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Exploring the Relationships Between Body Image, Sexual Well-Being, and Community Connectedness among Gay, Bisexual and Queer+ Men

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ABSTRACT

Sexual minority (SM) men are more likely than heterosexual men to experience body dissatisfaction due to prevailing body ideals (e.g. lean and muscular) within the SM community. Negative body image can have harmful effects on well-being, and, by extension, *sexual* well-being. The current study aimed to investigate whether SM men's minority identification and LGBTQ+ community connectedness moderates the relationship between drives for muscularity and sexual anxiety. To address this aim, 298 Australian-residing SM men completed an online survey that examined drive for muscularity, sexual anxiety, and connectedness or identification with the LGBTQ+ and SM-specific communities. As hypothesized, the results showed a positive relationship between drive for muscularity and sexual anxiety. Additionally, LGBTQ+ community connectedness, but importantly not SM identification, was found to moderate this relationship, showing a positive association only when connection was at low or average levels. These results highlight the beneficial effects that LGBTQ+ community connection can have for SM men, such as protecting them against the harmful impacts of poor body image on sexual well-being. These results also provide preliminary insights into the need to expand the understandings of bodily diversity, and diversity of sexual well-being experiences, among SM men less connected to the broader LGBTQ+ community.

Sexual Minority (SM) men are disproportionately more likely than heterosexual men to experience body dissatisfaction (Dahlenburg et al., 2020; Muzi et al., 2023). This may be due to prevailing, and often stringent, body ideals within the SM community (Emetu et al., 2021; Hammack et al., 2022; Tran et al., 2020). Research has shown that body dissatisfaction relates to negative physical and mental health outcomes (Griffiths et al., 2016), including poorer sexual well-being (Gillen & Markey, 2019). Understanding the nature of the relationship between body dissatisfaction and sexual well-being, and importantly, the role that community connectedness and identification plays within this relationship, can help address intra-group issues relating to body image and sexual well-being, aid in the reduction of body dissatisfaction, and create healthier and safer sex lives for SM men.

Body Image

Body image is considered a multifaceted construct, comprising different dimensions. Body image captures the affective evaluations of one's body, as well as their beliefs and perceptions regarding the functionality, aesthetics, and size of their body (Gillen & Markey, 2016). Despite these different dimensions of body image, research has generally focused on the concept of body dissatisfaction (Grogan, 2006) and its health consequences (Gillen & Markey, 2016, 2019; Griffiths et al., 2016). As an affective and evaluative component of body image, body dissatisfaction is the degree to which one is not satisfied with their body's appearance, or functionality, and is often measured by the level of incongruence between the perception of their own body and their body ideal (Gillen & Markey, 2016).

Body dissatisfaction can arise in different ways (see Gillen & Markey, 2016 for a review). For example, pubertal changes (O'Dea & Abraham, 1999) and unsupportive social relations (i.e., family members, friends, or romantic partnerships; Bearman et al., 2006) may be risk factors toward developing body image concerns. Furthermore, this can be exacerbated by modeling dieting behaviors from family members (Haines et al., 2008). From a broader perspective, the cultural influence of mass media exposure has been evidenced to impact body dissatisfaction, specifically through exposure to images depicting a stringent, and likely unattainable, body ideal (e.g., muscular or thin ideal; Barlett et al., 2008; Grabe et al., 2008). Similar results have also been found in the context of social media use, whereby greater social media usage resulted in increased body dissatisfaction (Marques et al., 2022; Saiphoo & Vahedi, 2019).

Whilst the majority of research on body image has been evidenced in samples of women (Gillen & Markey, 2019; Grogan, 2006), emerging evidence has documented the prevalence of body image concerns among men. Research within this sample has revealed a disparity between heterosexual and SM men in the degree of body dissatisfaction (Dahlenburg et al., 2020; Muzi et al., 2023). A meta-analysis by

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Dahlenburg et al. (2020) revealed that body image dissatisfaction (encompassing multiple constructs, e.g., drive for muscularity) is more prevalent in gay men than in heterosexual men. These results are also evident within samples of bisexual and pansexual men (Basabas et al., 2019; Muzi et al., 2023). Internalized weight bias (i.e., internalization of weight related stereotypes), which can result in body dissatisfaction (Pearl & Puhl, 2016), has also been shown to be higher in gay and bisexual men, compared to heterosexual men (Austen et al., 2020).

This disparity may be a result of the prevailing body ideals within the SM community (Emetu et al., 2021; Hammack et al., 2022; Tran et al., 2020). Media targeted toward SM men often consists of unrealistic depictions of the male body. For instance, research has shown that high levels of muscularity and low levels of fat were the most common body types depicted on gay targeted blogs (Grimm & Schwartz, 2017; Schwartz & Grimm, 2016). These body ideals (e.g., lean and muscular) are highly prevalent within this community (Emetu et al., 2021; Hammack et al., 2022; Tran et al., 2020). Consequently, gay men may experience more pressure to conform toward these body ideals (Hospers & Jansen, 2005; Hunt et al., 2012), which in turn may contribute to poorer well-being.

Community Connectedness and Identification

Considering the emphasis on stringent physical appearance ideals within the gay community (see e.g., Calzo et al., 2013; Emetu et al., 2021; Hammack et al., 2022; Tran et al., 2020), the degree of community connectedness and identification may play a role in determining the impacts of body image concerns among SM men. Research on the relationship between community connectedness and body dissatisfaction is relatively nuanced. A recent review by Nowicki et al. (2022) found that research pertaining to SM community connectedness results in either positive or negative outcomes on body image. For example, Brennan-Ing et al. (2022) revealed that in middle aged and older SM men, greater community engagement was related to greater positive self-appraisals concerning body image. In contrast, Beren et al. (1996) found that among gay men, community affiliation was significantly related to greater body dissatisfaction. However, Tiggemann et al. (2007) found that community involvement was unrelated to body dissatisfaction in gay men. Not only has research found mixed evidence for the relationship between community connection and body image, but previous research has also examined community connectedness as a moderating variable between body image and health-related outcomes. For instance, research by Kousari-Rad and McLaren (2013), within a sample of SM men, found that body dissatisfaction was only related to poorer self-esteem when SM community connectedness was high. Generally, Kousari-Rad and McLaren (2013) revealed that community connectedness can be harmful to SM men's body image and its relationship with self-esteem.

Body satisfaction or dissatisfaction among SM men relating to the degree of connectedness with the community may be explained through a "social cure" or "social curse" lens. The "social cure" framework posits that social identity is an influential factor for determining health and well-being outcomes (Jetten et al., 2017). Particularly, the greater one identifies with a social group (and therefore the degree of connection they have with others in their community group), the more they will sustain good health and well-being. Importantly, however, this curative effect may be quite nuanced depending on the level of group identification. That is, SM men can identify and connect with others at both the minority identity (e.g., gay) and/or the broader (e.g., LGBTQ +) community levels, with each of these levels of identification potentially providing different avenues for norm development that can influence health (see Hinton et al., 2022, for a review and discussion).

In contrast, the "social curse" framework posits that under certain circumstances, social identification with one's group may reduce health and well-being (Wakefield et al., 2019). This framework details that if there are unhealthy normative behaviors associated with a social group, group members may seek to conform toward those norms. As mentioned, there are stringent body ideals (lean and muscular) in the gay community (Hammack et al., 2022), which SM men can be pressured to attain (Hospers & Jansen, 2005). Moreover, research has shown that gay men experience intra-minority stress and stigma relating to their body appearance and weight, internalize these ideals, and expect them from other gay community members (Foster-Gimbel & Engeln, 2016). In turn, and aligning with Beren et al. (1996), the prevailing body image norms within the SM community might worsen the health and well-being of SM men when they identify more strongly with this community. Additionally, it can also strengthen detrimental relationships between negative body image and well-being (e.g., poor self-esteem; Kousari-Rad & McLaren, 2013). However, and given the scarcity of research in this area with body image, it is unclear how different levels of group identification (e.g., at the intra-minority or broader community level), and particularly the differing norms that reside at each of these levels (e.g., rigid body ideals), would shape how body image relates to important outcomes. Indeed, body image norms differ among LGBTQ+ sub-groups (Dahlenburg et al., 2020), and with the broader LGBTQ+ community modeling positive norms of inclusivity and acceptance (Parmenter et al., 2020), it is plausible that body image perceptions may affect well-being outcomes differently depending on levels of community identification (i.e., at the intra-minority [gay] level or at the broader community [LGBTQ+] level).

Sexual Well-Being

The importance of community connectedness and its health outcomes have been extensively researched; however, less is known about health and well-being outcomes related to sex and sexual experiences. Sexual well-being is a construct that deviates from the traditional perspectives on sexual health (Mitchell et al., 2021). As reviewed in Mitchell et al. (2021), sexual well-being incorporates a biopsychosocial-cultural understanding of sex – a divergence from former models that focus primarily on sexual health risks and risk-related factors (e.g., HIV risk). In Lorimer et al.'s (2019) review, they determined that there are three primary facets of sexual well-being

that have been examined in research. These consist of (1) the cognitive-affective facet, comprising one's emotions and thoughts (e.g., sexual anxiety), (2) the interpersonal facet, involving how one relates to their partner (e.g., sexual intimacy), and (3) the socio-cultural facet, involving the cultural elements incorporated in one's sex life (e.g., gender-role stereotypes and norms).

In a review by Gillen and Markey (2019), they revealed that poorer body image was related to poorer sexual well-being. Importantly, they identified a scarcity of this research among sexual minority samples. Further, the majority of this scarce research conducted with SM men tended to explore sexual well-being through the lens of sexual risk-taking behaviors (Blashill et al., 2014; Brennan et al., 2015; Gholizadeh et al., 2017; Wilton, 2009). For instance, poorer body image has been found to be related to more engagement in condomless anal sex (Wilton, 2009). The limited research that explores this relationship beyond just focusing on sexual risk has found that negative body image is related to poorer levels of sexual satisfaction (Shepler et al., 2018), sexual functioning (Ivanković et al., 2015; Levitan et al., 2019), sexual esteem (Amos & McCabe, 2016), sexual self-efficacy, and greater sexual anxiety (Blashill et al., 2016) among SM men.

Sexual anxiety, defined as the apprehension and distress related to sex and sexual performance (Snell et al., 1993), may be an important construct that relates to both body image concerns and community ties among SM men. Research indicates that SM men can experience heightened pressures from within the gay community (i.e., intra-minority stressors) to enhance their sexual status (Pachankis et al., 2020). As noted by Pachankis et al. (2020), gay and bisexual men may exhibit distress derived from their concerns relating to their sexual capital and sexual status within the community (e.g., concerns relating to sexual attractiveness and desirability, see also Grey et al., 2024). Recent evidence has linked these intra-minority pressures to greater body dissatisfaction within this community (Soulliard et al., 2023), and has also evidenced the temporal dynamics of how some of these factors (e.g., sexual desirability) relate to body image over time (Grey et al., 2024).

This increased pressure to conform to sexual gain norms has also led to a heightened preoccupation around sex and sexual performance (Soulliard et al., 2023), which in turn might serve as the catalyst for increased sexual anxiety. Moreover, expectations of rejection have also been shown to increase sexual performance anxiety among SM men (Grabski & Kasparek, 2023), implying that the pressures associated with gay community norms (e.g., rigid body ideals, sexual status and gain, social and sexual rejection) may be detrimental to the sexual well-being of SM men. As mentioned however, there is limited research exploring sexual anxiety in the context of body image among SM men, and whether community identification plays a role within this relationship.

The Current Study

Previous research has explored the relationship between body image and sexual well-being (or sexual risk) facets among samples of SM men. However, the degree to which SM men identify with their community appears to play an important role on body image outcomes (Nowicki et al., 2022). Importantly, a key gap in previous literature is their conceptualization of community identification, which can occur at both the SM-specific or broader community levels. Each of these levels of identification can influence psychosocial health outcomes differently (Hinton et al., 2022), yet it is unknown how this differentiation applies to body image and sexual well-being. Whether community identification influences the relationship between body image and sexual well-being is yet to be examined among SM men. Given the various conceptualizations of both body image and sexual well-being noted by previous researchers (Lorimer et al., 2019), the current study focused on specific constructs that hold relevance for this community. As lean and muscular are prominent ideals within the gay community (Emetu et al., 2021; Hammack et al., 2022; Tran et al., 2020) the drive for muscularity served as the body image construct in the present study. In addition, sexual anxiety was assessed as the sexual well-being construct of interest as it has not been extensively explored in relation to body image, and because sexual performance-based anxiety is linked to community-based norms and intra-minority pressures (e.g., pressures to enhance sexual status, heightened preoccupation around sex and performance, sexual attractiveness and desirability, and expectations of rejection) that are prevalent among SM men (Grabski & Kasparek, 2023; Grabski et al., 2023; Grey et al., 2024; Pachankis et al., 2020; Soulliard et al., 2023). Further, community identification and connection was assessed at both the intra-minority (e.g., SM identification) and broader community (e.g., LGBTQ+ community identification) levels.

The purpose of the present study was to explore how the drive for muscularity relates to sexual anxiety among Australian SM men. Furthermore, the present study examined how this relationship is affected by the level of connectedness toward the SM and LGBTQ+ communities (see Figure 1 for a visual depiction of the proposed model). Aligning with past research on the relationship between body image and sexual well-being broadly (Blashill et al., 2016; Gillen & Markey, 2019; Soulliard et al., 2023) it was hypothesized that drives for muscularity and sexual anxiety would have a positive relationship, after controlling for key factors known to influence the constructs of interest here (i.e., age, gender expression [perceived masculinity/femininity], sexual orientation, BMI, relationship status, and HIV status; see Arthur et al., 2023; Blashill et al., 2016; Dahlenburg et al., 2020; Grabski & Kasparek, 2023; Hirshfield et al., 2010; Paff, 1985; Soulliard et al., 2023). In addition, it was anticipated that both SM men's minority identification and LGBTQ+ community connectedness would be significant moderators for the relationship between drive for muscularity and sexual anxiety. However, due to the mixed results between how community connectedness relates to body image and related outcomes (Brennan-Ing et al., 2022; Kousari-Rad & McLaren, 2013), no *a priori* predictions were made for the direction of these moderated relationships.

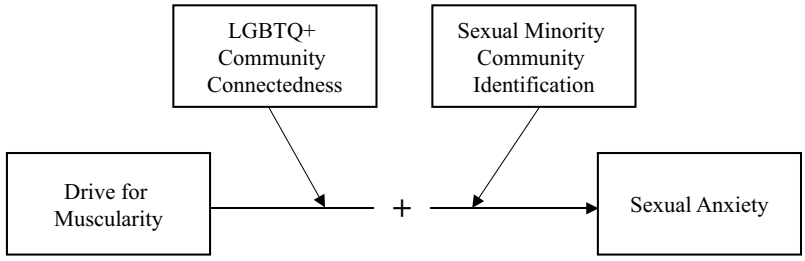

Figure 1. Hypothesised model for the relationship between drive for muscularity and sexual anxiety moderated by LGBTQ+ community connectedness and sexual minority community identification. LGBTQ+ = Lesbian, gay, bisexual, transgender, queer, and other sexuality and/or gender-diverse community members. + = hypothesized positive relationship between variables.

Method

Open Science Practices

The datafile and variable codebook for this study can be found on the Open Science Framework (OSF) here: https://osf.io/jgt5u/. This study was not pre-registered.

Participants

To determine the minimum sample size required, an *a priori* power analysis was conducted using G*Power (Faul et al., 2007). Utilizing Kousari-Rad and McLaren's (2013) identified effect size for their interaction effect ($f^2 = .04$), the analysis revealed that the minimum sample size required to reach a power of 0.80 at a criterion of $\alpha = .05$ was $N = 199$. However, it was intended to recruit at least 300 participants to account for missing data.

In total, 370 participants responded to the survey link, but several exclusions were made during data cleaning. These included those who did not meet eligibility criteria ($n = 5$ cisgender women excluded), did not answer any questions after consenting ($n = 40$), failed the attention check ($n = 16$), or requested that their data be withdrawn after survey completion ($n = 3$). Additionally, duplicate responses ($n = 5$) and researcher test responses ($n = 3$) were also removed.

The final sample included 298 eligible participants aged between 18 and 81 years ($M = 38.93$, $SD = 13.92$). With the exception of one participant residing in New Zealand, all other participants were residing in Australia at the time of survey completion. The vast majority of participants were cisgender men ($n = 272$; 91.3%), with the remaining participants identifying as trans men or non-binary/other gender-diverse[1] (see Table 1 for sample descriptive statistics). All participants held sexual minority orientations. The sample included those primarily identifying their sexuality as gay (71.5%) or bisexual (19.5%), and their ethnic background as Caucasian (69.1%) or East or Southeast Asian (13.4%). The sample's BMI ranged from 16.37 to 55.46 ($M = 28.37$, $SD = 6.91$). The majority of participants (90.3%) reported a negative HIV status, and approximately half of the sample (52.0%) were single, with the remaining participants reporting that they were in either a monogamous, open, polyamorous, or another type of relationship. Finally, participants were relatively dispersed regarding their highest level of education completed (see Table 1).

Participants were recruited through various methods to help diversify and generalize the sample. Specifically, the survey link was shared on Prolific ($n = 61$; 20.5%), as well as posted on various social media platforms ($n = 237$; 79.5%), including Instagram, LGBTQ+ related Facebook groups, and Grindr. Additionally, the survey link was emailed to various LGBTQ+ related organizations (e.g., Switchboard) and to LGBTQ+/ally University networks within Australia.

Measures

Demographics

Participants were asked to provide relevant demographic information, including their age, sex, gender identity, sexual orientation, ethnicity, education status, relationship status, and HIV status. In addition, participants were given the option to disclose their height (cm) and weight (kg), which were used to calculate BMI (i.e., weight [kg] divided by height [m^2]). Aside from age and ethnicity, all other demographic items were presented as multiple-choice options (Table 1). Age and ethnicity were open text responses, with ethnicity coded into the most frequently reported categories as presented in Table 1.

Gender Expression

The Traditional Masculinity and Femininity Scale (TMFS; Kachel et al., 2016) is a measure of gender expression. The TMFS contains 6 items (e.g., "traditionally, my interests would be considered as ... ") that are measured against a 7-point Likert scale ranging from 1 (*very feminine*) to 7 (*very masculine*). Items were averaged, with higher scores indicating greater levels of masculinity. The TMFS showed good reliability in the current sample ($\alpha = .85$).

Drive for Muscularity

The Drive for Muscularity Scale (DMS; McCreary & Sasse, 2000) assesses participants' behaviors and beliefs reflecting their level of desire to build their muscularity. The DMS contains 15 items (e.g., "I think my arms are not muscular enough") that are measured against a 6-point Likert scale ranging from 1 (*never*) to 6 (*always*). Responses were averaged, with higher scores indicating stronger drives for muscularity. The DMS has been established to have good reliability ($\alpha = .91$)

[1]Although the survey was targeted toward sexual minority men, non-binary individuals were also included. Primary analyses were conducted both with and without trans and gender-diverse participants, and no meaningfully different results emerged. Therefore, all participants were retained within analyses to preserve statistical power.

Table 1. Sample characteristics and descriptive frequencies.

	N	%
Gender		
Cisgender man	272	91.3
Transgender man	7	2.3
Non-binary (AMAB)	13	4.4
Non-binary (AFAB)	4	1.3
Other gender (AMAB)	1	0.3
Other gender (AFAB)	1	0.3
Sexuality		
Gay	213	71.5
Bisexual	58	19.5
Pansexual	13	4.4
Demisexual	2	0.7
Queer	12	4.0
Ethnicity		
Caucasian/White/Australian	206	69.1
East and/or Southeast Asian	40	13.4
Aboriginal and/or Torres Strait Islander	9	3.0
Multi-racial	19	6.4
South American/Latino	7	2.3
Other	17	5.7
Highest Education		
Less than Year 11	7	2.3
Year 11	8	2.7
Year 12	41	13.8
Certificate/Diploma/TAFE	68	22.8
Bachelor's Degree	84	28.2
Graduate Degree/Graduate Diploma	40	13.4
Master's Degree	40	13.4
PhD	10	3.4
Relationship Status		
Single	155	52.0
Monogamous Relationship	76	25.5
Open Relationship	47	15.8
Polyamorous Relationship	11	3.7
Other	9	3.0
HIV Status		
Positive	14	4.7
Negative	269	90.3
Unknown/Unsure	12	4.0
Prefer not to say	2	0.7
Other	1	0.3

AMAB = Assigned Male At Birth; AFAB = Assigned Female At Birth.

among sexual minority male samples (Levitan et al., 2019), as well as within the current sample (α = .89).

Sexual Anxiety

The Multidimensional Sexuality Questionnaire (MSQ; Snell et al., 1993) evaluates different facets of sexual well-being. The MSQ contains 12 subscales; however, only the sexual anxiety subscale was used in the present study. The sexual anxiety subscale contains 5 items (e.g., "I am worried about the sexual aspects of my life") measured against a 5-point Likert scale ranging from 1 (*not at all characteristic of me*) to 5 (*very characteristic of me*). Items were averaged, where higher scores indicated greater levels of sexual anxiety. Among the current sample, the reliability for the sexual anxiety subscale was excellent (α = .91).

Connectedness to the LGBTQ+ Community

The Connectedness to the LGBTQ+ Community Scale (CCS; Frost & Meyer, 2012) measures participants' level of community connectedness toward the broader LGBTQ+ community. This scale contains 8 items that are measured on a 4-point Likert scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). In the present study, items were modified from "NYC LGBTQ+ community" to "your LGBTQ+ community" to reflect the Australian context (e.g., "You feel a bond with your LGBTQ+ community"). The items were averaged, with higher scores indicating greater connectedness to the LGBTQ+ community. Within the current sample, the reliability for this measure was excellent (α =.92).

Sexual Minority Identity Centrality

The identity centrality subscale of the Lesbian, Gay, and Bisexual Identity Scale (LGBIS; Mohr & Kendra, 2011) was used to measure social identification at the sexual minority orientation level. Participants were asked to respond to 5 items (e.g., "My sexual orientation is a central part of my identity") that reflect how central their sexual minority identity is to their self-concept on a scale from 1 (*strongly disagree*) to 6 (*strongly agree*). Items were averaged (after reverse-scoring appropriate items) to create the final scale in which higher scores reflected greater levels of identity centrality. This scale showed good reliability in the current sample (α = .83).

Procedure

Prior to recruitment, ethical approval was obtained at the primary author's institution's Human Research Ethics Committee (HREC). After participants selected the survey link, an online information letter was provided which outlined the purpose of the study and highlighted ethical considerations such as anonymity. Online consent was acquired before proceeding to the survey. Participants were first presented with a series of demographic questions (as outlined above). Following this, body image, sexual well-being, and community connectedness and identification measures were presented in a randomized order. In addition, a single attention check item was embedded within the survey, where participants were asked to select "strongly disagree" as indicated by that item. This survey took participants approximately 14 minutes to complete. At the end of the survey, participants were presented with a debriefing statement which thanked them for their time, provided them with relevant support services, re-outlined the purpose of the study, and allowed them the final opportunity to withdraw their data from the study. Participants recruited via Prolific were reimbursed directly at a rate of £10.34 - per hour, whilst all other participants had the option to enter a raffle draw to win a gift voucher.

Analytic Approach

Before conducting the main analyses, univariate normality and outliers were checked through standardized distributions (e.g., Z_{skew}) and variable scores, respectively. One extreme outlier was identified for BMI (BMI = 151.48; Z = 12.15), resulting in the removal of that data point. Positively skewed distributions were then evident among age (Z_{skew} = 5.79), BMI (Z_{skew} = 7.68), and sexual anxiety (Z_{skew} = 5.94) variables but were all subsequently corrected using logarithmic transformations. Due to some variables having missing data, with the highest being community connectedness (7.7% missing data), a Little's MCAR test was administered to test

the nature of the missingness. It was found that the missing data was likely to be missing completely at random, ($\chi^2(45) = 33.57$, $p = .895$); therefore, no data imputation was required.

Preliminary and primary analyses were conducted in SPSS (v29) using the PROCESS (v4.0) macro (Hayes, 2022). Descriptive statistics were obtained by running correlations between continuous variables, and independent-samples *t*-tests were conducted to assess differences in sexual anxiety between those with different genders, sexualities, relationship statuses, and HIV statuses (all binary coded). To test the primary hypotheses, two hierarchical linear regressions (with simple slopes analyses) were conducted to assess the moderating effects of LGBTQ+ community connectedness (model 1) and sexual minority identity centrality (model 2) on the relationship between drive for muscularity and sexual anxiety. All predictor and moderating variables were mean-centered and interaction terms were created prior to analyses. Step 1 of both regression models included several covariates as predictors in the model, namely age, gender expression, sexuality, BMI, HIV status, and relationship status. This was followed by including drive for muscularity and either community connectedness or identity centrality (Step 2), and finally, the interaction term (Step 3).

Results

Descriptive Statistics

Descriptive statistics and correlations between all relevant variables are presented in Table 2. As shown, and of key interest to the current study, drive for muscularity was positively and weakly related to sexual anxiety, and community connectedness was negatively and weakly related to sexual anxiety. Although strongly positively correlated with community connectedness, identity centrality was not related to sexual anxiety.

The findings from the independent-samples *t*-tests revealed no significant differences in sexual anxiety between those with different sexualities (i.e., gay vs. other sexualities; $t(284) = 0.71$, $p = .476$, $d = .09$), genders (i.e., cisgender men vs. trans or gender-diverse individuals; $t(284) = 0.59$, $p = .556$, $d = .12$), or HIV statuses (i.e., HIV-positive vs. other statuses; $t(284) = -0.43$, $p = .669$, $d = -.13$). However, sexual anxiety was significantly lower for those in a relationship ($M = 0.28$, $SD = 0.19$), compared with those who were single ($M = 0.34$, $SD = 0.22$), $t(275) = 2.35$, $p = .019$, $d = .28$.

Primary Analyses (Model 1: Community Connectedness Moderator)

Both design-based and analytical assumptions for linear regression were tested and met prior to analyses. Regression coefficients for each step are presented in Table 3. The first step including the covariates as predictors of sexual anxiety was not significant, $F(6,240) = 2.04$, $p = .061$, $R^2 = .048$ ($R_{adjusted}^2 = .025$). The inclusion of drive for muscularity and community connectedness within Step 2 significantly accounted for an additional 4.1% of variance ($\triangle F(2,238) = 5.33$, $p = .005$) in sexual anxiety, $F(8,238) = 2.92$, $p = .004$, $R^2 = .089$ ($R_{adjusted}^2 = .059$). In this model, BMI and drive for muscularity both significantly and positively predicted sexual anxiety, while (masculine) gender expression levels significantly and negatively predicted sexual anxiety. Connectedness to the LGBTQ+ community did not significantly predict sexual anxiety. Furthermore, the inclusion of the interaction term (drive for muscularity × connectedness) in Step 3 significantly contributed to the model and accounted for an additional 2.2% of the variance, $\triangle F(1,237) = 5.89$, $p = .016$. Overall, the final model explained 11.1% of the variance in sexual anxiety $F(9,237) = 3.30$, $p < .001$. In the final model, BMI and drive for muscularity were again positive and significant predictors of sexual anxiety. The interaction between drive for muscularity and LGBTQ+ community connectedness was also a significant negative predictor, suggesting connectedness potentially moderated the relationship between drive for muscularity and sexual anxiety.

A follow-up simple slopes analysis was conducted to investigate the relationship between drive for muscularity and sexual anxiety when LGBTQ+ community connectedness was at either low (−1 SD), average (mean), or high levels (+1 SD). Figure 2 displays the simple slopes analysis results. When community connectedness was at low ($b = 0.07$, 95% CI [0.03, 0.12], $p < .001$) or average ($b = 0.04$, 95% CI [0.01, 0.07], $p < .001$) levels, there was a significant positive relationship between drive for muscularity and sexual anxiety. However, at high levels of community connectedness, there was no relationship between drive for muscularity and sexual anxiety, $b = 0.01$, 95% CI [−0.03, 0.05], $p = .633$.

Primary Analyses (Model 2: Identity Centrality Moderator)

The second model tested was identical to the first; however, identity centrality was used as a predictor instead of community connectedness. Again, all design-based and analytic assumptions were met for this analysis. All

Table 2. Descriptive statistics (M, SD, r) for primary continuous variables.

	M (SD)	1.	2.	3.	4.	5.	6.
(1) Age[a]	38.93 (13.92)	-					
(2) Gender Expression	4.60 (0.95)	.24***	-				
(3) BMI[a]	28.37 (6.91)	.15*	−.01	-			
(4) Drive for Muscularity	2.62 (0.91)	−.24***	.00	−.15*	-		
(5) LGBTQ+ Connectedness	2.81 (0.66)	−.04	−.20***	.03	−.02	-	
(6) SM Identification	3.92 (1.17)	.16**	−.15*	.01	−.06	.59***	-
(7) Sexual Anxiety[a]	2.29 (1.12)	−.05	−.08	.09	.13*	−.13*	−.05

*$p < .05$, **$p < .01$, ***$p < .001$. BMI = Body Mass Index. SM = Sexual Minority. Gender Expression was coded such that higher scores indicate more masculine expressions of gender. [a] Means and SDs reported on the non-transformed variable.

Table 3. Model 1 regression coefficients for the covariates (Step 1), muscularity and LGBTQ+ community Connectedness (Step 2), and their interaction (Step 3), predicting sexual anxiety.

	B	*SE*	95% CIs (*B*)	β	*t*
Step 1					
(Intercept)	0.24	0.23	[−0.20, 0.69]		1.07
Age	−0.08	0.10	[−0.27, 0.11]	−.06	−0.84
Gender Expression	−0.02	0.02	[−0.05, 0.01]	−.09	−1.39
Sexuality[a]	−0.03	0.03	[−0.09, 0.03]	−.06	−0.84
BMI	0.23	0.14	[−0.04, 0.49]	.11	1.68
HIV Status[b]	0.05	0.07	[−0.09, 0.19]	.05	0.73
Relationship Status [c]	**−0.06**	**0.03**	**[−0.11, −0.00]**	**−.13***	**−2.04**
Step 2					
(Intercept)	0.08	0.23	[−0.38, 0.54]		0.33
Age	−0.01	0.10	[−0.20, 0.19]	−.01	−0.09
Gender Expression	**−0.03**	**0.02**	**[−0.06, −0.00]**	**−.13***	**−1.98**
Sexuality[a]	−0.03	0.03	[−0.09, 0.03]	−.06	−0.97
BMI	**0.29**	**0.13**	**[0.03, 0.56]**	**.14***	**2.18**
HIV Status[b]	0.06	0.07	[−0.08, 0.19]	.05	0.79
Relationship Status [c]	−0.05	0.03	[−0.10, 0.01]	−.11	−1.62
Drive for Muscularity	**0.04**	**0.02**	**[0.01, 0.07]**	**.17****	**2.62**
LGBTQ+ Community Connectedness	−0.04	0.02	[−0.08, 0.00]	−.12	−1.76
Step 3					
(Intercept)	0.09	0.23	[−0.36, 0.55]		0.41
Age	−0.03	0.10	[−0.22, 0.17]	−.02	−0.26
Gender Expression	−0.03	0.02	[−0.06, 0.00]	−.12	−1.81
Sexuality[a]	−0.04	0.03	[−0.10, 0.02]	−.08	−1.18
BMI	**0.29**	**0.13**	**[0.03, 0.55]**	**.14***	**2.20**
HIV Status[b]	0.06	0.07	[−0.07, 0.20]	.06	0.92
Relationship Status[c]	−0.05	0.03	[−0.10, 0.01]	−.12	−1.73
Drive for Muscularity	**0.04**	**0.02**	**[0.01, 0.07]**	**.18****	**2.80**
LGBTQ+ Community Connectedness	−0.03	0.02	[−0.07, 0.01]	−.10	−1.55
Drive for Muscularity × Connectedness	**−0.05**	**0.02**	**[−0.09, −0.01]**	**−.15***	**−2.43**

*$p < .05$, **$p < .01$, ***$p < .001$. Dummy coded variables: [a]0 = not gay, 1 = gay. [b]0 = not positive, 1 = positive. [c]0 = single, 1 = in a relationship. CI = Confidence Intervals. HIV = Human Immunodeficiency Virus. BMI = Body Mass Index. Gender Expression was coded such that higher scores indicate more masculine expressions of gender. Rows in boldface reflect significant coefficients.

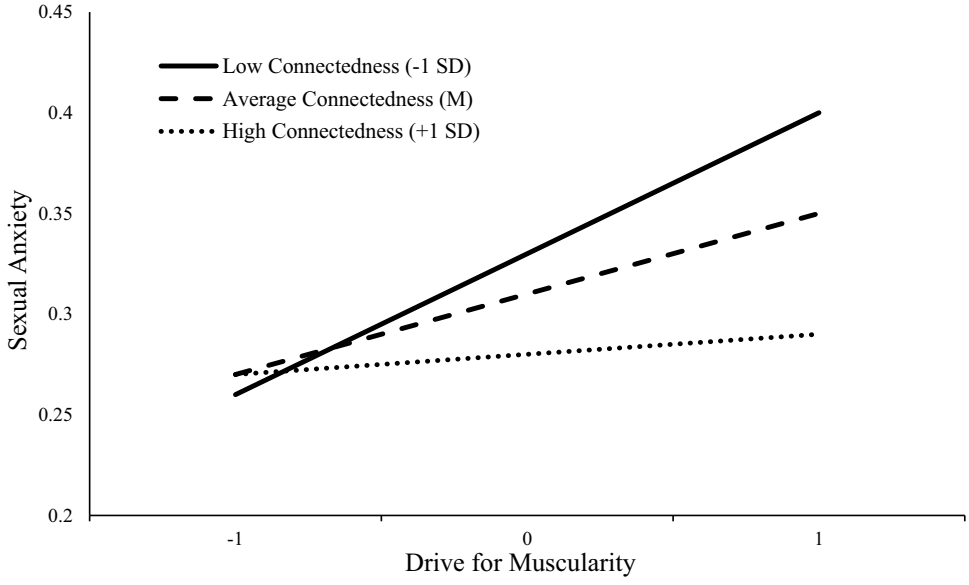

Figure 2. Simple slopes analyses for the relationship between drive for muscularity and sexual anxiety when LGBTQ+ community connectedness is at low (−1 SD), Average (Mean), and high (+1 SD) levels.

regression coefficients for this model are presented in Table 4. The first step of the model including just the covariates was not significant, $F(6,244) = 1.78$, $p = .105$, $R^2 = .042$ ($R_{adjusted}^2 = .018$). Within Step 2, the inclusion of drive for muscularity and identity centrality significantly contributed an additional 3.2% of variance in sexual anxiety ($^{\triangle}F(2,242) = 4.16$, $p = .017$), with this step in the model being significant overall, $F(8,242) = 2.41$, $p = .016$, $R^2 = .074$ ($R_{adjusted}^2 = .043$). In this step, both BMI and drive for muscularity significantly and positively predicted sexual anxiety. Further, relationship status negatively predicted sexual anxiety. The final step of the model including the interaction term accounted for a total of 8.1% of variance in sexual anxiety, $F(9,241) = 2.35$, $p = .015$. In this step, relationship status negatively, whilst drive for muscularity positively, predicted sexual anxiety. However, the

Table 4. Model 2 regression coefficients for the covariates (Step 1), muscularity and sexual minority (SM) identification (Step 2), and their interaction (Step 3), predicting sexual anxiety.

	B	*SE*	95% CIs (*B*)	β	*t*
Step 1					
(Intercept)	0.22	0.23	[−0.23, 0.67]		0.96
Age	−0.06	0.10	[−0.25, 0.13]	−.04	−0.60
Gender Expression	−0.02	0.02	[−0.05, 0.01]	−.08	−1.20
Sexuality[a]	−0.03	0.03	[−0.09, 0.03]	−.07	−1.11
BMI	0.21	0.13	[−0.05, 0.48]	.10	1.59
HIV Status[b]	0.05	0.07	[−0.09, 0.19]	.05	0.70
Relationship Status[c]	−0.05	0.03	[−0.10, 0.00]	−.12	−1.88
Step 2					
(Intercept)	0.03	0.23	[−0.43, 0.49]		0.14
Age	0.02	0.10	[−0.18, 0.22]	.02	0.22
Gender Expression	−0.02	0.02	[−0.05, 0.01]	−.09	−1.37
Sexuality[a]	−0.04	0.03	[−0.10, 0.02]	−.09	−1.36
BMI	**0.27**	**0.13**	**[0.01, 0.54]**	**.13***	**2.02**
HIV Status[b]	0.04	0.07	[−0.10, 0.17]	.04	0.55
Relationship Status [c]	**−0.06**	**0.03**	**[−0.11, −0.00]**	**−.13***	**−2.00**
Drive for Muscularity	**0.04**	**0.02**	**[0.01, 0.07]**	**.19****	**2.85**
SM Identification	0.00	0.01	[−0.03, 0.02]	−.02	−0.24
Step 3					
(Intercept)	0.05	0.23	[−0.41, 0.51]		0.22
Age	0.01	0.10	[−0.19, 0.21]	.01	0.10
Gender Expression	−0.02	0.02	[−0.05, 0.01]	−.08	−1.19
Sexuality[a]	−0.04	0.03	[−0.11, 0.02]	−.10	−1.42
BMI	0.26	0.13	[−0.00, 0.53]	.13	1.96
HIV Status[b]	0.03	0.07	[−0.10, 0.17]	.03	0.49
Relationship Status [c]	**−0.06**	**0.03**	**[−0.11, −0.00]**	**−.14***	**−2.11**
Drive for Muscularity	**0.04**	**0.02**	**[0.01, 0.07]**	**.19****	**2.81**
SM Identification	0.00	0.01	[−0.03, 0.02]	−.01	−0.21
Drive for Muscularity × SM Identification	−0.02	0.01	[−0.04, 0.01]	−.08	−1.34

*$p < .05$, **$p < .01$, ***$p < .001$. Dummy coded variables: [a]0 = not gay, 1 = gay. [b]0 = not positive, 1 = positive. [c]0 = single, 1 = in a relationship. CI = Confidence Intervals. HIV = Human Immunodeficiency Virus. BMI = Body Mass Index. SM = Sexual Minority. Gender Expression was coded such that higher scores indicate more masculine expressions of gender. Rows in boldface reflect significant coefficients.

interaction term between drive for muscularity and identity centrality was not significant. Thus, no follow up simple slopes analyses were conducted.

Discussion

The current study investigated the relationship between drive for muscularity and sexual anxiety among Australian SM men. Additionally, we investigated the moderating influence of both SM men's minority identification and LGBTQ+ community connectedness on this relationship. As hypothesized, a positive relationship was found between drive for muscularity and sexual anxiety, whereby higher drives for muscularity related to increased sexual anxiety. Additionally, and partially aligning with hypotheses, LGBTQ+ community connectedness was a significant moderator for this relationship; however, there was no moderating effect of community identification at the SM level on this relationship. Although the specific directions of these moderated relationships were not hypothesized, the results show that the positive relationship between drive for muscularity and sexual anxiety was only present when LGBTQ + community connectedness was at low and average levels, but not at high levels.

The significant positive relationship between drive for muscularity and sexual anxiety broadly aligns with results found by Gillen and Markey (2019), positing that poorer body image results in poorer sexual well-being outcomes. More specifically, these findings align with past studies that explored this relationship in samples of SM men. For instance, Blashill et al. (2016) found that body dissatisfaction in gay and bisexual men predicted increases in sexual anxiety. Collectively, past and present studies support the contention that poorer body image can have detrimental effects on SM men's sexual well-being, particularly sexual anxiety.

Despite past research validating the importance of this relationship in SM men, many failed to consider how one's sense of belongingness and identification to both the SM community *and* the broader LGBTQ+ community may influence this relationship. Subsequently, the current study expanded upon this, revealing that LGBTQ+ connectedness (but, importantly, not SM community identification) plays a prominent role in influencing the strength of this relationship. Here we found that stronger levels of LGBTQ+ connectedness may indeed be a *protective* factor for SM men, shielding them from the adverse effects that poorer body image can have on sexual well-being. This broadly aligns with recent research by Brennan-Ing et al. (2022), where they found greater levels of community engagement increased body-related positive self-appraisals among SM men. Specifically, Brennan-Ing et al. (2022) stated that community-based groups not only increase a sense of belongingness and promote social connections, but also broadens one's access to resources that enhance emotional and physical well-being (see also, Slater et al., 2013). Hence, the findings from the current study broadly align with Brennan-Ing et al. (2022) but extend this evidence beyond emotional and physical well-being (i.e., by exploring sexual well-being). Furthermore, Brennan-Ing et al. (2022) contended that community connectedness can buffer the negative influences within the SM community, specifically, the physical self-objectification that is associated with negative body image (e.g., increase of drive for muscularity; Hunt et al., 2012).

In the current study, testing for SM men's minority identification, compared to broader LGBTQ+ community connectedness, as a moderator for the relationship between drive for muscularity and sexual anxiety did not yield significant results. This contrasts with past research that has measured connectedness more specifically in the gay community (Beren et al., 1996; Hunt et al., 2012). Further, this result may also contrast with the expectations put forth in this article whereby stronger ties to the SM-specific community (particularly communities comprising SM men) may make SM men more motivated to align with negative body image norms, thereby worsening their well-being (e.g., Kousari-Rad & McLaren, 2013). Instead, our results broadly align with other research showing SM-specific community involvement has no effect on body image concerns and the outcomes associated with them (e.g., Tiggemann et al., 2007). It is clear that the relationship between community connectedness and minority identification with body image (and its associated outcomes) is quite nuanced and has yielded mixed results (Nowicki et al., 2022). Hence, we encourage future researchers to explore the robustness of this effect further.

The finding that the relationship between drive for muscularity and sexual anxiety was not prominent when LGBTQ+ community connectedness was high also aligns with the social cure framework (Jetten et al., 2017). As indicated in the current study, SM men who are more strongly connected with the broader LGBTQ+ community report reductions in sexual anxiety (i.e., benefiting their well-being), thereby providing some potential evidence of protection against the harmful impacts of poor body image. In particular, it seems that those who are more (vs. less) connected report having better sexual well-being. This result may be due to the nature of the LGBTQ+ community being an accepting, inclusive, and diverse environment for LGBTQ+ identifying individuals. Specifically, and as mentioned earlier, connectedness may increase a sense of belonging and increase one's access to resources that can enhance their overall well-being (Slater et al., 2013). Perhaps these resources, which may include shared information and exposure to diversity among bodies and sexuality in this community, are more accessible to SM men who are more connected to the LGBTQ+ community. In contrast, SM men who are less connected may not harbor the protective effects of the LGBTQ+ community and may also be more prone to internalizing stereotypical body ideals and norms (e.g., lean and muscular) associated with their SM identity (Emetu et al., 2021; Hammack et al., 2022; Tran et al., 2020). These assumptions are, of course, speculative, and more research is needed to test these explanations.

Limitations and Future Directions

There are certain limitations within this study that need to be considered. Firstly, the data from this study were cross-sectional, and can therefore not provide inferences beyond those made at the association level. Indeed, there is a need to explore the causal directionality between body image concerns, sexual well-being, and community identification constructs, which we encourage future researchers to explore. Further, although this study provides important preliminary insights on the differentiation between community identification and connectedness across different levels of identity, the measure we used to assess this at the SM-specific level could be better aligned with the LGBTQ+ connectedness measure. Research shows that social identification and community connectedness are highly related constructs (e.g., see Hinton et al., 2022 for a review), which we also provide evidence for in the current study (see Table 2); however, there may be nuances between these constructs that are, themselves, the driving factors behind our differential results. Hence, further research with more consistent measurement is needed to replicate the findings found here, and research that explicitly explores how SM men evaluate and internalize the norms associated with their community membership would also be of value.

Similarly, researchers who are considering measuring body image in this context may benefit from looking at related, and more positively valanced, constructs to the ones described here, such as body appreciation (Tylka & Wood-Barcalow, 2015). Moreover, whilst the body image construct explored within this study (drive for muscularity) holds relevance for SM men, it does not fully capture the extent of prevalent body image ideals within this community – particularly at the intersections of the drive for muscularity combined with the drive for thinness that SM men may conform toward, more so than their heterosexual counterparts (e.g., Calzo et al., 2013).

Additionally, aside from the need for future studies to replicate the results found here, an important future direction is to explore how the relationship between body image and sexual well-being changes across certain sub-identities common in SM men (e.g., bear, twink; Franklin et al., 2022). While past and current studies explore community connectedness and identification more broadly and at the minority identity level, understanding how sub-identity connectedness (e.g., specific to identity sub-groups within this larger community) may influence the relationship between body image and sexual well-being will be of value for future researchers to explore.

As mentioned, this research expands upon past literature by considering LGBTQ+ community connectedness as an influential factor within the known relationship between drive for muscularity and sexual anxiety. Although preliminary, the findings from this study will hopefully have practical implications for SM men, particularly by raising the social benefits that are associated with belonging to the broader, and more diverse, LGBTQ+ community in order to combat the effects that poorer body image can have on negative well-being. Further, the results from this study provide important preliminary insight into the need to advance understandings of bodily diversity, and diversity of sexual well-being experiences, among SM men who are less connected to the broader LGBTQ+ community – an area of research that future scholars should consider exploring.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

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