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# “Do You Even Lift, Bro?” Objectification, Minority Stress, and Body Image Concerns for Sexual Minority Men

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With a United States-based sample of 326 sexual minority men, the present study tested hypotheses derived from objectification theory (Fredrickson & Roberts, 1997), minority stress theory (e.g., Meyer, 2003), and prior research regarding men and body image (e.g., McCreary & Sasse, 2000). Specifically, we examined a path model wherein objectification constructs (internalized standards of attractiveness, body surveillance, body dissatisfaction, and drive for muscularity) and a minority stress variable (internalized heterosexism) were direct and indirect predictors of intention to use anabolic-androgenic steroids (AAS) and compulsive exercise. Results of the path model yielded adequate fit to the data. Regarding direct links, internalized heterosexism was correlated positively with internalized standards of attractiveness and related positively to body dissatisfaction, internalized standards of attractiveness related positively to drive for muscularity and body surveillance, and drive for muscularity related positively with intention to use AAS and compulsive exercise; internalized standards of attractiveness yielded a significant and positive indirect link to intention to use AAS through drive for muscularity. Implications of our findings, regarding the application and limitations of the objectification theory framework for research and practice with sexual minority men, are further discussed.

*Keywords:* gay men, objectification, sexual minority men, internalized heterosexism, body image

Physical appearance can be an important, and often distress-producing, part of self-concept for sexual minority men (Kaminski, Chapman, Haynes, & Own, 2005; Yelland & Tiggemann, 2003). Although there is considerable variability within groups of sexual minority men (e.g., gay, bisexual, queer, same-gender loving, and men who have sex with men [MSM]), theorists posit that there is a dominant appearance- and body-focused cultural norm that is powerful and omnipresent within the broader community; thus, body image and resultant stress, may be pervasive concerns for sexual minority men (Signorile, 1997). Compared with their heterosexual counterparts, sexual minority men may experience a greater pressure to conform to a “culturally desirable” body type, body shape, and/or size that meets the standard of attractiveness set forth by this unique culture (Halkitis, Green, & Wilton, 2004; Kaminski et al., 2005; Kimmel & Mahalik, 2005; Levesque & Vichesky, 2006; Siever,

1994). However, with regard to “preferred” body types for sexual minority men, data are mixed. Some studies suggest that—akin to heterosexual women—they feel pressure to be thin (e.g., Kaminski et al., 2005), while other studies find that sexual minority men are driven to gain bulk and have more defined musculature (Morgan, 2008; Yelland & Tiggemann, 2003). Sexual minority men may internalize standards of attractiveness stemming from traditional masculine body ideals, which emphasize simultaneously being slim *and* muscular (Martins, Tiggemann, & Kirkbride, 2007; Pope et al., 2000). Such pressures may increase vulnerability to body dissatisfaction and behaviors associated with disordered eating, steroid use, and/or compulsive exercise (Parent & Moradi, 2011; Wiseman & Moradi, 2010).

Drawing from both objectification and minority stress theories, the present study aimed to investigate how sexual minority men react to body image concerns, acknowledging that men may use different coping strategies than women—such as compulsive exercise and the use or intention to use anabolic-androgenic steroids (AAS; e.g., testosterone)—to cope with body dissatisfaction. Taken together, this study examined how the intersecting pathways of body objectification (e.g., internalized standards of attractiveness) and minority stress (e.g., internalized heterosexism) may yield harmful body image compensatory behaviors (compulsive exercise and intent to use AAS) for sexual minority men. In addition, we investigate the potential multiple mediating roles of body surveillance, body

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shame, and drive for muscularity in the links between internalized standards of attractiveness and internalized heterosexism to intent to use AAS and compulsive exercise.

### Objectification Theory

A framework that is particularly helpful in understanding the body image concerns of sexual minority men is *objectification theory*, which was originally proposed by Fredrickson and Roberts (1997) to explain the sexual objectification of women's bodies and its harmful effects on physical and psychological well-being, such as disordered eating patterns, compulsive exercise, anxiety, and depression. According to objectification theory, after prolonged experiences of covert and overt objectification, individuals internalize an objectifying perspective, a phenomenon known as self-objectification that makes individuals' bodies vulnerable not only to the judgment of others, but also to their own critical eye (Fredrickson & Roberts, 1997). Behaviorally, self-objectification manifests in the form of body surveillance, namely the constant evaluation of the extent to which one's body matches an internalized cultural standard of attractiveness (Tiggemann & Lynch, 2001; Tiggemann & Slater, 2001). As objectification theory was initially developed in the context of women's experiences, it tends to operationalize negative body evaluations via body shame. However, scholars note that body shame tends to be measured with instruments that focus specifically on weight to the exclusion of all other aspects of the body (e.g., shape, tone; Moradi & Huang, 2008). To more accurately capture body image concerns endorsed by men—such as the desire to be more toned, larger, and more muscular (Parent, 2013)—we focus on body dissatisfaction as a broader manifestation of body shame.

Similar to women, sexual minority men are susceptible to body objectification, surveillance, and body shame and/or dissatisfaction (Kozak, Frankenhauser, & Roberts, 2009). One reason for this susceptibility is the fact that, akin to women, sexual minority men are also the targets of the "male gaze" (Kozak et al., 2009; Pope et al., 2000). This may lead to sexual minority men becoming hypervigilant about their body image and how they compare to prescriptive standards of attractiveness within the gay community (Gettelman & Thompson, 1993). Furthermore, sexual minority men are bombarded with objectifying images of men on social networks and geosocial sex apps (e.g., Grindr) as well as in other media and platforms (e.g., fitness magazines, pornography) leading to further preoccupation with bodies and perceived attractiveness (Martins et al., 2007).

Objectification is linked to body dissatisfaction for heterosexual and sexual minority men alike (Leit, Gray, & Pope, 2002; Levesque & Vichesky, 2006; Martins et al., 2007; Parent & Moradi, 2011); however, these links may be more pronounced among sexual minority men. Kaminski and colleagues (2005) found that gay men were more fearful about becoming overweight than heterosexual men and were, therefore, more likely to restrict their caloric intake. Similarly, Siever (1994) found that gay men reported higher body shame and surveillance, endorsed more items on an eating disorder inventory, had lower body self-esteem, and were more preoccupied with physical attractiveness than their heterosexual male counterparts. These results were replicated with another sample of gay and heterosexual men; the authors concluded that cultural standards in groups of sexual minority men often overemphasizes physical attractiveness, thereby leading

these men to experience heightened levels of objectification from peers and themselves (Martins et al., 2007).

While studies with men examining the mediational patterns hypothesized in objectification theory are rare, there are a few notable examples. With a sample of gay and bisexual men, Wiseman and Moradi (2010) found that body shame partially mediated the positive relation between body surveillance and negative compensatory behaviors (i.e., disordered eating) and body surveillance partially mediated the relation between internalized standards of attractiveness and body shame. Similarly, Engeln-Maddox and colleagues (2011) found that, like patterns found in heterosexual women, body shame partially mediated the link between body surveillance and harmful weight control behaviors in sexual minority men. Further, a seminal study by Parent and Moradi (2011) tested objectification theory as a framework to understand body image and resultant likelihood to use anabolic-androgenic AAS in college-aged, mostly heterosexual men. Unsurprisingly, direct and indirect positive relations were found between internalized standards of attractiveness, body surveillance, and body shame in men's compensatory strategies and intention to use AAS. In particular, internalized standards of attractiveness for men was determined to be the "nexus of overlap" between objectification theory variables and participants' need for a muscular body and propensity to use AAS (p. 252). Therefore, it is clear that objectification theory is not solely applicable to the experiences of women but also can be extended to understand the experience of heterosexual and sexual minority men.

### Minority Stress Theory

Minority stress theory posits that heterosexist stigma and prejudice toward sexual minority people produces a toxic social environment may lead to mental health concerns (Meyer, 2003). The model outlines that four stressors—prejudice events, stigma, concealment of identity, and internalized heterosexism—are at the root of predicting well-being for sexual minority people. In particular, internalized heterosexism, conceptualized as a person's direction of societal heterosexist attitudes and beliefs toward themselves, has been studied extensively and linked to negative mental health outcomes (Szymanski, Kashubeck-West, & Meyer, 2008) and poor body image outcomes for sexual minority people (Brewster et al., 2014; Watson, Grotewiel, Farrell, Marshik, & Schneider, 2015; Wiseman & Moradi, 2010). Specific to sexual minority men, Wiseman and Moradi (2010) found that internalized heterosexism was related indirectly to disordered eating symptoms through body shame. Further, Kimmel and Mahalik (2005) found that internalized heterosexism was positively linked to adherence to a masculine body ideal and distress about body image. This link may support the idea that sexual minority men feel compelled to engage in "manly" behaviors, such as bulking up with muscle to compensate for their internalized lack of masculinity and to combat the cultural stereotype that sexual minority men are effeminate (Kimmel & Mahalik, 2005; Kurtz, 1999; Pope et al., 2000).

Theorists further suggest that sexual minority men are particularly pressured to strive for the masculine ideal body as it may grant them cultural power to counterbalance their devalued social identity (Kimmel & Mahalik, 2005; Wood, 2004). Halkitis and colleagues (2004) confirmed this tension in their study on masculinity, body image, and sexual risk taking behavior in HIV-positive

sexual minority men. Participants in the study stated that achieving masculine body ideals not only gave them reverence within the community, but also allowed more access to sexual partners. Thus, internalized heterosexism had “manifested itself in the adoption of the heterosexual male ideal, namely that of the tough, physically, strong male” (Halkitis et al., 2004, p. 38). Taken together, minority stress broadly and internalized heterosexism in particular, may have a unique impact on drive for muscularity and body image concerns in sexual minority men.

### Drive for Muscularity and Subsequent Compensatory Behaviors

Research suggests that men value and strive to obtain slim, muscular bodies that appear to be strong, fit, and physically healthy (Labre, 2005; McCreary & Sasse, 2000)—or what McCreary and Sasse (2000) refer to as *drive for muscularity*. Several studies have looked at how drive for muscularity impacts behaviors such as restrictive eating, use of dietary supplements and AAS, and exercise dependence (Chittester & Hausenblas, 2009; Hausenblas & Symons Downs, 2002). Recent studies have examined the role of drive for muscularity for sexual minority men and yielded similar results, namely, that it is linked with poorer body image and resultant maladaptive compensatory behaviors in this population (Brennan, Crath, Hart, Gadalla, & Gillis, 2011; Chaney, 2008). In a study comparing sexual minority men with heterosexual men and women, Yelland and Tiggemann (2003) found that sexual minority men exhibited higher drive for muscularity when compared with the other groups. Further, sexual minority men in this study reported more pressure to be considered attractive (i.e., muscular and thin) by other men compared with the heterosexual women and men.

In addition to the unattainably muscular and fit body-type considered pleasing to sexual minority men (Tiggemann, Martins, & Kirkbride, 2007), a muscular body comes with privilege in the gay community, as it is linked to assumptions about HIV-negative status (Levesque & Vichesky, 2006). Specifically, research suggests that for sexual minority men, a muscular body might be an overt proclamation of their HIV-negative status, when historically, men with HIV and/or AIDS were viewed as frail (Siconolfi, Halkitis, Allomong, & Burton, 2004). Thus, drive for muscularity for sexual minority men may be particularly relevant as a muscular body is not only valued but might also be used to signal physical health for this population. Given that sexual minority men experience more pressure than heterosexual men to prove their masculinity or physical health, drive for muscularity might be especially salient for this population, thereby increasing their vulnerability to behaviors such as compulsive exercise and intention to use AAS (Brennan, Craig, & Thompson, 2012; Chittester & Hausenblas, 2009; Sanchez, Westefeld, Liu, & Vilain, 2010).

### Compulsive Exercise

Research suggests that men engage in *compulsive exercise*—also termed *anorexia athletica*, or *excessive exercise*—to achieve a lean shape and attain a more muscular, well-defined body (Sundgot-Borgen & Torstveit, 2004). The *Diagnostic and Statistical Manual for Mental Disorders-Fifth Edition (DSM-5)* describes compulsive exercise as exercise that “significantly inter-

feres with important activities, occurs at inappropriate times or in inappropriate settings, or continues despite injury or other medical complications” (p. 346). Compulsive exercise can also be defined as physical activity that carries with it an obsessive quality. Namely, individuals who engage in compulsive exercise experience psychological withdrawal when they are unable to exercise, frequently increase the intensity or length of physical activity, and report feeling dependent on exercise (Zmijewski & Howard, 2003). While exercise is a healthy behavior that is linked to psychological and physical well-being (Warburton, Nicol, & Bredin, 2006), compulsive exercise has been linked with physical injuries, psychological distress, addictive and obsessive-compulsive behaviors, and the neglect of social and/or work obligations (Gulker, Laskis, & Kuba, 2001; Landolfi, 2013). Further, compulsive exercise is often associated with feelings of guilt and can be motivated by influencing weight or shape as opposed to overall well-being (Mond, Hay, Rodgers, & Owen, 2006). Lastly, compulsive exercise has also been linked with eating disorder psychopathology and is often observed in patients diagnosed with bulimia and anorexia; indeed, weight preoccupation is thought to be the biggest motivator for compulsive exercise (Davis, 1997; Shroff et al., 2006).

While there are no specific rates regarding the propensity for sexual minority men to overexercise, Lavender, De Young, and Anderson (2010) found that 30% of their male sample ( $N = 404$ ) reported engaging in compulsive exercise, rates comparable with those of women. Guidi and colleagues (2009) found that, compared with women, men (sexual orientations unspecified) were almost twice as likely to engage in compulsive exercise (13.4% vs. 23.9%, respectively). Some studies have indicated that sexual minority men engage in more compulsive exercise than their heterosexual male peers, potentially because of heightened exposure to male bodies being objectified in gay culture, and subsequent body image concerns (Kaminski et al., 2005; Yelland & Tiggemann, 2003).

### AAS Use

Use of AAS is common among male athletes and body builders (Berning, Adams, & Stamford, 2004). However, steroid use is also prevalent among nonathletes, with 1% of U.S. college students reporting the use of AAS during their lifetime (McCabe, Brower, West, Nelson, & Wechsler, 2007). Research suggests that men who use AAS wish to achieve a more muscular body as well as an increase in athletic performance; some men also report that, given the changes to their bodies, using AAS allows them to feel more confident (Wright, Grogan, & Hunter, 2001). However, use of AAS is more commonly linked to psychological disorders, such as anxiety and depression, as well as physical concerns, including cardiomyopathy and hypertension than positive outcomes (Kanayama, Hudson, & Pope, 2008; Parent & Moradi, 2011). As such, use of AAS can lead to lifelong physical and psychological concerns for men. Considering the established link between steroid use and negative physical and psychological variables, its use in men may actually be suggestive of a body image disorder similar to bulimia or anorexia nervosa in women (Spitzer, Henderson, & Zivian, 1999). For men, AAS use may also be indicative of muscle dysmorphia, a disorder involving feelings of excessive shame and anxiety pertaining to one’s musculature and results in harmful

compensatory behaviors (McCreary, Hildebrandt, Heinberg, Broughs, & Thompson, 2007).

Though rates of AAS are generally underreported, use of these substances in communities of sexual minority men is widely acknowledged (Bolding, Sherr, & Elford, 2002; Dillon, Copeland, & Peters, 1999; Willoughby, Lai, Doty, Mackey, & Malik, 2008). Findings suggest that sexual minority men actually use AAS *less* frequently than their heterosexual peers, but are *more* likely to endorse the use of AAS to improve appearance (Dillon et al., 1999). With regard to prevalence rates, one in seven sexual minority men surveyed in London gyms had used AAS in the last year, and respondents who were HIV-positive were even more likely to use AAS to try and enhance their physical appearance (Bolding et al., 2002). Perhaps unsurprisingly, links between steroid use and peer crowd affiliations have established that sexual minority men who affiliate with peers who value muscularity endorse a greater use of AAS themselves (Willoughby et al., 2008).

### The Present Study

The present study addresses an important demographic gap in both objectification theory and drive for muscularity research by focusing on the uniquely intersectional experiences of sexual minority men. We present a model wherein constructs drawn from objectification theory (i.e., internalized standards of attractiveness, body dissatisfaction, and body surveillance) and minority stress theory (i.e., internalized heterosexism) are used to link sexual minority men's drive for muscularity and resultant behavioral outcomes of this drive (i.e., compulsive exercise, intention to use AAS). Hypothesized relations, consistent with prior literature on objectification theory, minority stress, and drive for muscularity are portrayed in Figure 1. Regarding direct links, we hypothesized that internalized standards of attractiveness would be related positively to body surveillance, body dissatisfaction, and drive for muscularity; body surveillance would be related positively to body dissatisfaction and drive for muscularity; body dissatisfaction would be related positively to drive for muscularity; drive for muscularity would be related positively to intention to use AAS and compulsive exercise, respectively (Hypothesis 1). Regarding indirect links, consistent with objectification theory, we also predicted that internalized standards of attractiveness would be related to higher compulsive exercise and intention to use AAS via mediated pathways—including body surveillance, body dissatisfaction, and drive for muscularity. More specifically, internalized

standards of attractiveness would be positively related to the outcome variables through, (Hypothesis 1) body surveillance to drive for muscularity (Hypothesis 2), body surveillance to body dissatisfaction to drive for muscularity (Hypothesis 3), and drive for muscularity (Hypothesis 4).

Finally, we contribute to the growing body of research that integrates contextual variables in the objectification theory framework (e.g., Wiseman & Moradi, 2010) by testing the direct and indirect roles of internalized heterosexism in the model. Specifically, we predicted that internalized heterosexism would be related positively to internalized standards of attractiveness and body dissatisfaction (Hypothesis 5). Additionally, we predicted that, via a series of mediated relations internalized heterosexism would be related positively with compulsive exercise and intent to use AAS. We hypothesized that internalized heterosexism would be positively related to the outcome variables through body dissatisfaction to drive for muscularity (Hypothesis 6).

### Method

**Participants.** Data from 326 cisgender sexual minority men were analyzed in the current study. Participants ranged in age from 18 to 62 years old ( $M = 28.71$ ,  $SD = 8.57$ ,  $Mdn = 27$ ). In terms of race/ethnicity, approximately 69% identified as White, 8% as Multiracial, 1% as Black, 11% as Latina/o American, 7% as Asian American or Pacific Islander, less than 1% as Native American, and 3% as "Other race." With regard to sexual orientation, approximately 82% identified as gay, 11% as mostly gay, 2% as bisexual, 1% as mostly heterosexual, and 3% as another self-specified sexual orientation (e.g., MSM, same-gender loving). In terms of highest completed level of education, approximately 30% of participants earned a postgraduate degree, 26% had a 4-year college degree, 22% had completed some college, 11% had some postgraduate work, 6% had a 2-year college degree, and 5% had a high school diploma. With regard to social class, approximately 42% identified as middle class, 24% as upper-middle class, 18% as lower-middle class, 8% as working class, 4% as lower class, and 4% as upper class. Regarding their living environments, approximately 72% of the men indicated they resided in urban areas, 24% indicated suburban, and 4% indicated rural. The most common states of residence reported by participants were New York (25%), Florida (9%), Massachusetts (8%), and Texas (6%).

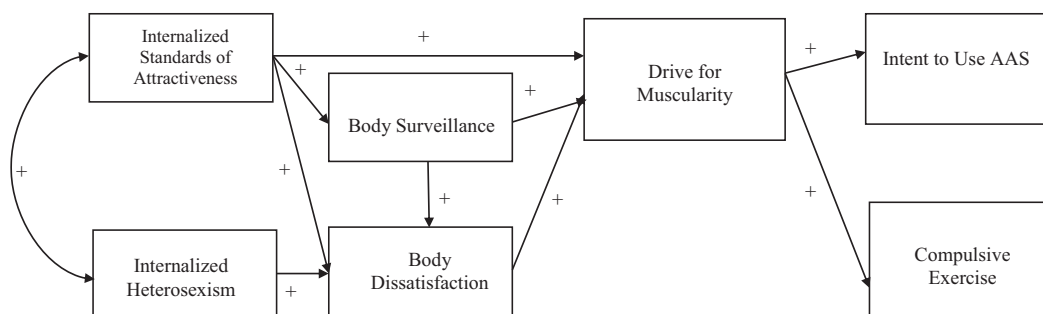


Figure 1. Hypothesized multiple mediational model.

## Procedure

Participants were recruited online through blogs, listservs, and virtual communities for sexual minority men (e.g., Tumblr, Facebook pages, and Craigslist posts), as well as with tear tab flyers with study information in venues frequented by sexual minority men across New York City. The study was advertised as a survey of sexual minority men's experiences with body image and stress. Participants were directed to an online survey and asked to complete an informed consent process affirming they (a) identified as a sexual minority man, (b) lived in the United States, and (c) were 18 years of age or older. Participants who affirmed they met criteria and consented to participate then read a survey introduction and were asked to respond carefully to the items.

The survey was started 587 times. Of these attempts, 255 entries were removed because these entries only included a response to the informed consent item and no other survey questions. Additionally, six participants who identified as transgender men were removed from the data set because it was unclear how their use or intent to use AAS (related to gender confirmation procedures) may impact the study. In terms of the final sample ( $n = 326$ ), analysis of Little's Missing Completely at Random (MCAR) was not significant ( $\chi^2 [1772] = 1838.02, p = .138$ ), indicating that the data were missing at random.

## Measures

### Internalization of sociocultural standards of attractiveness.

Level of internalized standards of attractiveness (or the extent to which a person endorses societal norms regarding body size and appearance) was assessed with the eight-item Internalization subscale of the Sociocultural Attitudes Toward Appearance Questionnaire (SATAQ-I; Heinberg, Thompson, & Stormer, 1995). Participants responded to items (e.g., "I compare my body to the bodies of TV and movie stars") using a 5-point Likert-type scale (1 = *completely agree* to 5 = *completely disagree*), with higher scores indicating greater internalized standards of attractiveness. The validity of SATAQ-I scores has been supported in diverse samples through theoretically consistent relations with multiple indices of body image (Cashel, Cunningham, Landeros, Cokley, & Muhammad, 2003). Cronbach's  $\alpha$  for the SATAQ-I items was found to be .78 among a sample of primarily heterosexual men (Parent & Moradi, 2011) and .96 in the current sample.

**Internalized heterosexism.** Internalized heterosexism was assessed with the Internalized Homophobia (IHP) scale by Martin and Dean (1987). Participants responded to nine items (e.g., "If someone offered me the chance to be completely heterosexual, I would accept the chance") using a 5-point Likert-type scale (1 = *strongly disagree* to 5 = *strongly agree*); higher scores reflect greater amounts of IH. The  $\alpha$  for scores on the IHP was determined to be .85 for a previous gay male sample (Herek & Glunt, 1995). The measure's scores correlate strongly with lower collective self-esteem, less disclosure or outness to heterosexual friends, and a greater tendency to attribute personal obstacles to homophobia (Szymanski et al., 2008). Cronbach's  $\alpha$  for the IHP items in the present study was .92.

**Body surveillance.** Body surveillance was assessed with the 8-item Body Surveillance subscale of the Objectified Body Consciousness Scale (OBCS-Surv; McKinley & Hyde, 1996), which measures the extent to which a respondent experiences shame for

not meeting cultural standards for bodily shape and appearance. A sample item is "During the day, I think about how I look many times." Items are rated on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*) with higher scores indicating greater body surveillance. As evidence of validity, body surveillance scores were correlated positively with self-objectification, body shame, drive for muscularity, and body dissatisfaction among a sample of gay and heterosexual men (Martins et al., 2007). Cronbach's  $\alpha$  for the Objectified Body Consciousness Scale items was .76 (with gay men) and .83 (with heterosexual men; Martins et al., 2007), and was .85 in the current sample.

**Body dissatisfaction.** Body dissatisfaction was assessed with the Body Parts Satisfaction Scale for Men (BPSS-M; McFarland & Petrie, 2012). The BPSS-M is a 30-item Likert-type scale (1 = *extremely dissatisfied* to 6 = *extremely satisfied*) for which men report satisfaction with the leanness and muscularity of each of nine identified body parts (e.g., "muscularity of chest"). Men report satisfaction on five items regarding satisfaction with face (e.g., "complexion"), five items regarding satisfaction with overall body size and shape (e.g., "overall body build"), and two items that address height and weight. For the present study, all items were reverse-scored to capture body dissatisfaction rather than satisfaction. Cronbach's  $\alpha$ s and 6-month test-retest reliabilities for specific body parts, were .87 and .58 (Face), .94 and .70 (Legs), and .97 and .72 (Upper Body), respectively. Cronbach's  $\alpha$  in the present study was .92.

**Drive for muscularity.** Desire to achieve a muscular physique was assessed with the Drive for Muscularity Scale (DMS; McCreary & Sasse, 2000), a 15-item self-report questionnaire assessing a combination of attitudes and behaviors associated with the desire for a more muscular body. A sample item is "I think that I would look better if I gained 10 pounds in bulk." Items are rated on a 6-point response scale (1 = *not at all like me* to 6 = *very much like me*), with higher scores representing higher levels of drive for muscularity. Item 10 of the DMS was removed from the present study because of its content overlap with the intention to use AAS scale (described below). As evidence of validity, DMS scores were correlated positively with depressive symptoms, appearance anxiety, neuroticism, and perfectionism (McCreary et al., 2007). Cronbach's  $\alpha$  ranged from .85 to .91 in a sample of mixed sexual orientation college men (Parent & Moradi, 2011). Cronbach's  $\alpha$  in the present study was .90.

**Anabolic-androgenic steroids.** Intention to use AAS was assessed with the Intention to use Anabolic Androgenic Steroids (I-AAS; Parent & Moradi, 2011). The I-AAS is a 5-item scale measuring indicators of intention to use AAS; with a sample item including, "I plan to use anabolic steroids in the future." Responses are scored on a 7-point scale (0 = *very untrue* to 7 = *very true*); scores are averaged, with higher scores indicating greater intent to use AAS. As evidence of validity, I-AAS scores correlated positively with sociocultural attitudes toward appearance, body surveillance, and drive for muscularity with a sample of primarily heterosexual men (Parent & Moradi, 2011). Cronbach's  $\alpha$  in the present study was .95.

**Compulsive exercise.** Compulsive exercise was assessed with the Compulsive Exercise Test (CET; Taranis, Touyz, & Meyer, 2011), a 24-item scale assessing the core features of compulsive exercise and its links with disordered eating. Responses are scored on a 6-point Likert-type scale (0 = *never true* to 6 = *always true*),

with higher scores indicating higher pathology. An example item on the CET reads "I feel extremely guilty if I miss an exercise session." In a previous study, the Cronbach's  $\alpha$ s for the total score was .85 (Murray et al., 2012) and was .77 in the current study.

## Results

Descriptive statistics and bivariate correlations are presented in Table 1. The magnitude of effects is described using Cohen's (1992) benchmarks for small ( $r = .10$ ), medium ( $r = .30$ ), and large ( $r = .50$ ) correlations. Drive for muscularity, body surveillance, and internalized standards of attractiveness each yielded small to medium positive correlations with both intent to use AAS and compulsive exercise; whereas body dissatisfaction yielded only a small positive correlation with compulsive exercise, but not intent to use AAS. In addition, internalized standards of attractiveness yielded small to medium positive associations with internalized heterosexism, drive for muscularity, body dissatisfaction, and body surveillance; internalized heterosexism yielded a small correlation with body dissatisfaction and drive for muscularity; body surveillance yielded small to medium positive associations with drive for muscularity and body dissatisfaction. No other correlations were significant.

Mplus 7.3 (Muthén & Muthén, 2014) with maximum likelihood (ML) estimation was used to test the hypothesized indirect relations of internalized standards of attractiveness and internalized heterosexism to intent to use AAS and compulsive exercise, through body surveillance, body dissatisfaction, and drive for muscularity. Before proceeding with analyses, data were evaluated for normality. All variables, with the exception of internalized standards of attractiveness (skewness = 3.17), met criteria for univariate normality (i.e., skewness <3, kurtosis <10; Weston & Gore, 2006). Regarding multivariate normality, inspection of Mahalanobis distances indicated that five cases were multivariate outliers ( $ps < .001$ ). However, given that (a) the variables were largely univariate normal, (b) the pattern of results was similar with the multivariate outliers removed, and (c) ML estimation is robust to violations of normality (e.g., Lei & Lomax, 2005), we proceeded with the analyses with the full sample. Finally, the sample size of 326 was deemed sufficient for the present analyses according to multiple criteria (e.g., Kline, 2005; MacCallum & Austin, 2000). In addition, consistent with recommendations for

best practice, we utilized a data-based correction to account for the measurement error of the model variables (Brown, 2006; Cole & Preacher, 2014). With this method, a variable's standardized error is fixed to a value computed based on the measure's sample variance and internal consistency reliability estimate (Brown, 2006). More important, this method is argued to be equivalent to model-based methods for error correction (i.e., structural equation modeling with latent variables; Cole & Preacher, 2014).

Results of the path analysis are presented in Figure 2. Considering the current study's sample size, criteria for adequate fit included a comparative fit index value equal to or greater than .90 and root mean square error of approximation (RMSEA) and standardized room mean square residual values (SRMR) equal to or less than .10 (Weston & Gore, 2006). According to these criteria, the proposed model provided generally adequate fit to the data ( $\chi^2[10] = 31.86$ ,  $p < .001$ , CFI = .89, RMSEA = .08 [90% confidence interval, CI: .05, .12], SRMR = .07). Although the CFI did not meet the .90 cutoff criterion, the value was quite close and the absolute fit indices indicated adequate fit. In addition, the model explained noteworthy proportions of variance in our variables of interest. The model explained approximately 29% of the variance in body surveillance, 14% of the variance in body dissatisfaction, 17% of the variance in drive for muscularity, 17% of the variance in intent to use AAS, and 4% of the variance in compulsive exercise. Similar to the bivariate correlation analyses, and in partial support of Hypothesis 1, internalized standards of attractiveness was directly and positively linked to drive for muscularity ( $b = .36$ ,  $p < .001$ ) and body surveillance ( $b = .54$ ,  $p < .001$ ); the link between internalized standards of attractiveness and body dissatisfaction approached significance ( $b = .23$ ,  $p = .05$ ); drive for muscularity was directly linked to intent to use AAS ( $b = .41$ ,  $p < .001$ ) and compulsive exercise ( $b = .20$ ,  $p = .03$ ). In partial support of Hypothesis 5, internalized heterosexism was directly linked to internalized standards of attractiveness ( $b = .15$ ,  $p = .03$ ) and body dissatisfaction ( $b = .12$ ,  $p = .006$ ). Other direct links were not significant.

To test the significance of the hypothesized indirect relations, we examined 95% CIs utilizing bootstrapping procedures with 5,000 samples (Preacher & Hayes, 2004). If a CI does not include zero, the indirect effect is considered to be significant at the .05 level (Shrout & Bolger, 2002). In partial support of Hypothesis 4,

Table 1  
Bivariate Correlations of Variables of Interest

Variable	1	2	3	4	5	6	7
1. Internalized standards of attractiveness	—						
2. Internalized heterosexism	.14*	—					
3. Body surveillance	.48***	.08	—				
4. Body dissatisfaction	.31***	.18**	.25***	—			
5. Drive for muscularity	.36***	.15*	.24***	.13*	—		
6. Intent to use AAS	.21**	.10	.25***	.09	.37***	—	
7. Compulsive exercise	.33***	.06	.27***	.16*	.15*	.12	—
Range	1–5	1–5	1–7	1–6	1–6	1–7	1–6
Mean	3.57	1.57	4.94	4.75	2.96	1.51	3.99
SD	1.01	.81	1.09	.76	.96	1.27	1.16
Cronbach's $\alpha$	.96	.92	.85	.92	.90	.95	.77

Note. AAS = anabolic-androgenic steroids.

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

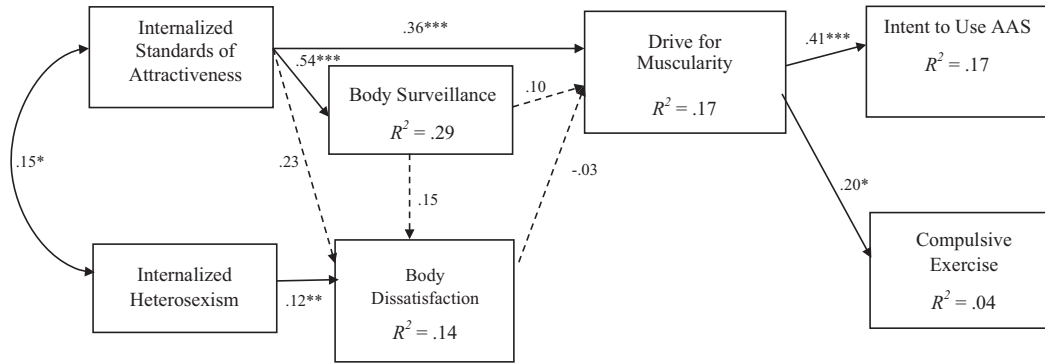


Figure 2. Mediation model. Solid lines represent significant direct paths, dashed lines represent nonsignificant direct paths. All paths represent standardized values. The model provided a generally adequate fit to the data ( $\chi^2(10) = 31.86, p < .001$ ; comparative fit index [CFI] = .89, root mean square error of approximation [RMSEA] = .08, standardized root mean square residual [SRMR] = .07). \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

internalized standards of attractiveness yielded a significant and positive indirect link with intent to use AAS, through drive for muscularity ( $B = .15, 95\% \text{ CI } [.07, .23]$ ). No other indirect effects were significant (see Table 2).

Also in accordance with best practice, we tested an alternative model. Based on prior studies of objectification theory and drive for muscularity (e.g., Parent & Moradi, 2011), we tested a model in which the direct paths between body surveillance and body dissatisfaction to drive for muscularity were omitted (see Figure 3). This model provided adequate fit to the data ( $\chi^2[12] = 33.31, p < .001, \text{ CFI} = .90, \text{ RMSEA} = .07 [90\% \text{ CI: } .05, .10], \text{ SRMR} = .07$ ). Also, a  $\chi^2$  difference test indicated that the model was not significantly different from the hypothesized model ( $\Delta\chi^2[2] = 1.45, p > .05$ ). Thus, because the alternative model represented a more parsimonious solution and met all criteria for adequate model fit to the data, this model was retained. The alternative model explained 29% of the variance in body surveillance, 14% of the variance in body dissatisfaction, 17% of the variance in drive for muscularity, 16% of the variance in intent to use AAS, and 4% of the variance in compulsive exercise. As with the hypothesized model, and in partial support of Hypothesis 1, internalized standards of attractiveness was directly and positively linked to drive

for muscularity ( $b = .41, p < .001$ ) and body surveillance ( $b = .54, p < .001$ ); the link between internalized standards of attractiveness and body dissatisfaction approached significance ( $b = .23, p = .06$ ); drive for muscularity was directly linked to intent to use AAS ( $b = .41, p < .001$ ) and compulsive exercise ( $b = .19, p = .04$ ). In partial support of Hypothesis 5, internalized heterosexism was directly linked to internalized standards of attractiveness ( $b = .15, p = .03$ ) and body dissatisfaction ( $b = .12, p = .006$ ). Other direct links were not significant. As indicated in Table 2 and in partial support of Hypothesis 4, internalized standards of attractiveness yielded a significant and positive indirect link with intent to use AAS, through drive for muscularity ( $B = .17, 95\% \text{ CI } [.10, .25]$ ). No other indirect effects were significant.

**Discussion**

The present study is among the first known extensions of objectification and minority stress theories to include and assess drive for muscularity with sexual minority men. While previous extensions of objectification theory with sexual minority men have begun to attend to the roles of minority stressors in shaping psychological and physical health outcomes (e.g., Kimmel & Ma-

Table 2  
Indirect Effects for the Hypothesized and Alternative Models

Paths	Hypothesized model	Alternative model
ISA > DM > AAS	$B = .15, 95\% \text{ CI } [.07, .23]$	$B = .17, 95\% \text{ CI } [.08, .25]$
ISA > BD > DM > AAS	$B = -.00, 95\% \text{ CI } [-.02, .01]$	
ISA > BS > DM > AAS	$B = .02, 95\% \text{ CI } [-.02, .07]$	
ISA > BS > BD > DM > AAS	$B = -.00, 95\% \text{ CI } [-.01, .01]$	
IH > BD > DM > AAS	$B = -.00, 95\% \text{ CI } [-.01, .01]$	
ISA > DM > CE	$B = .07, 95\% \text{ CI } [-.01, .15]$	$B = .08, 95\% \text{ CI } [-.00, .16]$
ISA > BD > DM > CE	$B = -.00, 95\% \text{ CI } [-.01, .01]$	
ISA > BS > DM > CE	$B = .01, 95\% \text{ CI } [-.01, .03]$	
ISA > BS > BD > DM > CE	$B = .00, 95\% \text{ CI } [-.00, .00]$	
IH > BD > DM > CE	$B = -.00, 95\% \text{ CI } [-.00, .00]$	

Note. ISA = internalized standards of attractiveness; IH = internalized heterosexism; BS = body surveillance; BD = body dissatisfaction; DM = drive for muscularity; AAS = anabolic-androgenic steroids; CE = compulsive exercise; CI = confidence interval.

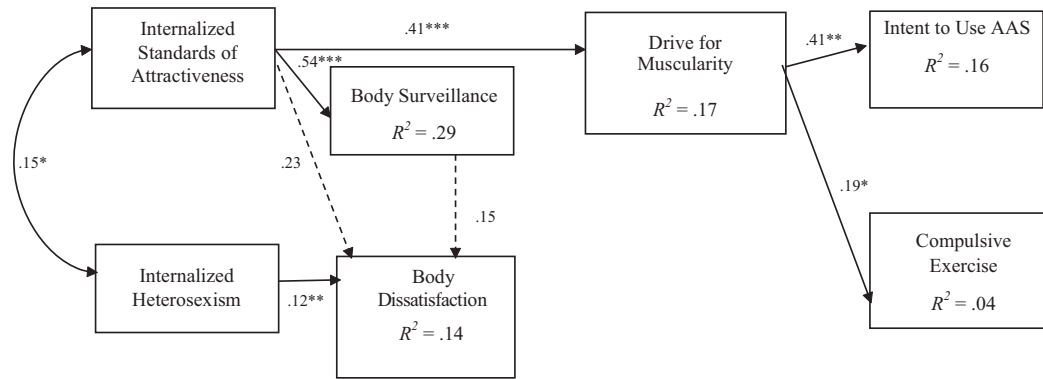


Figure 3. Alternative mediational model. Solid lines represent significant direct paths, dashed lines represent nonsignificant direct paths. All paths represent standardized values. The model provided an adequate fit to the data ( $\chi^2(12) = 33.31, p < .001$ ; comparative fit index [CFI] = .90, root mean square error of approximation [RMSEA] = .07, standardized root mean square residual [SRMR] = .07). \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

halik, 2005; Watson & Dispenza, 2015; Wiseman & Moradi, 2010), no prior study has included both compulsive exercise and intention to use AAS as male-specific outcomes. Findings from this study provided mixed support for the relations posited in objectification and minority stress theories and suggest areas for refinement to our current theoretical frameworks with sexual minority men. Results from this study are presented in light of several limitations, but may be used to inform future research and practice.

### Similarities and Divergences With Prior Objectification Theory Research

In the spirit of prior objectification theory research that has been tailored to fit the experiences of men, rather than women (Hallsworth, Wade, & Tiggemann, 2005; Parent & Moradi, 2011; Wiseman & Moradi, 2010), the present study aimed to shed light on the unique experiences of sexual minority men. In support of the legacy of research on objectification theory, many of our findings with sexual minority men were similar to those reported in the foundational objectification theory studies (Augustus-Horvath & Tylka, 2009; Kozee & Tylka, 2006; Wiseman & Moradi, 2010). Specifically, bivariate correlations between internalized standards of attractiveness, body surveillance, and negative behavioral outcomes (assessed with intention to use AAS and compulsive exercise) were all consistent with prior research (e.g., Wiseman & Moradi, 2010). Additionally, drawing from prior literature (e.g., Parent & Moradi, 2011), drive for muscularity (a male-specific addendum to objectification theory) was related as expected to internalized standards of attractiveness, body surveillance, and harmful behavioral outcomes. Such findings affirm the need for therapists and mental health professionals to help their clients understand how internalizing unrealistic sociocultural images of male bodies may translate to the unhealthy monitoring of one's appearance and excessive fixation on building musculature.

Several of the direct and indirect results of our path analysis were also consistent with prior research with men (Daniel & Bridges, 2010; Parent & Moradi, 2011). First, internalized standards of attractiveness was directly and uniquely related to higher body surveillance, body dissatisfaction, and drive for muscularity.

Additionally, internalized standards of attractiveness was indirectly and positively related to intention to use AAS through drive for muscularity. These findings underscore those of prior studies regarding the importance of internalized standards of attractiveness as a key cognitive process through which body image concerns and men's harmful compensatory behaviors may emerge (Parent & Moradi, 2011). Finally, the direct and positive relations of drive for muscularity with intention to use AAS and compulsive exercise were consistent with prior research that has linked such a drive with harmful health behaviors (Chaney, 2008; Chittester & Hausenblas, 2009; Hausenblas & Symons Downs, 2002).

Contrary to our expectations, the results of the present study also deviated from the traditional relations posed in the original objectification theory framework developed with heterosexual women, wherein body dissatisfaction and body surveillance directly relate to a drive to behaviorally modify one's body (Fredrickson & Roberts, 1997). Specifically, neither body dissatisfaction nor surveillance was directly related to drive for muscularity in our path analysis. However, other recent studies on body image with (primarily heterosexual) men have yielded similar findings, wherein they fail to find relations between these variables and behavioral outcomes (e.g., Parent & Moradi, 2011). Drawing from these prior studies and our own nonsignificant links, we tested an alternative model in which the direct paths between body surveillance and body dissatisfaction to drive for muscularity were omitted. This alternative model provided a better fit than our hypothesized model and was retained.

One reason for such a divergence in the objectification theory framework with men may be that body surveillance and body dissatisfaction are primarily focused on thinness, and men are often more concerned with musculature than weight (Daniel & Bridges, 2010; Martins et al., 2007). When working therapeutically with sexual minority men, mental health professionals may benefit from engaging in explicit conversations with their clients regarding how they internalize and process sociocultural standards of attractiveness. Findings from the present data suggest that—in response to a strong drive for muscularity—some men may consider using AAS and engaging in compulsive exercise. Explaining

how sexual minority men can be negatively impacted by unrealistic and rigid portrayals of male bodies may help to validate some of the pressure faced by clients with body image concerns (Martins et al., 2007). Additionally, therapists may find it helpful to explore what drives their clients' exercise routines and desire for muscularity without assuming that these behaviors are motivated by body dissatisfaction or surveillance. Masculine sociocultural norms regarding working out and gym culture can routinize exercise for men, such that, these practices may be decoupled from body image concerns. Indeed, some studies highlight that even when men are very satisfied with their bodies, they will continue to exercise (e.g., Galli & Reel, 2009); thus, it is important for future studies to further tease apart how a strong commitment to fitness differs from compulsive exercise.

### Minority Stress and Objectification Theories

More important, the present study also offered an examination of how a key minority stressor for sexual minority men—internalized heterosexism—may intersect with the original objectification theory framework. Similar to prior work on the links between minority stressors and body image with samples of sexual minority women and men (e.g., Brewster et al., 2014; Watson et al., 2015; Wiseman & Moradi, 2010), internalized heterosexism was correlated positively with internalized standards of attractiveness. Also aligned with similar studies on heterosexist minority stressors faced by men (e.g., Kimmel & Mahalik, 2005; Watson & Dispenza, 2015), internalized heterosexism was related positively with body shame or dissatisfaction. Such findings are not surprising, considering that sexual minority men are simultaneously exposed to both heterosexism and sexism, which propagate cultural stereotypes that gay and bisexual men are more effeminate than heterosexual men, and, that femininity in men is something shameful and deviant. Thus, exploring how societal heterosexism is typically coupled with subtle or overt messaging regarding masculinity and body norms may demonstrate awareness and compassion toward sexual minority men in clinical practice.

Contrary to our hypotheses, internalized heterosexism was unrelated (both in correlations and indirectly) to intention to use AAS or compulsive exercise. Prior research has also yielded mixed results regarding links between internalized heterosexism and behavioral manifestations of body image concerns such as disordered eating (Watson et al., 2015; Wiseman & Moradi, 2010); thus, the nonsignificant associations between internalized heterosexism, intention to use AAS, and compulsive exercise provide further evidence for the need to conduct additional research on these relations. Indeed, sexual minority men may be so inundated by objectifying images of male bodies from within gay culture, that they do not associate these pressures with heterosexism. Moreover, for some men, the social capital that arises from achieving a slim and muscular body in gay communities may outweigh the angst required to achieve it.

Despite the fact that our hypothesized model did not support indirect links between internalized heterosexism to drive for muscularity or harmful compensatory behaviors, it *did* support the link with body dissatisfaction; as such, mental health professionals should be prepared to talk to their male clients about this connection. Prior studies have reported positive relations between minority stressors, body shame or dissatisfaction, and “bulking up” (e.g.,

Kimmel & Mahalik, 2005); thus, exploring healthier and more adaptive ways to cope with stress experiences (rather than using AAS or compulsively exercising) is critical.

### Limitations

Findings from any study should be interpreted in light of limitations, and our study is no exception to this rule. First of all, the present study utilized an online sample, and while Internet recruitment has many strengths (e.g., accessing participants who reside in widespread geographic locations), online studies can also limit recruitment to people with computer and Internet access. Second, and perhaps related to our prior limitation, only 3% of participants reported that they lived in rural regions of the United States. Additionally, our sample has very high levels of education, as 95% of participants had attended at least some college. Racially, our sample was also relatively homogenous in that 68% of the participants identified as non-Latino/Hispanic White. Readers, therefore, should demonstrate caution when generalizing our findings to sexual minority men individuals with fewer years of education, who live in more rural parts of the United States, and who identify as men of color.

Third, while the aim of this study was to extend prior research on objectification theory with sexual minority men, cross-sectional data on this theory has clear limitations. Particularly for sexual minority men—some of whom may be in various stages of sexual identity development—levels of internalized heterosexism and endorsement of internalized standards of attractiveness may vary across time. For example, some of our participants may endorse intention to use AAS or compulsively exercise in college, but move away from these practices if they switch peer groups later in life. Thus, future research using both longitudinal and experimental designs with sexual minority men is imperative to testing the directional hypotheses implicit within both minority stress and objectification theory frameworks.

### Directions for Future Research

Though the present study contributes important knowledge to the burgeoning pantheoretical literature on minority stress and objectification theories, our findings highlight several directions that future researchers should begin to address. First, future research should begin to address the roles of other minority stressors beyond internalized heterosexism on body image for men. Specifically, environmental factors such as prejudicial events and stigma may be important contributors to body surveillance, as sexual minority men may feel a heightened need to monitor their appearance and self-presentation in an attempt to avoid heterosexist encounters. Relatedly, high levels of identity concealment may contribute to drive for muscularity and harmful compensatory behaviors if an individual links muscularity with “passing” as the heterosexual masculine ideal (Halkitis et al., 2004; Kimmel & Mahalik, 2005; Wood, 2004).

Second, body image measures must be developed to specifically target the unique experiences of sexual minority men. Measures developed and normed with heterosexual women (i.e., internalized standards of attractiveness, body surveillance) may be inappropriate or insensitive and overlook critical areas of body image stress related specifically to masculine self-concept. Research to explore

the role of self-objectification within men is also needed. Relatedly, a vast majority of the measures traditionally used in objectification theory research focus on internalization of the thin-ideal as the root of negative mental and physical health outcomes (Moradi & Huang, 2008). Additional work to include traditionally male-specific constructs such as drive for muscularity within the objectification framework is an important step to redressing these gaps in the literature (McCreary et al., 2007; Parent & Moradi, 2011).

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