, in its different and changing aspects, will be an important focus. Furthermore, research clarifying how the specificities of intimate relationships among SMM may play a role in body image and related behaviors in this group is also warranted.

4.1.6. Informing Intervention and Clinical Practice

The findings from this systematic review have a number of important implications for developing interventions and resources as well as for clinical practice with SMM. Initial work developing programming for SMM has been conducted, these interventions have successfully targeted body image concerns (Blashill et al., 2017; Brown & Keel, 2015; Gauvin et al., 2021). The present findings confirm the usefulness of such interventions and suggest the existence of other potentially important modifiable factors to include, as well as the value of integrating other variables as important outcomes. For example, targeting specific community factors such as the perceived importance of appearance in attracting partners may be beneficial. Similarly, including muscularity-related outcomes and mental health concerns could be useful. In terms of clinical practice, findings encourage clinicians to cultivate a deeper understanding of sexuality, incorporating dimensions of sexual behavior, attraction, orientation, and desire, in order to best

serve those across the sexual minority spectrum who identify as men and present with body image concerns and related issues. In addition, findings suggest that among specific groups, such as those with health concerns including HIV, body image should be considered an important area of investigation.

4.2. Limitations

The present study includes several limitations worth noting. First, while from a theoretical standpoint intersectionality theory provides a particularly useful lens for considering body images concerns among SMM who may hold additional minoritized identities (Burke et al., 2020), our specified search terms did not include this as a key word. Thus, work that included sexual orientation in combination with other minoritized identities, without clearly indicating this in the abstract, may have been overlooked. In addition, the review was limited to studies that contained quantitative data (including potential mixed methods approaches), and to studies published in English, or that could be translated into in English. Together, these inclusion criteria may have also prevented rich qualitative work, including research in other cultural contexts, from being included. Finally, while the operational definition of body image in the present study allowed for clear and consistent application of inclusion and exclusion criteria and comparison of assessments, it may have favored the inclusion of work focusing on body satisfaction and body dissatisfaction compared to other distinctive components of body image such as body functionality and positive body image. Future work focusing on this body of research would be useful and potentially shed light on important lived experience and cultural variations related to body image among SMM.

4.3. Conclusion

The findings from this systematic review of recent literature focusing on body image and body image concerns among SMM highlight that this population is unique due to contextual factors, and therefore presents with specific risks concerning body image and related behaviors. Findings strongly support previous work identifying SMM as a vulnerable population for body image concerns (Morrison et al., 2004). In addition, findings suggest that aspects related to the experience of SMM, including those regarding sexual and intimate relationships, and the experience of holding and being perceived as holding one or more minority identities, may be important. Taken together, these findings highlight the need for additional research focus on this group and have implications for future research. Specifically, additional research is needed that utilizes appropriate measures, is grounded in theoretical models of the development of body image, and is capable of informing intervention efforts by identifying modifiable risk and protective factors.

References

- Alleva, J. M., Paraskeva, N., Craddock, N., & Diedrichs, P. C. (2018). Body appreciation in British men: Correlates and variation across sexual orientation. *Body Image, 27*, 169–178. <https://doi.org/10.1016/j.bodyim.2018.09.004>

- Amos, N., & McCabe, M. (2016a). Positive perceptions of genital appearance and feeling sexually attractive: Is it a matter of sexual esteem? *Archives of Sexual Behavior*, *45*(5), 1249–1258. <https://doi.org/10.1007/s10508-015-0680-4>
- Amos, N., & McCabe, M. P. (2016b). Self-perceptions of sexual attractiveness: Satisfaction with physical appearance is not of primary importance across gender and sexual orientation. *The Journal of Sex Research*, *53*(2), 172–185. <https://doi.org/10.1080/00224499.2014.1002128>
- Austen, E., Greenaway, K. H., & Griffiths, S. (2020). Differences in weight stigma between gay, bisexual, and heterosexual men. *Body Image*, *35*, 30–40. <https://doi.org/10.1016/j.bodyim.2020.08.002>
- Bhambhani, Y., Flynn, M. K., Kellum, K. K., & Wilson, K. G. (2019). Examining sexual racism and body dissatisfaction among men of color who have sex with men: The moderating role of body image inflexibility. *Body Image*, *28*, 142–148. <https://doi.org/10.1016/j.bodyim.2019.01.007>
- Blashill, A. J., Rooney, B. M., & Wells, K. J. (2018). An integrated model of skin cancer risk in sexual minority males. *Journal of Behavioral Medicine*, *41*(1), 99–108. <https://doi.org/10.1007/s10865-017-9879-2>
- Blashill, A. J., Safren, S. A., Wilhelm, S., Jampel, J., Taylor, S. W., O’Cleirigh, C., & Mayer, K. H. (2017). Cognitive behavioral therapy for body image and self-care (CBT-BISC) in sexual minority men living with HIV: A randomized controlled trial. *Health Psychology*, *36*(10), 937–946. <https://doi.org/10.1037/hea0000505>
- Blashill, A. J., Tomassilli, J., Biello, K., O’Cleirigh, C., Safren, S. A., & Mayer, K. H. (2016). Body dissatisfaction among sexual minority men: Psychological and sexual health

outcomes. *Archives of Sexual Behavior*, 45(5), 1241–1247.

<https://doi.org/10.1007/s10508-015-0683-1>

Bosley, A. (2011). Body image and eating disturbance in gay and bisexual men: A review.

Journal of GLBT Family Studies, 7(5), 457–469.

<https://doi.org/10.1080/1550428x.2011.623962>

Brady, J. P., Nogg, K. A., Rozzell, K. N., Rodriguez-Diaz, C. E., Horvath, K. J., Safren, S. A., &

Blashill, A. J. (2019). Body image and condomless anal sex among Young Latino sexual minority men. *Behaviour Research and Therapy*, 115, 129–134.

<https://doi.org/10.1016/j.brat.2018.10.017>

Branscombe, N. R., Schmitt, M. T., & Harvey, R. D. (1999). Perceiving pervasive discrimination

among African Americans: Implications for group identification and well-being. *Journal of Personality and Social Psychology*, 77(1), 135–149. [https://doi.org/10.1037/0022-](https://doi.org/10.1037/0022-3514.77.1.135)

3514.77.1.135

Brennan-Ing, M., Haberlen, S., Ware, D., Egan, J. E., Brown, A. L., Meanley, S., Palella, F. J.,

Bolan, R., Cook, J. A., Okafor, C. N., Friedman, M. R., & Plankey, M. W. (2021).

Psychological connection to the gay community and negative self-appraisals in middle-aged and older men who have sex with men: the mediating effects of fitness engagement.

The Journals of Gerontology: Series B. <https://doi.org/10.1093/geronb/gbab076>

Breslow, A. S., Sandil, R., Brewster, M. E., Parent, M. C., Chan, A., Yucel, A., Bensmiller, N.,

& Glaeser, E. (2020). Adonis on the apps: Online objectification, self-esteem, and sexual minority men. *Psychology of Men & Masculinities*, 21(1), 25–35.

<https://doi.org/10.1037/men0000202>

- Brewster, M.E., Sandil, R., DeBlaere, C., Breslow, A., & Eklund, A. (2017). 'Do you even lift, bro?' Objectification, minority stress, and body image concerns for sexual minority men. *Psychology of Men & Masculinity*, 18(2), 87-98. <https://doi.org/10.1037/men0000043>
- Brown, T. A., & Keel, P. K. (2015). A randomized controlled trial of a peer co-led dissonance-based eating disorder prevention program for gay men. *Behaviour Research and Therapy*, 74, 1-10. <https://doi.org/10.1016/j.brat.2015.08.008>
- Burke, N. L., Schaefer, L. M., Hazzard, V. M., & Rodgers, R. F. (2020). Where identities converge: The importance of intersectionality in eating disorders research. *International Journal of Eating Disorders*, 53(10), 1605-1609. <https://doi.org/10.1002/eat.23371>
- Calzo, J. P., Austin, S. B., & Micali, N. (2018). Sexual orientation disparities in eating disorder symptoms among adolescent boys and girls in the UK. *European Child & Adolescent Psychiatry*, 27(11), 1483–1490. <https://doi.org/10.1007/s00787-018-1145-9>
- Calzo, J. P., Blashill, A. J., Brown, T. A., & Argenal, R. L. (2017). Eating disorders and disordered weight and shape control behaviors in sexual minority populations. *Current Psychiatry Reports*, 19(8), 49. <https://doi.org/10.1007/s11920-017-0801-y>
- Calzo, J. P., Masyn, K. E., Corliss, H. L., Scherer, E. A., Field, A. E., & Austin, S. B. (2015). Patterns of body image concerns and disordered weight-and shape-related behaviors in heterosexual and sexual minority adolescent males. *Developmental Psychology*, 51(9), 1216. <https://doi.org/10.1037/dev0000027>
- Cash, T. F., Santos, M. T., & Williams, E. F. (2005). Coping with body-image threats and challenges: validation of the Body Image Coping Strategies Inventory. *Journal of Psychosomatic Research*, 58(2), 190–199. <https://doi.org/10.1016/j.jpsychores.2004.07.008>

Compte, E. J., Cattle, C. J., Lavender, J. M., Murray, S. B., Brown, T. A., Capriotti, M. R., Flentje, A., Lubensky, M. E., Obedin-Maliver, J., Lunn, M. R., & Nagata, J. M. (2021). Psychometric evaluation of the Muscle Dysmorphic Disorder Inventory (MDDI) among cisgender gay men and cisgender lesbian women. *Body Image*, *38*, 241-250.

[https://doi.org/S1740-1445\(21\)00061-9](https://doi.org/S1740-1445(21)00061-9)

Convertino, A. D., Gonzales, M., Malcarne, V. L., & Blashill, A. J. (2019). A psychometric investigation of the Sociocultural Attitudes Towards Appearance Questionnaire-4-Revised among sexual minority adults in the U.S. *Body Image*, *31*, 96–101.

<https://doi.org/10.1016/j.bodyim.2019.08.013>

Convertino, A. D., Brady, J. P., Albright, C. A., Gonzales, M., & Blashill, A. J. (2021). The role of sexual minority stress and community involvement on disordered eating, dysmorphic concerns and appearance- and performance-enhancing drug misuse. *Body Image*, *36*, 53-63. <https://doi.org/https://doi.org/10.1016/j.bodyim.2020.10.006>

Cooper, P. J., Taylor, M. J., Cooper, Z., & Fairbum, C. G. (1987). The development and validation of the Body Shape Questionnaire. *International Journal of Eating Disorders*, *6*(4), 485–494. [https://doi.org/10.1002/1098-108x\(198707\)6:4<485::aid-eat2260060405>3.0.co;2-o](https://doi.org/10.1002/1098-108x(198707)6:4<485::aid-eat2260060405>3.0.co;2-o)

Crenshaw, K. (1989). Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics.

University of Chicago Legal Forum, *1989*(1), Article 8. Retrieved from

<https://chicagounbound.uchicago.edu/uclf/vol1989/iss1/8>

- DeBlaere, C., & Brewster, M. E. (2017). A confirmation of the Drive for Muscularity Scale with sexual minority men. *Psychology of Sexual Orientation and Gender Diversity, 4*(2), 227–232. <https://doi.org/10.1037/sgd0000224>
- De Santis, J. P., Arcia, A., Vermeesch, A., & Gattamorta, K. A. (2011). Using structural equation modeling to identify predictors of sexual behaviors among hispanic men who have sex with men. *Nursing Clinics of North America, 46*(2), 233-248. <https://doi.org/10.1016/J.CNUR.2011.02.010>
- De Santis, J. P., Layerla, D. M., Barroso, S., Gattamorta, K. A., Sanchez, M., & Prado, G. J. (2012). Predictors of eating attitudes and behaviors among gay Hispanic men. *Archives of Psychiatric Nursing, 26*(2), 111-126. <https://doi.org/10.1016/j.apnu.2011.06.003>
- Eik- Nes, T. T., Austin, S. B., Blashill, A. J., Murray, S. B., & Calzo, J. P. (2018). Prospective health associations of drive for muscularity in young adult males. *International Journal of Eating Disorders, 51*(10), 1185–1193. <https://doi.org/10.1002/eat.22943>
- Engeln-Maddox, R., Miller, S. A., & Doyle, D. M. (2011). Tests of objectification theory in gay, lesbian, and heterosexual community samples: Mixed evidence for proposed pathways. *Sex Roles, 65*(7-8), 518-532. <https://doi.org/10.1007/s11199-011-9958-8>
- Filiault, S. M., & Drummond, M. J. (2009). Methods and methodologies: Investigating gay men's body image in Westernized cultures. *Critical Public Health, 19*(3-4), 307-323. <https://doi.org/10.1080/09581590802626463>
- Frederick, D. A., Crerand, C. E., Brown, T. A., Perez, M., Best, C. R., Cook-Cottone, C. P., Compte, E. J., Convertino, L., Gordon, A. R., Malcarne, V. L., Nagata, J. M., Parent, M. C., Pennesi, J. L., Pila, E., Rodgers, R. F., Schaefer, L. M., Thompson, J. K., Tylka, T. L., & Murray, S. B. (2022a). Demographic predictors of body image satisfaction: The U.S.

Body Project I [Article in Press]. *Body Image*, *41*, 17-31.

<https://doi.org/10.1016/j.bodyim.2022.01.011>

Frederick, D. A., Gordon, A. R., Cook-Cottone, C. P., Brady, J. P., Reynolds, T. A., Alley, J., Garcia, J. R., Brown, T. A., Compte, E. J., Convertino, L., Crerand, C. E., Malcarne, V. L., Nagata, J. M., Parent, M. C., Pennesi, J. L., Perez, M., Pila, E., Rodgers, R. F., Schaefer, L. M., . . . Murray, S. B. (2022b). Demographic and sociocultural predictors of sexuality-related body image and sexual frequency: The U.S. Body Project I [Article in Press]. *Body Image*, *41*, 109-127. <https://doi.org/10.1016/j.bodyim.2022.01.010>

Frederick, D. A., Pila, E., Malcarne, V. L., Compte, E. J., Nagata, J. M., Best, C. R., Cook-Cottone, C. P., Brown, T. A., Convertino, L., Crerand, C. E., Parent, M. C., Pennesi, J. L., Perez, M., Rodgers, R. F., Schaefer, L. M., Thompson, J. K., Tylka, T. L., & Murray, S. B. (2022d). Demographic predictors of objectification theory and tripartite influence model constructs: The U.S. Body Project I [Article]. *Body Image*, *40*, 182-199. <https://doi.org/10.1016/j.bodyim.2021.12.012>

Frederick, D. A., Reynolds, T. A., Barrera, C. A., & Murray, S. B. (2022e). Demographic and sociocultural predictors of face image satisfaction: The U.S. Body Project I [Article in Press]. *Body Image*, *41*, 1-16. <https://doi.org/10.1016/j.bodyim.2022.01.016>

Fredrickson, B. L., & Roberts, T. A. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly*, *21*(2), 173-206. <https://doi.org/10.1111/j.1471-6402.1997.tb00108.x>

Gauvin, S. E. M., Joy, P., Dunn, B. L., Lee, M., & Williamson, R. E. (2021). Empirical evaluation of rainbow reflections: A comic book anthology on body image for queer men. *Archives of Sexual Behavior*. <https://doi.org/10.1007/s10508-020-01876-8>

Gigi, I., Bachner-Melman, R., & Lev-Ari, L. (2016). The association between sexual orientation, susceptibility to social messages and disordered eating in men. *Appetite*, *99*, 25–33.

<https://doi.org/10.1016/j.appet.2015.12.027>

GLAAD. (2021). Where We Are on TV 2021 Report. Retrieved May 23, 2022, from

<https://www.glaad.org/whereweareontv21>

Goldbach, J. T., & Gibbs, J. (2015). Strategies employed by sexual minority adolescents to cope with minority stress. *Psychology of Sexual Orientation and Gender Diversity*, *2*(3), 297.

<https://doi.org/10.1037/sgd0000124>

Gonzales, M., & Blashill, A. J. (2021). Ethnic/racial and gender differences in body image disorders among a diverse sample of sexual minority U.S. adults. *Body Image*, *36*, 64-73.

<https://doi.org/https://doi.org/10.1016/j.bodyim.2020.10.007>

Griffiths, S., Austen, E., Krug, I., & Blake, K. (2021). Beach body ready? Shredding for summer? A first look at "seasonal body image". *Body Image*, *37*, 269-281.

[https://doi.org/S1740-1445\(21\)00038-3](https://doi.org/S1740-1445(21)00038-3)

Griffiths, S., Hay, P., Mitchison, D., Mond, J. M., McLean, S. A., Rodgers, B., Massey, R., & Paxton, S. J. (2016). Sex differences in the relationships between body dissatisfaction, quality of life and psychological distress. *Australian and New Zealand Journal of Public Health*, *40*(6), 518–522.

<https://doi.org/10.1111/1753-6405.12538>

Griffiths, S., Jotanovic, D., & Austen, E. (2021). Androgen abuse among gay and bisexual men.

Current Opinion in Endocrinology, Diabetes & Obesity, Publish Ahead of Print.

<https://doi.org/10.1097/med.0000000000000684>

Griffiths, S., Mitchison, D., Murray, S. B., & Mond, J. M. (2018). Pornography use in sexual minority males: Associations with body dissatisfaction, eating disorder symptoms,

- thoughts about using anabolic steroids and quality of life. *Australian & New Zealand Journal of Psychiatry*, 52(4), 339–348. <https://doi.org/10.1177/0004867417728807>
- Hart, T. A., Rotondi, N. K., Souleymanov, R., & Brennan, D. J. (2015). Psychometric properties of the Social Appearance Anxiety Scale among Canadian gay and bisexual men of color. *Psychology of Sexual Orientation and Gender Diversity*, 2(4), 470–481. <https://doi.org/10.1037/sgd0000140>
- Hildebrandt, T., Langenbacher, J., & Schlundt, D. G. (2004). Muscularity concerns among men: Development of attitudinal and perceptual measures. *Body Image*, 1(2), 169–181. <https://doi.org/10.1016/j.bodyim.2004.01.001>
- Jankowski, G. S., Fawcner, H., Slater, A., & Tiggemann, M. (2014). “Appearance potent”? A content analysis of UK gay and straight men's magazines. *Body Image*, 11(4), 474–481. <https://doi.org/10.1016/j.bodyim.2014.07.010>
- Kimmel, S. B., & Mahalik, J. R. (2005). Body image concerns of gay men: the roles of minority stress and conformity to masculine norms. *Journal of Consulting and Clinical Psychology*, 73(6), 1185. <https://doi.org/10.1037/0022-006x.73.6.1185>
- Kiss, M. J., Morrison, T. G., & McDonagh, L. K. (2019). Male Body Image Self-Consciousness During Physical Intimacy (M-BISC): Validating the M-BISC With Gay Men. *The Journal of Sexual Medicine*, 16(2), 307–315. <https://doi.org/10.1016/j.jsxm.2018.12.004>
- Klimek, P., Convertino, A. D., Gonzales, M. I. V., Roesch, S. C., & Blashill, A. J. (2021). Confirmatory factor and measurement invariance analyses of the Drive for Muscularity Scale in sexual minority men and women. *Psychology of Sexual Orientation and Gender Diversity*. <https://doi.org/10.1037/sgd0000472>

Laska, M. N., VanKim, N. A., Erickson, D. J., Lust, K., Eisenberg, M. E., & Rosser, B. R. S.

(2015). Disparities in weight and weight behaviors by sexual orientation in college students. *American Journal of Public Health, 105*(1), 111–121.

<https://doi.org/10.2105/ajph.2014.302094>

Levitan, J., Quinn-Nilas, C., Milhausen, R., & Breuer, R. (2019). The relationship between body

image and sexual functioning among gay and bisexual men. *Journal of Homosexuality, 66*(13), 1856–1881. <https://doi.org/10.1080/00918369.2018.1519301>

Miller, J. M., & Luk, J. W. (2018). A systematic review of sexual orientation disparities in disordered eating and weight-related behaviors among adolescents and young adults: toward a developmental model. *Adolescent Research Review, 1*-22.

<https://doi.org/10.1007/s40894-018-0079-2>

Liu, Y., & Zheng, L. (2021). The influence of sexually explicit material consumption on body

image via objectified body consciousness among gay and bisexual men in china.

Sexuality Research & Social Policy: A Journal of the NSRC.

<https://doi.org/10.1007/s13178-021-00661-z>

Martins, Y., Tiggemann, M., & Churchett, L. (2008). Hair today, gone tomorrow: A comparison

of body hair removal practices in gay and heterosexual men. *Body Image, 5*(3), 312-316.

<https://doi.org/10.1016/j.bodyim.2008.04.001>

Mason, T. B., Lewis, R. J., & Heron, K. E. (2018). Disordered eating and body image concerns

among sexual minority women: A systematic review and testable model. *Psychology of Sexual Orientation and Gender Diversity, 5*(4), 397-422.

<https://doi.org/10.1037/sgd0000293>

- Matsumoto, A., & Rodgers, R. F. (2020). A review and integrated theoretical model of the development of body image and eating disorders among midlife and aging men. *Clinical Psychology Review, 81*, 101903. <https://doi.org/10.1016/j.cpr.2020.101903>
- Meneguzzo, P., Collantoni, E., Bonello, E., Vergine, M., Behrens, S. C., Tenconi, E., & Favaro, A. (2020). The role of sexual orientation in the relationships between body perception, body weight dissatisfaction, physical comparison, and eating psychopathology in the cisgender population. *Eating and weight disorders: EWD, 26*(6), 1985-2000. <https://doi.org/10.1007/s40519-020-01047-7>
- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: conceptual issues and research evidence. *Psychological bulletin, 129*(5), 674-697. <https://doi.org/10.1037/0033-2909.129.5.674>
- Miller, J. M., & Luk, J. W. (2018). A systematic review of sexual orientation disparities in disordered eating and weight-related behaviors among adolescents and young adults: toward a developmental model. *Adolescent Research Review, 1*-22. <https://doi.org/10.1007/s40894-018-0079-2>
- Morrison, M. A., Morrison, T. G., & Sager, C.-L. (2004). Does body satisfaction differ between gay men and lesbian women and heterosexual men and women?: A meta-analytic review. *Body Image, 1*(2), 127-138. <https://doi.org/10.1016/j.bodyim.2004.01.002>
- Nagata, J. M., Capriotti, M. R., Murray, S. B., Compte, E. J., Griffiths, S., Bibbins- Domingo, K., Obedin- Maliver, J., Flentje, A., Lubensky, M. E., & Lunn, M. R. (2020). Community norms for the Eating Disorder Examination Questionnaire among cisgender gay men. *European Eating Disorders Review, 28*(1), 92–101. <https://doi.org/10.1002/erv.2708>

- Nagata, J. M., Compte, E. J., Cattle, C. J., Lavender, J. M., Brown, T. A., Murray, S. B., Flentje, A., Capriotti, M. R., Lubensky, M. E., Obedin-Maliver, J., & Lunn, M. R. (2021). Community norms of the muscle dysmorphic disorder inventory (MDDI) among cisgender sexual minority men and women. *BMC Psychiatry, 21*.
<https://doi.org/10.1186/s12888-021-03302-2>
- Nagata, J. M., Compte, E. J., Murray, S. B., Schauer, R., Pak, E., Flentje, A., Capriotti, M. R., Lubensky, M. E., Lunn, M. R., & Obedin-Maliver, J. (2020). Community norms for the eating disorder examination questionnaire (EDE-Q) among cisgender bisexual plus women and men. *Eating and Weight Disorders: EWD, 26*(7): 2227–2239.
<https://doi.org/10.1007/s40519-020-01070-8>
- National Heart, Lung, and Blood Institute. (n.d.). *Study Quality Assessment Tools*. Retrieved June 16, 2020, from <https://www.nhlbi.nih.gov/health-topics/study-quality-assessment-tools>
- Neumark-Sztainer, D., Story, M., & Faibisch, L. (1998). Perceived stigmatization among overweight African-American and Caucasian adolescent girls. *Journal of Adolescent Health, 23*(5), 264-270. [https://doi.org/10.1016/s1054-139x\(98\)00044-5](https://doi.org/10.1016/s1054-139x(98)00044-5)
- Nussbaum, M. C. (1995). Objectification. *Philosophy & Public Affairs, 24*(4), 249-291.
<https://doi.org/10.1111/j.1088-4963.1995.tb00032.x>
- O'Flynn, J. L. (2019). *Exploring the role of multiple minority status in eating disorder symptoms and help received among college students* (Order No. 13811889) [Doctoral dissertation, Northeastern University]. ProQuest Dissertations and Theses Global.

- Parent, M. C., & Bradstreet, T. C. (2017). Integrating self-concept into the relationship between drive for muscularity, and disordered eating and depression, among men. *Psychology of Men & Masculinity, 18*(1), 1–11. <https://doi.org/10.1037/men0000038>
- Paxton, S. J., Neumark-Sztainer, D., Hannan, P. J., & Eisenberg, M. E. (2006). Body dissatisfaction prospectively predicts depressive mood and low self-esteem in adolescent girls and boys. *Journal of Clinical Child and Adolescent Psychology, 35*(4), 539-549. https://doi.org/10.1207/s15374424jccp3504_5
- Perrin, P. B., Sutter, M. E., Trujillo, M. A., Henry, R. S., & Pugh Jr, M. (2020). The minority strengths model: Development and initial path analytic validation in racially/ethnically diverse LGBTQ individuals. *Journal of Clinical Psychology, 76*(1), 118-136. <https://doi.org/10.1002/jclp.22850>
- Quiñones, I. C., Herbozo, S., & Haedt-Matt, A. A. (2022). Body dissatisfaction among ethnic subgroups of Latin women: An examination of acculturative stress and ethnic identity. *Body Image, 41*, 272–283. Advance online publication. <https://doi.org/10.1016/j.bodyim.2022.03.006>
- Ricciardelli, L. A., McCabe, M. P., Williams, R. J., & Thompson, J. K. (2007). The role of ethnicity and culture in body image and disordered eating among males. *Clinical Psychology Review, 27*(5), 582–606. <https://doi.org/10.1016/j.cpr.2007.01.016>
- Rozzell, K. N., Nogg, K. A., Oshana, A., & Blashill, A. J. (2020). Body image and cigarette smoking among sexual minority Latino men. *Psychology of Sexual Orientation and Gender Diversity, 7*(2), 154–161. <https://doi.org/10.1037/sgd0000367>

- Scharmer, C., Donahue, J. M., Heiss, S., & Anderson, D. A. (2020). Factor structure of the Eating Disorder Examination – Questionnaire among heterosexual and sexual minority males. *Eating Behaviors*, 38, 101403. <https://doi.org/10.1016/j.eatbeh.2020.101403>
- Siconolfi, D. E., Kapadia, F., Moeller, R. W., Eddy, J. A., Kupprat, S. A., Kingdon, M. J., & Halkitis, P. N. (2016). Body dissatisfaction in a diverse sample of young men who have sex with men: The P18 cohort study. *Archives of Sexual Behavior*, 45(5), 1227-1239. <https://doi.org/10.1007/s10508-015-0592-3>
- Simone, M., Donahue, J. M., Anderson, L. M., & Anderson, D. (2021). Sexual orientation-based differential item functioning in measures of body image concerns and ideals among men. *Psychology of Men & Masculinities*, 22(1), 1-6. <https://doi.org/10.1037/men0000273>
- Simpson, C. C., Sutter, M., & Perrin, P. B. (2016). Can community consciousness be a bad thing? A moderated mediation analysis of heterosexism, mental health and body appreciation in sexual minority men. *Culture, Health & Sexuality*, 18(11), 1279-1294. <https://doi.org/10.1080/13691058.2016.1183047>
- Soulliard, Z. A., & Vander Wal, J. S. (2019). Validation of the Body Appreciation Scale-2 and relationships to eating behaviors and health among sexual minorities. *Body Image*, 31, 120–130. <https://doi.org/10.1016/j.bodyim.2019.09.003>
- Stevens, S. D., Herbozo, S., Morrell, H. E., Schaefer, L. M., & Thompson, J. K. (2017). Adult and childhood weight influence body image and depression through weight stigmatization. *Journal of Health Psychology*, 22(8), 1084-1093. <https://doi.org/10.1177/1359105315624749>
- Stice, E. (2002). Risk and maintenance factors for eating pathology: a meta-analytic review. *Psychological Bulletin*, 128(5), 825. <https://doi.org/10.1037/0033-2909.128.5.825>

- Surace, F. I., & Levit, H. M. (2015). Lesbian, Gay, Bisexual, Transgender, Queer: Bear and Leather Subcultures. In J. D. Wright (Ed.), *International Encyclopedia of the Social & Behavioral Sciences* (Vol. 13, pp. 887–892).
- Swami, V., Laughton, R., Grover, S., & Furnham, A. (2019). Asexuality is inversely associated with positive body image in British adults. *Heliyon*, 5(9).
<https://doi.org/10.1016/J.HELIYON.2019.E02452>
- Talbot, D., Smith, E., Cass, J., & Griffiths, S. (2019). Development and validation of the New Somatomorphic Matrix–Male: A figural rating scale for measuring male actual–ideal body discrepancy. *Psychology of Men & Masculinities*, 20(3), 356–367.
<https://doi.org/10.1037/men0000165>
- Tiggemann, M., Martins, Y., & Kirkbride, A. (2007). Oh to be lean and muscular: body image ideals in gay and heterosexual men. *Psychology of Men & Masculinity*, 8(1), 15.
<https://doi.org/10.1037/1524-9220.8.1.15>
- Tylka, T. L., & Andorka, M. J. (2012). Support for an expanded tripartite influence model with gay men. *Body Image*, 9(1), 57–67. <https://doi.org/10.1016/j.bodyim.2011.09.006>
- Tylka, T. L., & Wood-Barcalow, N. L. (2015). What is and what is not positive body image? Conceptual foundations and construct definition. *Body Image*, 14, 118–129.
<https://doi.org/10.1016/j.bodyim.2015.04.001>
- VanKim, N. A., Erickson, D. J., Eisenberg, M. E., Lust, K., Rosser, B. R. S., & Laska, M. N. (2016). Relationship between weight-related behavioral profiles and health outcomes by sexual orientation and gender. *Obesity*, 24(7), 1572–1581.
<https://doi.org/10.1002/oby.21516>

Webb, J. B., Wood-Barcalow, N. L., & Tylka, T. L. (2015). Assessing positive body image: Contemporary approaches and future directions. *Body Image, 14*, 130-145.

<https://doi.org/10.1016/j.bodyim.2015.03.010>

Whitfield, T. H. F., Rendina, H. J., Grov, C., & Parsons, J. T. (2018). Viewing sexually explicit media and its association with mental health among gay and bisexual men across the U.S. *Archives of Sexual Behavior, 47*(4), 1163–1172. [https://doi.org/10.1007/s10508-](https://doi.org/10.1007/s10508-017-1045-y)

[017-1045-y](https://doi.org/10.1007/s10508-017-1045-y)

Wiseman, M. C., & Moradi, B. (2010). Body image and eating disorder symptoms in sexual minority men: A test and extension of objectification theory. *Journal of Counseling Psychology, 57*(2), 154. <https://doi.org/10.1037/a0018937>

The World Bank (2022). *Country Classifications by Income: FY 2021-2022*.

<https://datatopics.worldbank.org/world-development-indicators/the-world-by-income-and-region.html>

Figure 1

Study selection process in accordance with PRISMA guidelines

