

This is the author's version of the accepted manuscript:

Alleva, J. M.,\* Paraskeva, N., Craddock, N., & Diedrichs, P. C. (2018). Body appreciation in British men: Correlates and variation across sexual orientation. *Body Image*.

<https://doi.org/10.1016/j.bodyim.2018.09.004>

© 2018. This manuscript is made available under the CC-BY-NC-ND 4.0 license.

<https://creativecommons.org/licenses/by-nc-nd/4.0/>

\* Corresponding author. E-mail address: [jessica.alleva@maastrichtuniversity.nl](mailto:jessica.alleva@maastrichtuniversity.nl)

Body Appreciation in British Men:

Correlates and Variation Across Sexual Orientation

Jessica M. Alleva<sup>a,b</sup>, Nicole Paraskeva<sup>b</sup>, Nadia Craddock<sup>b</sup>, and Phillippa C. Diedrichs<sup>b</sup>

<sup>a</sup>Maastricht University

<sup>b</sup>Centre for Appearance Research, University of the West of England

Author Note

Jessica M. Alleva, Department of Clinical Psychological Science, Maastricht University, Maastricht, The Netherlands, and Centre for Appearance Research, University of the West of England, Bristol, United Kingdom; Nicole Paraskeva, Centre for Appearance Research, University of the West of England, Bristol, United Kingdom; Nadia Craddock, Centre for Appearance Research, University of the West of England, Bristol, United Kingdom; Phillippa C. Diedrichs, Centre for Appearance Research, University of the West of England, Bristol, United Kingdom.

Correspondence regarding this article should be addressed to Jessica M. Alleva, Department of Clinical Psychological Science, Maastricht University, P.O. Box 616, 6200 MD Maastricht, The Netherlands. Telephone: 00 31 (0)43 3881609. E-mail: Jessica.Alleva@maastrichtuniversity.nl.

### Abstract

Investigations of positive body image among men and across various social identities are lacking, and could contribute to a more complete understanding of the construct, including how positive body image can be improved. This study addressed this gap by investigating correlates of *body appreciation* – a key facet of positive body image – in men, and testing whether levels of body appreciation vary across sexual orientation. Data from a British community sample of 439 men ( $M_{\text{age}} = 39.13$ ) showed that body appreciation inversely correlated with conformity to masculine norms and upward appearance-based social comparisons, and positively correlated with physical activity. Body appreciation was lower among sexual minority compared to heterosexual men, and athletic appearance-ideal internalisation and upward appearance-based social comparisons mediated this relationship. Replicating prior research among men, body appreciation positively correlated with body satisfaction, and inversely correlated with perceived appearance pressures from media and eating pathology. These findings have implications for interventions addressing body image among men.

*Keywords:* positive body image, men, sexual orientation, social comparison, appearance-ideal internalisation

## Introduction

Traditionally, research within the field of body image has been pathology-driven, focusing primarily on aspects of negative body image, such as body dissatisfaction (Tylka & Wood-Barcalow, 2015a). Yet within the past decade, more research has emerged on positive body image. *Positive body image* refers to “love and acceptance of one’s body (including aspects inconsistent with societally-prescribed ideals) and appreciation of its uniqueness and the functions it performs” (Tiggemann, 2015, p. 168). Collectively, extant research has shown that positive body image is an adaptive construct, associated with aspects of psychological and physical health, and inversely correlated with aspects of negative body image and psychological and physical ill-health (Avalos, Tylka, & Wood-Barcalow, 2005; Tylka & Wood-Barcalow, 2015a). Importantly, positive body image is distinct from negative body image – the two are not opposite ends of the same spectrum (Tylka & Wood-Barcalow, 2015b). For example, positive body image has been uniquely associated with aspects of well-being, self-care, and eating behaviour, after extracting shared variance with negative body image (Avalos et al., 2005; Tylka & Wood-Barcalow, 2015a), and individuals can experience a positive body image while still experiencing aspects of a negative body image (Tiggemann & McCourt, 2013). Thus, research on positive body image is fundamental for achieving a more complete understanding of body image.

An important direction for research on positive body image is to investigate positive body image across various social identities, such as genders, sexual orientations, ethnicities, geographical regions, physical capacities, and professions (Tiggemann, 2015). For example, studies have shown that men tend to have higher levels of body appreciation compared to women (Lobera & Ríos, 2011; Swami, Stieger, Haubner, & Voracek, 2008; Tylka, 2013). *Body appreciation* is the most widely-researched facet of positive body image, and refers to appreciating the features, functionality, and health of one’s body (Tylka & Wood-Barcalow,

2015b). Men may have higher levels of body appreciation given that appearance ideals tend to be more flexible for men and because they may have greater access to societal and individual resources that promote positive body image (e.g., greater financial resources to support adaptive self-care and physical activities; Swami, Stieger, et al., 2008). Investigating positive body image across social identities is essential for obtaining a more nuanced understanding of individuals' experiences and the construct itself (Tiggemann, 2015), which, in turn, could help to inform the content of interventions designed to enhance positive body image. This is particularly important among men, because although they tend to have a more positive body image than women, a significant proportion of men have body concerns (e.g., approximately 30% experience body dissatisfaction; Fallon, 2014) and few effective body image interventions for men have been identified (Alleva, Sheeran, Webb, Martijn, & Miles, 2015; Jankowski et al., 2017). Yet, research into positive body image is in its infancy, particularly among men, and many questions remain unanswered.

The present study will contribute to filling this gap by (a) investigating the correlates of body appreciation in men, (b) exploring whether levels of body appreciation differ across sexual orientation, and (c) if so, what explains these differences. Concerning aspect (a), we will focus on correlates that are pertinent to men's body image but that have not been tested previously among men. Further, to replicate findings from prior literature, we will also include additional correlates that have been supported by previous research on body appreciation among men. To the best of our knowledge, this study will be the first to investigate aspects (b) and (c). Each of these aspects is discussed in turn, below.

### **Correlates of Body Appreciation in Men**

Compared to the number of studies that have investigated positive body image in women, relatively few studies have included men. Collectively, these studies have shown that body appreciation is positively correlated with aspects of men's well-being (e.g., self-esteem,

optimism) and inversely correlated with aspects of their ill-being (e.g., eating pathology, depression), similar to what has been found for women (see Tiggemann, 2015, for a review). The current study will extend these findings by investigating whether body appreciation in men is related to conformity to masculine norms, social comparison tendencies, and levels of physical activity.

*Conformity to masculine norms* concerns the extent to which an individual meets the societal expectations for what constitutes masculinity in one's public and private life (Mahalik et al., 2003). It is important to investigate conformity to masculine norms given that broader sociocultural factors can shape how men experience their body. For example, conformity to masculine norms is associated with body dissatisfaction and male appearance-related attitudes and behaviours, including drive for leanness and muscularity (Holmqvist-Gattario et al., 2015; Martin & Govender, 2011). Therefore, greater conformity to masculine norms might also be related to lower levels of body appreciation, but prior to this study this relationship has not been tested. Conformity to masculine norms might prevent men from having experiences that could foster body appreciation, such as adaptive appearance investment or engaging in physical activities that they truly enjoy, rather than those that are deemed acceptable for men (Piran, 2002; Piran & Teall, 2012; Tylka & Wood-Barcalow, 2015b). Men who conform to masculine norms might also be more likely to consume media, like men's fitness magazines, that encourage striving for gendered appearance ideals (e.g., emphasising physical strength but also dominance and power; Murnen & Don, 2012), rather than appreciating their body regardless of whether it meets these ideals. Further, conforming to masculine norms could prevent men from accessing social resources or interactions that promote body appreciation, such as seeking other body-positive individuals or expressing inner positivity and body pride (Tylka & Wood-Barcalow, 2015b). Conversely, individuals with a positive body image show acceptance and compassion toward their body and are critical of societal ideals (Tylka &

Wood-Barcalow, 2015b); these perspectives are not in line with conformity to external norms for how men should think, look, or behave. Thus, higher levels of body appreciation should be related to less conformity to masculine norms.

Social comparison tendencies play a role in the aetiology and maintenance of negative body image. According to *social comparison theory* (Festinger, 1954), upward social comparisons are those made with an individual who is perceived to be superior on the target of comparison (e.g., intelligence) and can lead to lower feelings of self-worth. Within the context of body image, *upward appearance-based social comparisons*, in which one compares one's own body to a self-perceived superior other (e.g., a professional athlete), contribute to body dissatisfaction in both women and men (see Myers & Crowther, 2009, for a review). Likewise, higher levels of body appreciation are related to lower levels of appearance comparisons in women (Andrew, Tiggemann, & Clark, 2015, 2016), but this relationship has not yet been studied in men. However, qualitative research has shown that women and men with a positive body image engage in *protective filtering*, a process whereby information that can positively affect their body image is 'filtered in' (e.g., body-positive imagery) and information that can negatively affect their body image is 'filtered out' (e.g., beauty-ideal imagery; Frisén & Holmqvist, 2010; Holmqvist & Frisén, 2012; Tylka & Wood-Barcalow, 2015b). This protective filter could discourage individuals with a positive body image from engaging in upward appearance-based social comparisons that could threaten their body image. As such, higher levels of body appreciation might also correlate with lower levels of upward appearance-based social comparisons in men.

Concerning *physical activity*, Andrew et al. (2016) found that engaging in physical activity predicted higher levels of body appreciation in women. In line with the *developmental theory of embodiment* (Piran, 2002; Piran & Teall, 2012), pleasurable engagement in physical activity can contribute to positive body image by helping individuals to develop a more

positive body connection. Engaging in physical activity could also encourage individuals to adopt a more functionality (vs. appearance) based orientation toward their body (Martin & Lichtenberger, 2002), and focusing on one's body functionality has been shown to cause improvements in body appreciation in women (Alleva, Martijn, Van Breukelen, Jansen, & Karos, 2015). Similarly, body appreciation in men might be associated with higher levels of physical activity, though this relationship has not been investigated previously.

To replicate findings from prior literature, this study will include additional correlates that have been supported by previous research on body appreciation among men and that are pertinent to body image. Namely, body appreciation among men has been related to higher levels of *body satisfaction*, and lower levels of *appearance-ideal internalisation*, *drive for muscularity and leanness*, and *media consumption* (Gillen, 2015; Swami, Hadji-Michael, & Furnham, 2008; Swami, Stieger, Haubner, & Voracek, 2008; Tylka & Wood-Barcalow, 2015a). These findings reflect that individuals with a positive body image take a positive perspective toward their own body, are critical of societal ideals, and may consciously limit their exposure to media given the omnipresence of potentially harmful appearance-related imagery and messages (Frisén & Holmqvist, 2010; Holmqvist & Frisé, 2012; Tylka & Wood-Barcalow, 2015b). Conversely, lower levels of media consumption may reduce an individual's exposure to such appearance-related imagery and messages, thereby preventing decreases in body appreciation. Body appreciation among men has also been related to lower levels of *perceived appearance pressures* from others (Kroon Van Diest & Tylka, 2010; Tylka & Homan, 2015), perhaps because individuals with a positive body image choose to surround themselves with others who have also adopted a positive body image and express acceptance toward others' bodies (Tylka & Wood-Barcalow, 2015b). On the other hand, perceiving that others accept one's own body *as is* could also enhance body appreciation. Indeed, Tylka and Homan (2015) have shown that perceived unconditional acceptance of



one's body is key for fostering body appreciation. Last, body appreciation among men has been related to lower levels of *eating pathology* (Gillen, 2015; Tylka & Wood-Barcalow, 2015a), reflecting that individuals with a positive body image strive to take care of their bodies to keep them functioning well and are less likely to harm their bodies via unhealthy behaviours (Frisén & Holmqvist, 2010; Tylka & Wood-Barcalow, 2015b; Wood-Barcalow, Tylka, & Augustus-Horvath, 2010). In line with this prior literature, body appreciation among men in the current study might positively correlate with body satisfaction, and inversely correlate with appearance-ideal internalisation, drive for muscularity and leanness, media consumption, perceived appearance pressures, and eating pathology.

### **Body Appreciation Across Sexual Orientation and Underlying Mechanisms**

The relationship between body appreciation and sexual orientation has not been previously investigated among men. Studies have shown that sexual minority men tend to experience a more negative body image compared to heterosexual men (see Morrison, Morrison, & Sager, 2004, for a review). One framework to understand this difference concerns the *sociocultural model* (Tiggemann, 2011), which proposes that societal ideals of appearance within a particular (sub)culture are transmitted via various sociocultural channels (e.g., media, one's romantic partner, peers); in turn, these ideals are internalised by the individual, so that body image will be a function of whether or not the individual perceives his or her body as 'successful' in comparison to the ideal prescription. Sexual minority men live in a particularly appearance-potent subculture, with greater overvaluation of physical appearance and sexual objectification of male bodies (Hospers & Jansen, 2005; Jankowski, Fawcner, Slater, & Tiggemann, 2014). For instance, Jankowski et al. (2014) showed that gay male media more often feature men who match the appearance ideal, are nude, and sexualised, compared to straight male media. Further, gay men who are deemed as not meeting the appearance ideal are often classified as "fats," "fems," or "trolls" by others within

this subculture (Wood, 2004). Romantic partners and peers are also more likely to value physical attractiveness and communicate this to the individual (Hospers & Jansen, 2005; Legenbauer et al., 2009). In line with the sociocultural model, living within this subculture could contribute to body dissatisfaction via increased perceived appearance pressures and appearance-ideal internalisation compared to heterosexual men (Carper, Negy, & Tantleff-Dunn, 2010; Hospers & Jansen, 2005; Jankowski, Diedrichs, & Halliwell, 2014; Levesque & Vickers, 2006; Tylka & Andorka, 2012). Living within an appearance-potent subculture could also encourage greater upward appearance-based social comparisons, which further contribute to greater body dissatisfaction in sexual minority men (Carper et al., 2010; Levesque & Vickers, 2006; Tylka & Andorka, 2012). Similarly, sexual minority men might experience lower levels of body appreciation due to this appearance-potent subculture, and this relationship could be explained by greater perceived appearance pressures, appearance-ideal internalisation, and social comparison tendencies that impede efforts to appreciate and accept one's body as is.

### **The Current Study**

The aims of this study were to investigate the correlates of body appreciation in men as well as potential differences and explanatory mechanisms between levels of body appreciation in heterosexual and sexual minority men. The knowledge gained from this research will be valuable for achieving a more complete understanding of (positive) body image, and will help to shape the content of interventions designed to enhance positive body image. Within men specifically, this information is sorely needed as interventions for improving body image in men are rare, and few have been found to be effective (Alleva, Sheeran, et al., 2015; Jankowski et al., 2017).

We hypothesised that body appreciation would be inversely correlated with conformity to masculine norms and upward appearance-based social comparisons, and

positively associated with levels of physical activity. In line with previous literature on body appreciation among men, we expected that body appreciation would also be associated with body satisfaction and inversely correlated with drive for muscularity and leanness, media consumption, perceived appearance pressures, and eating pathology. Last, we hypothesised that body appreciation would be lower among sexual minority men compared to heterosexual men, and that differences would be mediated by perceived appearance pressures, upward appearance-based social comparisons, and appearance-ideal internalisation.

## **Method**

### **Participants and Procedure**

This study was approved by the ethics committee of the University of the West of England. British men were recruited to the “Men’s Health and Well-Being Survey” via the YMCA<sup>1</sup> in the UK, and via other media (e.g., social networks, website of the research group and wider university). Inclusion criteria were that participants must be male and 18 years or older. Participants completed the study online. They first completed an electronic informed consent sheet, followed by demographic items and the questionnaires. As part of a second longitudinal study with separate aims, participants were invited to complete the survey six and 12 months later (to be published separately). Participants were debriefed at the end of data collection and were entered into a lottery to win an iPad.

In total, 440 men took part in this study: 301 identified their sexual orientation as heterosexual, 114 as gay, 14 as bisexual, and three as “other,” whereas seven indicated “rather not say,” and one did not answer the question. Table 1 summarises all participant demographics.

### **Materials**

---

<sup>1</sup> The YMCA was founded in 1944 as a Christian charity for young men. However, since the 1960s the YMCA has focused on both young men and women, regardless of faith. In the UK, the YMCA is the largest voluntary provider of services promoting healthy communities (e.g., fitness centres and accreditation for personal trainers).

**Body Appreciation Scale (BAS; Avalos, Tylka, & Wood-Barcalow, 2005).** The BAS comprises 13 items (e.g., “I take a positive attitude toward my body”) that are rated from 1 = *never* to 5 = *always*. Item scores are averaged; higher scores reflect higher levels of body appreciation. BAS scores have demonstrated internal reliability and construct validity among U.S. undergraduate men (Tylka, 2013) and community samples of men in the U.K. (Swami, Hadji-Michael, & Furnham, 2008). The BAS was used for this research because, at the time of recruitment, the BAS-2 (Tylka & Wood-Barcalow, 2015a) had not yet been published.

**Conformity to Masculine Norms Inventory (CMNI-46; Mahalik et al., 2003).** The CMNI-46 comprises 46 items assessing participants’ endorsement of nine masculine norms from 0 = *strongly disagree* to 3 = *strongly agree*. Item scores are averaged; higher scores demonstrate greater conformity to masculine norms. Item scores have demonstrated internal reliability, 3-week test-retest reliability, and construct validity in U.S. undergraduate men (Mahalik et al., 2003) and Australian community men (De Jesus et al., 2015). Item scores have also demonstrated internal reliability among community samples of gay men in the U.S. (Kimmel & Mahalik, 2005).

In this study, only the items concerning emotional control (11 items; e.g., “I tend to keep my feelings to myself”) and self-reliance (six items; e.g., “I hate asking for help”) were administered to reduce participant burden. These items were prioritised because we thought that they would be most reflective of internalising problems (e.g., compared to items reflecting risk taking or violence) and most strongly related to body appreciation. To illustrate, individuals who do not express their emotions or allow themselves to be vulnerable around others might be less likely to behave in ways that foster body appreciation, such as finding other body-positive individuals, expressing disagreement with societal appearance ideals, or asking others for help in fostering a positive body image (Tylka & Wood-Barcalow, 2015b). To take another example, individuals who appreciate their body are more aware of,

and responsive to, their internal bodily sensations (Piran & Teall, 2012; Webb, Wood-Barcalow, & Tylka, 2015); therefore, they might also be more likely to recognise bodily sensations that signal the need to connect with others (e.g., feelings of loneliness) and to respond to those signals adaptively (e.g., expressing emotions, seeking social contact).

**Upward and Downward Physical Appearance Comparisons Scale (O'Brien et al., 2009).** Participants completed the Upward Physical Appearance Comparisons Subscale, containing 10 items (e.g., “I compare my body to people who have a better body than me”) rated from 1 = *strongly disagree* to 5 = *strongly agree*. Item scores are averaged; higher scores demonstrate stronger tendencies to make upward appearance-based social comparisons. Item scores have demonstrated internal reliability, 2-week test-retest reliability, and construct validity in Australian undergraduate men (O'Brien et al., 2009). In this study, we did not include the additional subscales of this questionnaire to reduce participant burden, and given that upward (vs. downward) appearance-based social comparisons are theoretically and empirically more potent for body image (Festinger, 1954; Myers & Crowther, 2009).

**Frequency of physical activity.** In line with prior research (e.g., Prichard & Tiggemann, 2008), participants indicated how often they engage in physical activity, whereby 1 = *never*, 2 = *less than once a month*, 3 = *once a month*, 4 = *2-3 times a month*, 5 = *once a week*, 6 = *several times a week*, and 7 = *daily*.

**Multidimensional Body-Self Relations Questionnaire (Brown, Cash, & Mikulka, 1990; Cash, 2000).** Participants completed the Body Areas Satisfaction Subscale, wherein their satisfaction (1 = *very dissatisfied* to 5 = *very satisfied*) concerning nine body attributes (e.g., weight) is rated. Scores are averaged; higher scores reflect greater body satisfaction. Item scores have demonstrated internal reliability, 1-month test-retest reliability, and construct validity in U.S. community men (Cash, 2000). Item scores have shown internal reliability among a community sample of gay men in the U.S. (Levesque & Vichesky, 2006).

**Sociocultural Attitudes Towards Appearance Questionnaire-3 (SATAQ-3; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004).** Participants completed the Internalisation – General (nine items; e.g., “I compare my body to the bodies of people who are on TV”) and Internalisation – Athlete (five items; e.g., “I compare my body to that of people in ‘good shape’”) Subscales, with items rated from 1 = *definitely disagree* to 5 = *definitely agree*. Item scores on each subscale are averaged; higher scores reflect higher general and athletic appearance-ideal internalisation, respectively. Item scores have demonstrated internal reliability and construct validity in U.S. undergraduate men (Karazsia & Crowther, 2008) and Australian community men (De Jesus et al., 2015); internal reliability has been demonstrated among a community sample of gay men in the U.K. (Jankowski et al., 2014).

**Drive for Muscularity Scale (DMS; McCreary & Sasse, 2000).** The DMS contains 14 items that can be divided into Attitudinal (seven items; e.g., “I wish that I were more muscular”) and Behavioural (seven items; e.g., “I lift weights to build up muscle”) Subscales. Items are rated from 1 = *never* to 6 = *always*. Scores on the 14 items were averaged, with higher scores reflecting higher levels of drive for muscularity. Item scores have demonstrated internal reliability and construct validity in U.S. and Canadian undergraduate men and U.S. community men (Bucchianeri, Serrano, Pastula, & Corning, 2014; McCreary, Sasse, Saucier, & Dorsch, 2004). Further, item scores have shown internal reliability among a community sample of gay and bisexual Canadian men (Brennan, Craig, & Thompson, 2012).

**Drive for Leanness Scale (DLS; Smolak & Murnen, 2008).** The DLS comprises six items (e.g., “My goal is to have well-toned muscles”), rated from 1 = *never* to 6 = *always*. Item scores are averaged; higher scores reflect higher levels of drive for leanness. Item scores have demonstrated internal reliability and construct validity in U.S. undergraduate (Smolak &

Murnen, 2008) and Australian community (De Jesus et al., 2015) men; internal reliability has also been demonstrated among gay men in the U.S. (Strubel & Petrie, 2018).

**Media consumption.** In line with previous research (e.g., Hatoum & Belle, 2004; Slater & Tiggemann, 2006), participants indicated the number of hours spent, on average, (a) watching television each day; (b) looking at magazines each month; (c) using the Internet during the week; and (d) using the Internet on weekends, from 1 = 0 hours to 8 = 6+ hours. Question (b) was assessed by type (fashion, health/fitness, sports, men's interest, gay). Item scores were averaged for each form of media separately; higher scores reflect higher levels of consumption of television, magazines, and Internet, respectively.

### **Perceived Sociocultural Influences on Body Image and Body Change**

**Questionnaire (McCabe & Ricciardelli, 2001).** This questionnaire comprises 62 items assessing perceived appearance pressures from one's mother (13 items), father (13 items), friends (26 items), and media (10 items). Item scores have demonstrated internal reliability among community samples of Australian men (McCabe & McGreevy, 2011). In this study, questions concerning one's parents were replaced with questions concerning one's romantic partner, which could be skipped if not applicable. To reduce participant burden, 14 items were administered: Five questions each were asked for perceived pressures from one's partner and friends, and concerned encouragement to lose weight, gain weight, and be more muscular, importance placed on this feedback, and whether the partner or friends try to change their own body; four questions tapped into media pressures, and concerned messages to lose weight, gain weight, and be more muscular, and importance placed on these messages. Item scores were averaged for perceived appearance pressures from one's partner, friends, and media. Higher scores reflect greater perceived appearance pressures from each source of influence.

### **Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 2008).**

The EDE-Q comprises 28 items assessing participants' eating-related thoughts, feelings, and

behaviours over the past 28 days (e.g., “Have you been trying to lose weight?”). Items can be divided into Restraint (five items), Eating Concern (five items), Weight Concern (five items), and Shape Concern (eight items) Subscales. Studies have demonstrated good psychometric properties of the EDE-Q in men with an eating disorder (Berg, Peterson, Frazier, & Crow, 2012), and internal reliability among U.S. undergraduate men (Lavender, De Young, & Anderson, 2010) and community samples of gay and bisexual men in the Netherlands (Hospers & Jansen, 2005). In this study, only the 12 items considered diagnostic of eating disorders were administered to reduce participant burden, in line with previous research (e.g., Jankowski et al., 2017).

**Demographic items.** Participants reported their age, height and weight (to calculate their body mass index; BMI), sexual orientation, ethnicity, and education level. With regard to sexual orientation, they were asked “What is your sexual orientation?” and could choose *heterosexual*, *gay*, *bisexual*, *other (please indicate)*, and *prefer not to say*.

## Results

### Descriptive Information and Data Preparation

For the analyses separated by sexual orientation, we compared men who identified as heterosexual ( $n = 301$ ) vs. those who identified as a sexual minority ( $n = 131$ ; i.e., gay, bisexual, or other). Table 2 shows participants’ questionnaire scores, Cronbach’s alphas for each measure, and the correlations with body appreciation, for the full sample as well as for heterosexual and sexual minority men separately (for all potential correlations between all study variables, see Supplementary Materials). When inspecting the Cronbach’s alphas for heterosexual and sexual minority men separately, we discovered that the Cronbach’s alphas were low among sexual minority men for media consumption of magazines, and perceived appearance pressures from one’s romantic partner and friends. The analyses on these variables were thus conducted for the heterosexual men only.



Inspection of missing data revealed that 31.63% of participants ( $n = 149$ ) had missing data on at least one demographic item or questionnaire score and, as a result, 9.98% of the dataset comprised missing values (see Tables 1 and 2 for the number of participants who provided data for each demographic item or questionnaire score, respectively). Multiple imputation using the fully conditional specification method was applied to complete the dataset, with 100 imputations (Schafer, 1999).<sup>2</sup>

### **Correlates of Body Appreciation in Men**

Pearson product-moment correlation coefficients were calculated to test the relationship between body appreciation and the variables assessed (Table 2). Correlations were considered strong if  $r_s \geq .50$ , moderate if  $r_s$  are around .30, and small if  $r_s$  are around .10 (Cohen, 1992). Due to the large number of correlations examined, a Bonferroni correction was applied, whereby alpha was .003 (i.e.,  $p = .05/17$  tests).

As hypothesised, body appreciation was inversely associated with conformity to masculine norms and upward appearance-based social comparisons, and positively associated with frequency of physical activity. These relationships were small to moderate in magnitude. Concerning the additional variables, as predicted, body appreciation was strongly associated with body satisfaction in a positive direction, and small to moderate inverse correlations were found with perceived appearance pressures from media, drive for muscularity, and eating pathology.

Unexpectedly, body appreciation was not associated with general and athletic appearance-ideal internalisation, and media consumption of television and Internet. These correlations were small in magnitude and in the expected directions; though  $p$ -values were  $< .05$ , they did not meet the adjusted criterion of  $p < .003$ . Body appreciation was also not

---

<sup>2</sup> Multiple imputation was not used to complete data that were not included in further analyses (i.e., education level, ethnicity). Further, running the analyses with the incomplete dataset revealed the same pattern of results, with the exception of the relationship between body appreciation and drive for muscularity, which became significant in the analyses using the completed dataset.

associated with drive for leanness, media consumption of magazines, and perceived appearance pressures from one's romantic partner and friends (the  $p$ -values exceeded the adjusted criterion of  $p < .003$  and the criterion of  $p < .05$ ). Body appreciation was moderately inversely associated with BMI ( $r = -.247, p < .001$ ), but not age ( $r = .036, p = .454$ ).

### **Body Appreciation, Sexual Orientation, and Explanatory Mechanisms**

As hypothesised, levels of body appreciation were significantly lower among sexual minority men ( $M = 3.29, SE = .06$ ) compared to heterosexual men ( $M = 3.55, SE = .04$ ),  $t(177282) = 3.22, p = .001$ .<sup>3</sup> The magnitude of this difference was moderate, Cohen's  $d = 0.36$  (Cohen, 1992).

Next, we tested whether the relationship between sexual orientation and body appreciation was mediated by (a) perceived appearance pressures, (b) appearance-ideal internalisation, and (c) upward appearance-based social comparisons. To do so, we conducted bootstrapping analyses with 10,000 bootstrapped samples using the Version 3 PROCESS macro (Hayes, 2017).<sup>4</sup> With regard to (a), we only investigated perceived appearance pressures from the media because, as aforementioned, Cronbach's alphas were low among the subsample of sexual minority men for the measures of perceived appearance pressures from one's romantic partner and friends.

The results of these analyses are presented in Table 3. For perceived appearance pressures from the media and general appearance-ideal internalisation, both the total and direct effects were significant. However, the indirect effects were not, as indicated by the fact that zero is not included in the 95% confidence intervals for these effects. For athletic appearance-ideal internalisation, the total and direct effects were significant. In addition, the relationship between sexual orientation and body appreciation was partially mediated by athletic appearance-ideal internalisation. Last, for upward appearance-based social

---

<sup>3</sup> This  $t$ -test is based on the dataset as completed using multiple imputation, with 100 imputations.

<sup>4</sup> These analyses could only be conducted using the dataset prior to multiple imputation.

comparisons, the total effect was significant, but the direct effect was not. The relationship between sexual orientation and body appreciation was fully mediated by social comparisons.

### **Discussion**

This study investigated the correlates of body appreciation in men, as well as whether body appreciation differs across sexual orientation and, if so, what can explain these differences. To the best of our knowledge, this study is the first to test and establish that body appreciation in men is inversely correlated with conformity to masculine norms and upward appearance-based social comparisons, and positively related to levels of physical activity. To replicate findings from prior research on body appreciation among men, we also investigated the relationship between body appreciation and additional factors relevant to body image. As expected, body appreciation was positively associated with body satisfaction, and inversely correlated with drive for muscularity, perceived appearance pressures from media, and eating pathology. Although small correlations in the expected directions ( $ps < .05$ ) were found with appearance-ideal internalisation and media consumption of television and Internet, these relationships were not significant at our conservative adjusted criterion ( $p < .003$ ). Further, body appreciation was not associated with drive for leanness, media consumption of magazines, and perceived appearance pressures from one's romantic partner and friends. Last, as predicted, body appreciation was lower among sexual minority men compared to heterosexual men, and this relationship was mediated by athletic appearance-ideal internalisation and upward appearance-based social comparisons, but not by perceived appearance pressures from the media or general appearance-ideal internalisation.

Scholars have called for more research on positive body image across various social identities because such knowledge can contribute to a more nuanced understanding of individuals' experiences and the construct itself (Tiggemann, 2015; Tylka & Wood-Barcalow, 2015b). The present findings suggest the interplay between positive body image in men and

broader sociocultural influences. Namely, men with higher levels of body appreciation endorse lower levels of conformity to masculine norms. These findings support qualitative research showing that individuals with a positive body image are critical of societal ideals and protect their body image by ‘filtering in’ information that positively affects their body image, and ‘filtering out’ information that can threaten their body image (Tylka & Wood-Barcalow, 2015b; Wood-Barcalow et al., 2010). This could also explain why men with higher levels of body appreciation report lower levels of upward appearance-based social comparisons, as these comparisons have been found to worsen men’s body image (Myers & Crowther, 2009). Conversely, lower levels of conformity to masculine norms may enable men to engage in activities, social interactions, and media consumption that are more likely to foster – rather than undermine – body appreciation (e.g., seeking body-positive peers, adaptive appearance investment; pleasurable physical activity; Piran, 2002; Tylka & Wood-Barcalow, 2015b).

The present findings also support the notion that positive body image – in both women and men – will be expressed in adaptive self-care behaviours and lower levels of harmful behaviours (Tylka & Wood-Barcalow, 2015b). In the present study, men with higher levels of body appreciation reported higher levels of physical activity. Men with a positive body image might choose to engage in physical activity to take care of their body’s functioning, and, in line with the developmental theory of embodiment (Piran, 2002; Piran & Teall, 2012), pleasurable engagement in physical activity can enhance positive body image by fostering a positive body connection. Engaging in physical activity could further enhance positive body image by helping men to focus on what their body is able to do, rather than how it looks (Alleva, Martijn, et al., 2015; Tylka & Wood-Barcalow, 2015b). Of course, frequency of physical activity does not necessarily equate to engaging in adaptive or pleasurable physical activity. For example, engaging in physical activity that is motivated by functionality-related reasons (e.g., enhancing physical fitness), in contrast to physical activity that is motivated by

appearance-related reasons (e.g., losing weight), is related to better body image outcomes for both women and men (McDonald & Thompson, 1992). In addition, the type of physical activity (e.g., appearance vs. functionality-focused) and competition level may also determine the impact of physical activity on body image (Varnes et al., 2013). As such, future research should include additional indices, including motivations underpinning physical activity, type, and competition level, to obtain a more fine-grained understanding of these relationships.

Investigating positive body image across social identities is also important for shaping the content of interventions designed to improve positive body image. To date, research investigating techniques for improving body image among men is particularly rare and few effective intervention techniques have been identified (Alleva, Sheeran, et al., 2015; Jankowski et al., 2017). Collectively, the present findings suggest that important targets for intervention include reducing conformity to masculine norms, upward appearance-based social comparisons, drive for muscularity, perceived appearance pressures from media, and eating pathology, and promoting (adaptive and pleasurable) physical activity. The challenge for future research will be to identify or develop intervention techniques that can effectively address these components in men. For example, cognitive dissonance-based techniques could challenge men's conformity to masculine norms, drive for muscularity, and perceived appearance pressures from media, and help them to perceive the men they see in media imagery as invalid targets for social comparisons (Jankowski et al., 2017). Further, physical activity-based interventions and those training men to focus on their body functionality could help them to develop a more adaptive, functionality-oriented focus on their body (Alleva, Martijn, et al., 2015; Tylka & Homan, 2015) and could foster a positive body connection (Piran, 2002; Piran & Teall, 2012).

The present findings highlight that sexual minority men experience lower levels of body appreciation compared to heterosexual men and, as such, sexual minority men may

especially benefit from interventions designed to improve positive body image. These findings are in line with research showing that sexual minority men may also experience a more negative body image compared to heterosexual men (Morrison et al., 2004). More broadly, the findings provide additional support for the sociocultural model of body image (Tiggemann, 2011). Indeed, prior research has suggested that sexual minority men live in an especially appearance-potent subculture that could enhance negative body image via perceived appearance pressures, appearance-ideal internalisation, and upward appearance-based social comparisons (Carper et al., 2010; Hospers & Jansen, 2005; Jankowski, Fawcner, et al., 2014; Legenbauer et al., 2009; Levesque & Vichesky, 2006; Tylka & Andorka, 2012; Wood, 2004). With regard to positive body image, the present findings suggest that athletic appearance-ideal internalisation and upward appearance-based social comparisons can explain the relationship between sexual orientation and body appreciation. However, it is important to underscore that other factors may help to explain this relationship, too. For instance, research on the *minority stress model* has shown that sexual minorities experience stress as a result of their marginalised position in society; this minority stress can create an environment that increases individuals' risk for developing mental health problems and a worsened body image (Simpson, Sutter, & Perrin, 2016). Future research could investigate additional factors such as perceived minority stress as mediators in the relationship between sexual orientation and body appreciation. Interventions to improve body image in sexual minority men could then be tailored based on these findings, for instance paying special attention to athletic appearance-ideal internalisation and upward appearance-based social comparisons and other identified mediators. With regard to these findings, it is also interesting to note that athletic-ideal internalisation, but not general appearance-ideal internalisation, mediated the relationship between sexual orientation and body appreciation. This distinction could reflect the fact that an athletic figure, with a greater emphasis on muscularity and leanness, is especially valued

among sexual minority men compared to heterosexual men (Hospers & Jansen, 2005; Legenbauer et al., 2009; Wood, 2004); thus, athletic-ideal internalisation may be particularly potent in affecting body image among sexual minority men.

It is unclear why body appreciation in men was not significantly related to appearance-ideal internalisation, drive for leanness, media consumption, and perceived appearance pressures from one's romantic partner and friends, in contrast to prior research (though it is worth noting that small correlations with  $ps < .05$  were found with appearance-ideal internalisation and media consumption of television and Internet in the expected directions; Gillen, 2015; Swami et al., 2011; Swami, Hadji-Michael, et al., 2008; Swami & Hwang, 2012; Tylka & Homan, 2015; Tylka & Kroon Van Diest, 2013; Tylka & Wood-Barcalow, 2015a). The simplest explanation for these divergent findings is that these relationships may not exist – at least not in this sample. After all, positive body image is distinct from negative body image, and so aspects of a positive body image will not necessarily be associated with aspects or correlates of a negative body image (Tylka & Wood-Barcalow, 2015b). Yet, the establishment of these relationships in prior research, and the direction of our results, suggests that there might be alternative reasons for these differences in findings. One reason might concern how the constructs were assessed. For example, Tylka and Homan (2015) measured perceived appearance acceptance from others, using the Body Acceptance by Others Scale (BAOS; Avalos & Tylka, 2006). Although higher perceived appearance pressures (assessed in this study) likely equate to lower levels of perceived acceptance, positive and negative experiences are not necessarily opposite ends of the same spectrum, as aforementioned, and body appreciation may more closely tap into perceived appearance acceptance (Tylka, 2006). Therefore, future investigations of body appreciation in men could administer the BAOS in addition to measures of perceived appearance pressures.

Concerning media consumption, it could be that levels of media consumption are not related to body appreciation, but specific types of media exposure may be. For instance, research on negative body image has shown that it is not overall use of social media that is related to body dissatisfaction, but rather appearance-related exposure on social media (e.g., viewing friends' photos; Meier & Gray, 2014). Likewise, in support of the protective filtering process (Tylka & Wood-Barcalow, 2015b), individuals with a positive body image may selectively consume media that positively affect their body image, and reject media that negatively affect their body image, without reducing overall levels of media consumption.

Further, it is unclear why the present findings concerning appearance-ideal internalisation and drive for leanness differ from prior research, as the questionnaires used to assess these constructs were similar. Potential differences could instead lay in the present study's more varied sample. Prior studies tested these relationships in male university students (e.g., Gillen, 2015; Swami et al., 2011; Swami & Hwang, 2012; Tylka & Kroon Van Diest, 2013; Tylka & Wood-Barcalow, 2015a), whereas the present study concerned a community sample, more diverse in terms of demographic characteristics such as age and sexual orientation. Together, the aforementioned divergent findings underscore the importance of replication efforts to provide more conclusive answers.

Last, although not the primary focus of this study, it is interesting that body appreciation was inversely associated with BMI, and not associated with age. Some prior studies (e.g., Tylka & Wood-Barcalow, 2015a), though not all (e.g., Swami, Hadji-Michael, et al., 2008), have also shown that body appreciation in community samples of men is associated with their BMI. This finding suggests that it may be easier for men with lower BMI to accept and appreciate their bodies, given the cultural idealisation of leanness and negative attitudes towards higher body weights (Grogan, 2011; Tylka et al., 2014). In contrast, the fact that body appreciation was not associated with age suggests that men may be able to maintain a positive



body image in spite of the cultural idealisation of youth (Grogan, 2011). Another reason may concern the double standard of ageing, whereby the aging female body is viewed more negatively than the aging male body, with the aging male body even often viewed positively (i.e., the “Sean Connery” effect; Halliwell & Dittmar, 2003).

### **Limitations**

Several limitations to this study must be mentioned. First, the data derived from this research are correlational in nature. As such, experimental and longitudinal research is needed to determine true mediational relationships and causality, although reciprocal relationships are likely. Research suggests that positive body image is both shaped by and shapes the individual’s environment, a process termed *reciprocity* (Tylka & Wood-Barcalow, 2015b). Second, to reduce participant burden, only parts of some questionnaires were administered. Future research should administer the full variants of these questionnaires, perhaps focusing on fewer outcomes to balance overall participant burden. Relatedly, the item scores for media consumption of magazines, and perceived appearance pressures from one’s romantic partner and friends, demonstrated low internal consistency among sexual minority men. As such, we could not conduct some of our planned analyses. Reviewing the content of the items, it is not immediately clear why the item scores would show low internal consistency among the sexual minority men, especially considering that they showed acceptable internal consistency among the heterosexual men. Unfortunately, we were unable to improve the internal consistency by removing any items or combinations of items. These problems with internal consistency underscore the importance of selecting measures that have already been validated among both the overall sample and any subsamples that researchers aim to investigate. Third, we only assessed a number of potential factors that could relate to body appreciation in men. Future research should investigate additional factors of interest. For example, body appreciation was inversely associated with upward appearance-based social comparisons in men; yet, it would

also be interesting to explore whether body appreciation is positively associated with lateral appearance-based social comparisons (i.e., those that are made with someone deemed to be similar to the self), which might be indicative of higher levels of self-compassion (common humanity) and protective filtering that are characteristic of individuals with a positive body image (Homan & Tylka, 2015; Tylka & Wood-Barcalow, 2015b). Future research should also assess additional facets of positive body image, such as functionality appreciation (Alleva, Tylka, & Kroon Van Diest, 2017) and body image flexibility (Webb et al., 2015).

Fourth, although overall numbers of sexual minority men were high ( $n = 131$ ), there were more heterosexual men who participated in this study ( $n = 301$ ). For future research, it will be insightful to recruit higher numbers of sexual minority men. This could also enable analysis of separate subgroups. Experiences of positive body image could differ between bisexual and gay men, for example, because attitudes towards bisexual men are more negative than towards gay men, and bisexual individuals face negativity from both heterosexual individuals as well as from other sexual minorities (Helms & Waters, 2017). These factors could explain lower well-being among bisexual compared to gay men (San Francisco Human Rights Commission, LGBT Advisory Committee, 2011). It will also be important to investigate positive body image across additional social identities (e.g., ethnicity, profession) and, as knowledge advances, to explore how combinations of social identities intersect. Fifth, the present sample of men was recruited primarily from the YMCA. The YMCA was founded in 1844 as a Christian charity for young men. Since the 1960s, the YMCA has broadened its focus to include young women and men, regardless of faith, culture, or background. In the UK, the YMCA is the largest voluntary provider of physical activity programmes and services that promote healthy communities, in addition to providing accommodation and support to young people and their families. Future research using a broader array of recruitment strategies could result in more representative samples. Sixth, in assessing levels of physical

activity, we did not provide a standardised definition, and so participants may have interpreted physical activity differently. In future studies, it will be important to clarify what is meant by this term. Last, the present dataset was completed using multiple imputation; it is possible that the results would have been different had there been no missing data. However, the use of a large number of imputations, and the emergence of a similar pattern of results when the analyses were run with the original dataset, provides some level of confidence in the findings.

## **Conclusion**

The present study is valuable because it is the first to investigate the relationships between body appreciation in men and conformity to masculine norms, upward appearance-based social comparisons, and frequency of physical activity. This study is also the first to test whether body appreciation differs between sexual minority and heterosexual men, and to investigate the potential mediators of this relationship. The knowledge gained from this research will contribute to a more nuanced understanding of positive body image and individuals' experiences, and can help to inform and optimise the content of interventions for enhancing positive body image. This knowledge will be especially valuable for interventions aiming to improve body image among men, as such interventions are rare, and few have been found to be effective.

### Acknowledgements

We would like to thank Central YMCA and Karine Berthou from The Succeed Foundation for their support with conducting this study and recruiting participants. We would also like to thank Helena Lewis-Smith and Lucy Ashworth for their research assistance. Finally, we thank Andrew Hayes for providing the syntax for conducting the bootstrapping analyses.

## References

- Alleva, J. M., Martijn, C., Van Breukelen, G. J. P., Jansen, A., & Karos, K. (2015). *Expand Your Horizon: A programme that improves body image and reduces self-objectification by training women to focus on body functionality. Body Image, 15*, 81–89.  
<https://doi.org/10.1016/j.bodyim.2015.07.001>
- Alleva, J. M., Sheeran, P., Webb, T. L., Martijn, C., & Miles, E. (2015). A meta-analytic review of stand-alone interventions to improve body image. *PLOS ONE, 10*, e0139177.  
<https://doi.org/10.1371/journal.pone.0139177>
- Alleva, J. M., Tylka, T. L., & Kroon Van Diest, A. M. (2017). The Functionality Appreciation Scale (FAS): Development and psychometric evaluation in U.S. community women and men. *Body Image, 23*, 28–44. <https://doi.org/10.1016/j.bodyim.2017.07.008>
- Andrew, R., Tiggemann, M., & Clark, L. (2015). The protective role of body appreciation against media-induced body dissatisfaction. *Body Image, 15*, 98–104.  
<https://doi.org/10.1016/j.bodyim.2015.07.005>
- Andrew, R., Tiggemann, M., & Clark, L. (2016). Positive body image and young women's health: Implications for sun protection, cancer screening, weight loss and alcohol consumption behaviours. *Journal of Health Psychology, 21*, 28–39.  
<https://doi.org/10.1177/1359105314520814>
- Avalos, L. C., & Tylka, T. L. (2006). Exploring a model of intuitive eating with college women. *Journal of Counseling Psychology, 53*, 486–497. <https://doi.org/10.1037/0022-0167.53.4.486>
- Avalos, L., Tylka, T. L., & Wood-Barcalow, N. (2005). The Body Appreciation Scale: Development and psychometric evaluation. *Body Image, 2*, 285–297.  
<https://doi.org/10.1016/j.bodyim.2005.06.002>
- Berg, K. C., Peterson, C. B., Frazier, P., & Crow, S. J. (2012). Psychometric evaluation of the

- Eating Disorder Examination and Eating Disorder Examination-Questionnaire: A systematic review of the literature. *International Journal of Eating Disorders*, 45, 428–438. <https://doi.org/10.1002/eat.20931>
- Brennan, D. J., Craig, S. L., & Thompson, D. E. A. (2012). Factors associated with a drive for muscularity among gay and bisexual men. *Culture, Health, & Sexuality*, 14, 1-15. <https://doi.org/10.1080/13691058.2011.619578>
- Brown, T. A., Cash, T. F., & Mikulka, P. J. (1990). Attitudinal body-image assessment: Factor analysis of the Body-Self Relations Questionnaire. *Journal of Personality Assessment*, 55, 135–144. [https://doi.org/10.1207/s15327752jpa5501&2\\_13](https://doi.org/10.1207/s15327752jpa5501&2_13)
- Bucchianeri, M. M., Serrano, J. L., Pastula, A., & Corning, A. F. (2014). Drive for muscularity is heightened in body-dissatisfied men who socially compare. *Eating Disorders*, 22, 221–232. <https://doi.org/10.1080/10640266.2013.874825>
- Carper, T. L. M., Negy, C., & Tantleff-Dunn, S. (2010). Relations among media influence, body image, eating concerns, and sexual orientation in men: A preliminary investigation. *Body Image*, 7, 301–309. <https://doi.org/10.1016/j.bodyim.2010.07.002>
- Cash, T. F. (2000). *Multidimensional Body-Self Relations Questionnaire users' manual* (3rd rev.). Available from [www.body-images.com](http://www.body-images.com)
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112, 155-159. <http://doi.org/10.1037/0033-2909.112.1.155>
- De Jesus, A. Y., Ricciardelli, L. A., Frisén, A., Smolak, L., Yager, Z., Fuller-Tyszkiewicz, M., ... Holmqvist, K. (2015). Media internalization and conformity to traditional masculine norms in relation to body image concerns among men. *Eating Behaviors*, 18, 137–142. <https://doi.org/10.1016/j.eatbeh.2015.04.004>

- Fairburn, C. G., Beglin, S. J. (2008). Eating Disorder Examination Questionnaire (EDE-Q 6.0). In C. G. Fairburn (Ed.), *Cognitive behavior therapy and eating disorders* (pp. 309-313). New York, NY: Guilford Press.
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7, 117-140.  
<https://doi.org/10.1177/001872675400700202>
- Frisén, A., & Holmqvist, K. (2010). What characterizes early adolescents with a positive body image? A qualitative investigation of Swedish girls and boys. *Body Image*, 7, 205–212.  
<https://doi.org/10.1016/j.bodyim.2010.04.001>
- Gillen, M. M. (2015). Associations between positive body image and indicators of men's and women's mental and physical health. *Body Image*, 13, 67–74.  
<https://doi.org/10.1016/j.bodyim.2015.01.002>
- Grogan, S. (2011). Body image development in adulthood. In T. F. Cash & L. Smolak (Eds.), *Body image: A handbook of science, practice, and prevention* (pp. 93–100). New York, NY: The Guilford Press.
- Halliwell, E., & Dittmar, H. (2003). A qualitative investigation of women's and men's body image concerns and their attitudes toward aging. *Sex Roles*, 49, 675–684.  
<https://doi.org/10.1023/B:SERS.00000003137.71080.97>
- Hatoum, I. J., & Belle, D. (2004). Mags and abs: Media consumption and bodily concerns in men. *Sex Roles*, 51, 397-407. <https://doi.org/10.1023/B:SERS.00000049229.93256.48>
- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis* (2<sup>nd</sup> ed.). New York, NY: Guilford Press.
- Helms, J. L., & Waters, A. M. (2017). Attitudes toward bisexual men and women. *Journal of Bisexuality*, 16, 454–467. <https://doi.org/10.1080/15299716.2016.1242104>
- Holmqvist, K., & Frisén, A. (2012). “I bet they aren't that perfect in reality:” Appearance ideals viewed from the perspective of adolescents with a positive body image. *Body*

- Image*, 9, 388–395. <https://doi.org/10.1016/j.bodyim.2012.03.007>
- Holmqvist Gattario, K., Frisén, A., Fuller-Tyszkiewicz, M., Ricciardelli, L. A., Franko, D. L., & Smolak, L. (2015). How is men's conformity to masculine norms related to their body image? Masculinity and muscularity across Western countries. *Psychology of Men and Masculinity*, 16, 337–347. <https://doi.org/10.1037/a0038494>
- Homan, K. J., & Tylka, T. L. (2014). Appearance-based exercise motivation moderates the relationship between exercise frequency and positive body image. *Body Image*, 11, 101–108. <http://dx.doi.org/10.1016/j.bodyim.2014.01.003>
- Hospers, H., & Jansen, A. (2005). Why homosexuality is a risk factor for eating disorders in males. *Journal of Social and Clinical Psychology*, 24, 1188–1201. <https://doi.org/10.1521/jscp.2005.24.8.1188>
- Jankowski, G. S., Diedrichs, P. C., Atkinson, M. J., Fawkner, H., Gough, B., & Halliwell, E. (2017). A pilot controlled trial of a cognitive dissonance-based body dissatisfaction intervention with young British men. *Body Image*, 23, 93–102. <https://doi.org/10.1016/j.bodyim.2017.08.006>
- Jankowski, G. S., Diedrichs, P. C., & Halliwell, E. (2014). Can appearance conversations explain differences between gay and heterosexual men's body dissatisfaction? *Psychology of Men & Masculinity*, 15, 68–77. <https://doi.org/10.1037/a0031796>
- Jankowski, G. S., Fawkner, H., Slater, A., & Tiggemann, M. (2014). “Appearance potent”? A content analysis of UK gay and straight men's magazines. *Body Image*, 11, 474–481. <https://doi.org/10.1016/j.bodyim.2014.07.010>
- Karazsia, B. T., & Crowther, J. H. (2008). Psychological and behavioral correlates of the SATAQ-3 with males. *Body Image*, 5, 109–115. <https://doi.org/10.1016/j.bodyim.2007.08.004>
- Kimmel, S. B., & Mahalik, J. R. (2005). Body image concerns of gay men: The roles of



- minority stress and conformity to masculine norms. *Journal of Consulting and Clinical Psychology*, 73, 1185-1190. <https://doi.org/10.1037/0022-006X.73.6.1185>
- Kroon Van Diest, A. M., & Tylka, T. L. (2010). The Caregiver Eating Messages Scale: Development and psychometric investigation. *Body Image*, 7, 317–326. <https://doi.org/10.1016/j.bodyim.2010.06.002>
- Lavender, J. M., De Young, K. P., & Anderson, D. A. (2010). Eating Disorder Examination Questionnaire (EDE-Q): Norms for undergraduate men. *Eating Behaviors*, 11, 119–121. <https://doi.org/10.1016/j.eatbeh.2009.09.005>
- Legenbauer, T., Vocks, S., Schäfer, C., Schütt-Strömel, S., Hiller, W., Wagner, C., & Vögele, C. (2009). Preference for attractiveness and thinness in a partner: Influence of internalization of the thin ideal and shape/weight dissatisfaction in heterosexual women, heterosexual men, lesbians, and gay men. *Body Image*, 6, 228–234. <https://doi.org/10.1016/j.bodyim.2009.04.002>
- Levesque, M. J., & Vichesky, D. R. (2006). Raising the bar on the body beautiful: An analysis of the body image concerns of homosexual men. *Body Image*, 3, 45–55. <https://doi.org/10.1016/j.bodyim.2005.10.007>
- Lobera, I. J., & Ríos, P. B. (2011). Spanish version of the Body Appreciation Scale (BAS) for adolescents. *The Spanish Journal of Psychology*, 14, 411–420. [https://doi.org/10.5209/rev\\_SJOP.2011.v14.n1.37](https://doi.org/10.5209/rev_SJOP.2011.v14.n1.37)
- Mahalik, J. R., Locke, B. D., Ludlow, L., Mahalik, J. R., Locke, B. D., Ludlow, L. H., ... Freitas, G. (2003). Development of the Conformity to Masculine Norms Inventory Norms Inventory. *Psychology of Men & Masculinity*, 4, 3-25. <https://doi.org/10.1037/1524-9220.4.1.3>
- Martin, J., & Govender, K. (2011). “Making muscle junkies”: Investigating traditional masculine ideology, body image discrepancy, and the pursuit of muscularity in

- adolescent males. *International Journal of Men's Health*, 10, 220–239.  
<https://doi.org/10.3149/jmh.1003.220>
- Martin, K. A., & Lichtenberger, C. M. (2002). Fitness enhancement and changes in body image. In T. F. Cash & L. Smolak (Eds.), *Body image: A handbook of science, practice, and prevention* (pp. 414–421). New York, NY: The Guilford Press.
- McCabe, M. P., & McGreevy, S. J. (2011). Role of media and peers on body change strategies among adult men: Is body size important? *European Eating Disorders Review*, 19, 438–446. <https://doi.org/10.1002/erv.1063>
- McCabe, M. P., & Ricciardelli, L. A. (2001). The structure of the Perceived Sociocultural Influences on Body Image and Body Change Questionnaire. *International Journal of Behavioral Medicine*, 8, 19–41. [https://doi.org/10.1207/S15327558IJBMO801\\_02](https://doi.org/10.1207/S15327558IJBMO801_02)
- McCreary, D. R., & Sasse, D. K. (2000). An exploration of the drive for muscularity in adolescent boys and girls. *Journal of American College Health*, 48, 297–304.  
<https://doi.org/10.1080/07448480009596271>
- McCreary, D. R., Sasse, D. K., Saucier, D. M., & Dorsch, K. D. (2004). Measuring the drive for muscularity: Factorial validity of the Drive for Muscularity Scale in men and women. *Psychology of Men & Masculinity*, 5, 49–58. <https://doi.org/10.1037/1524-9220.5.1.49>
- McDonald, K., & Thompson, J. K. (1992). Eating disturbance, body image dissatisfaction, and reasons for exercise: Gender differences and correlational findings. *International Journal of Eating Disorders*, 11, 289–292. [https://doi.org/10.1002/1098-108X\(199204\)11:3<289::AID-EAT2260110314>3.0.CO;2-F](https://doi.org/10.1002/1098-108X(199204)11:3<289::AID-EAT2260110314>3.0.CO;2-F)
- Meier, E. P., & Gray, J. (2014). Facebook photo activity associated with body image disturbance in adolescent girls. *Cyberpsychology, Behavior and Social Networking*, 17, 199–206. <https://doi.org/10.1089/cyber.2013.0305>
- Morrison, M. A., Morrison, T. G., & Sager, C.-L. (2004). Does body satisfaction differ

- between gay men and lesbian women and heterosexual men and women? A meta-analytic review. *Body Image*, 1, 127–138. <https://doi.org/10.1016/j.bodyim.2004.01.002>
- Murnen, S. K., & Don, B. P. (2012). Body image and gender roles. In T. F. Cash (Ed.), *Encyclopedia of body image and human appearance* (Vol. 1, pp. 128-134). San Diego, CA: Academic Press.
- Myers, T. A., & Crowther, J. H. (2009). Social comparison as a predictor of body dissatisfaction: A meta-analytic review. *Journal of Abnormal Psychology*, 118, 683–698. <https://doi.org/10.1037/a0016763>
- O'Brien, K., Caputi, P., Minto, R., Peoples, G., Hooper, C., Kell, S., & Sawley, E. (2009). Upward and downward physical appearance comparisons: Development of scales and examination of predictive qualities. *Body Image*, 6, 201–206. <https://doi.org/10.1016/j.bodyim.2009.03.003>
- Piran, N. (2002). Embodiment: A mosaic of inquiries in the area of body weight and shape preoccupation. In S. Abbey (Ed.), *Ways of knowing in and through the body: Diverse perspectives on embodiment* (pp. 211–214). Welland, Ontario: Soleil Publishing.
- Piran, N., & Teall, T. L. (2012). The developmental theory of embodiment. In G. McVey, M. P. Levine, N. Piran, & H. B. Ferguson (Eds.), *Preventing eating-related and weight-related disorders: Collaborative research, advocacy, and policy change* (pp. 171–199). Waterloo, ON: Wilfred Laurier.
- Prichard, I., & Tiggemann, M. (2008). Relations among exercise type, self-objectification, and body image in the fitness centre environment: The role of reasons for exercise. *Psychology of Sport and Exercise*, 9, 855-866. <https://doi.org/10.1016/j.psychsport.2007.10.005>
- San Francisco Human Rights Commission, LGBT Advisory Committee (2011). *Bisexual invisibility: Impacts and recommendations*. San Francisco, CA: San Francisco Human

Rights Commission.

- Schafer, J. L. (1999). Multiple imputation: A primer. *Statistical Methods in Medical Research*, 8, 3-15. <https://doi.org/10.1177/096228029900800102>
- Simpson, C. C., Sutter, M., & Perrin, P. B. (2016). Can community consciousness be a bad thing? A moderated mediation analysis of heterosexism, mental health and body appreciation in sexual minority men. *Culture, Health & Sexuality*, 18, 1279–1294. <https://doi.org/10.1080/13691058.2016.1183047>
- Slater, A., & Tiggemann, M. (2006). The contribution of physical activity and media use during childhood and adolescence to adult women's body image. *Journal of Health Psychology*, 11, 553-565. <https://doi.org/10.1177/1359105306065016>
- Smolak, L., & Murnen, S. K. (2008). Drive for leanness: Assessment and relationship to gender, gender role and objectification. *Body Image*, 5, 251–260. <https://doi.org/10.1016/j.bodyim.2008.03.004>
- Strubel, J., & Petrie, T. A. (2018). Perfect bodies: The relation of gay men's body image to their appearance enhancement product consumption behaviors. *Journal of Fashion Marketing and Management: An International Journal*, 22, 114-128. <https://doi.org/10.1108/JFMM-05-2017-0040>
- Swami, V., Campana, A. N. N. B., Ferreira, L., Barrett, S., Harris, A. S., & Tavares, M. C. G. C. F. (2011). The Acceptance of Cosmetic Surgery Scale: Initial examination of its factor structure and correlates among Brazilian adults. *Body Image*, 8, 179–185. <https://doi.org/10.1016/j.bodyim.2011.01.001>
- Swami, V., Hadji-Michael, M., & Furnham, A. (2008). Personality and individual difference correlates of positive body image. *Body Image*, 5, 322–325. <https://doi.org/10.1016/j.bodyim.2008.03.007>
- Swami, V., & Hwang, C. (2012). Factor structure and correlates of the Acceptance of

- Cosmetic Surgery Scale among South Korean university students. *Aesthetic Surgery Journal*, 32, 220-229. <https://doi.org/10.1177/1090820X11431577>
- Swami, V., Stieger, S., Haubner, T., & Voracek, M. (2008). German translation and psychometric evaluation of the Body Appreciation Scale. *Body Image*, 5, 122–127. <https://doi.org/10.1016/j.bodyim.2007.10.002>
- Thompson, J. K., van den Berg, P., Roehrig, M., Guarda, A. S., & Heinberg, L. J. (2004). The Sociocultural Attitudes Towards Appearance Scale-3 (SATAQ-3): Development and Validation. *International Journal of Eating Disorders*, 35, 293–304. <https://doi.org/10.1002/eat.10257>
- Tiggemann, M. (2011). Sociocultural perspectives on human appearance. In T. F. Cash, & L. Smolak (Eds.), *Body image: A handbook of science, practice, and prevention* (pp. 12-19). New York, NY: Guilford Press.
- Tiggemann, M. (2015). Considerations of positive body image across various social identities and special populations. *Body Image*, 14, 168–176. <https://doi.org/10.1016/j.bodyim.2015.03.002>
- Tiggemann, M., & McCourt, A. (2013). Body appreciation in adult women: Relationships with age and body satisfaction. *Body Image*, 10, 624–627. <http://dx.doi.org/10.1016/j.bodyim.2013.07.003>
- Tylka, T. L. (2006). Development and psychometric evaluation of a measure of intuitive eating. *Journal of Counseling Psychology*, 53, 226-240. <http://doi.org/10.1037/0022-0167.53.2.226>
- Tylka, T. L. (2013). Evidence for the Body Appreciation Scale's measurement equivalence/invariance between U.S. college women and men. *Body Image*, 10, 415–418. <https://doi.org/10.1016/j.bodyim.2013.02.006>
- Tylka, T. L., & Andorka, M. J. (2012). Support for an expanded tripartite influence model

- with gay men. *Body Image*, 9, 57-67. <https://doi.org/10.1016/j.bodyim.2011.09.006>
- Tylka, T. L., Annunziato, R. A., Burgard, D., Daníelsdóttir, S., Shuman, E., Davis, C., & Calogero, R. M. (2014). The weight-inclusive versus weight-normative approach to health: Evaluating the evidence for prioritizing well-being over weight loss. *Journal of Obesity*, 2014, 983495. <https://doi.org/http://dx.doi.org/10.1155/2014/983495>
- Tylka, T. L., & Homan, K. (2015). Exercise motives and positive body image in physically active college women and men: Exploring an expanded acceptance model of intuitive eating. *Body Image*, 15, 90–97. <https://doi.org/10.1016/j.bodyim.2015.07.003>
- Tylka, T. L., & Kroon Van Diest, A. M. (2013). The Intuitive Eating Scale-2 : Item refinement and psychometric evaluation with college women and men. *Journal of Counseling Psychology*, 60, 137–153. <https://doi.org/10.1037/a0030893>
- Tylka, T. L., & Wood-Barcalow, N. L. (2015a). The Body Appreciation Scale-2: Item refinement and psychometric evaluation. *Body Image*, 12, 53–67. <https://doi.org/10.1016/j.bodyim.2014.09.006>
- Tylka, T. L., & Wood-Barcalow, N. L. (2015b). What is and what is not positive body image? Conceptual foundations and construct definition. *Body Image*, 14, 118–129. <https://doi.org/10.1016/j.bodyim.2015.04.001>
- Varnes, J. R., Stollefson, M. L., Janelle, C. M., Dorman, S. M., Dodd, V., & Miller, M. D. (2013). A systematic review of studies comparing body image concerns among female college athletes and non-athletes, 1997–2012. *Body Image*, 10, 421–432. <https://doi.org/10.1016/j.bodyim.2013.06.001>
- Webb, J. B., Wood-Barcalow, N. L., & Tylka, T. L. (2015). Assessing positive body image: Contemporary approaches and future directions. *Body Image*, 14, 130-145. <https://doi.org/10.1016/j.bodyim.2015.03.010>
- Wood, M. (2004). The gay male gaze: Body image disturbance and gender oppression among

gay men. *Journal of Gay & Lesbian Social Sciences: Issues in Practice, Policy & Research*, 17, 43–62. [https://doi.org/10.1300/J041v17n02\\_03](https://doi.org/10.1300/J041v17n02_03)

Wood-Barcalow, N. L., Tylka, T. L., & Augustus-Horvath, C. L. (2010). "But I like my body": Positive body image characteristics and a holistic model for young-adult women. *Body Image*, 7, 106–116. <https://doi.org/10.1016/j.bodyim.2010.01.001>

Table 1.  
*Participants' demographic characteristics*

	<i>M (SD)</i>	Range
Age	39.13 (13.76)	18.00 to 85.00
Body mass index	25.74 (4.39)	14.96 to 46.68
	<i>n</i>	%
Sexual orientation		
Heterosexual	301	68.41
Gay	114	25.91
Bisexual	14	3.18
Other	3	0.68
Rather not say	7	1.59
Did not respond	1	0.23
Ethnicity		
White	399	90.68
Asian	17	3.86
Black	4	0.91
Mixed	8	1.82
Other	9	2.05
Rather not say	2	0.45
Did not respond	1	0.23
Education level		
GCSE	59	13.41
A-Level	80	18.18
Diploma	68	15.45
Undergraduate	143	32.50
Graduate	84	19.09
Rather not say	4	0.91
Did not respond	2	0.45



Table 2.

*Participants' scores for each variable and Cronbach's alphas for the respective measures, and correlations with body appreciation*

	Range	Full sample					Heterosexual men					Sexual minority men				
		<i>N</i>	<i>M (SD)</i>	$\alpha$	<i>r</i>	<i>p</i>	<i>N</i>	<i>M (SD)</i>	$\alpha$	<i>r</i>	<i>p</i>	<i>N</i>	<i>M (SD)</i>	$\alpha$	<i>r</i>	<i>p</i>
Body appreciation	1 to 5	422	3.47 (0.76)	.92	-	-	289	3.56 (0.77)	.93	-	-	125	3.29 (0.72)	.91	-	-
Conformity to masculine norms	0 to 3	410	2.35 (0.38)	.81	-.195	< .001	285	2.39 (0.37)	.79	-.241	< .001	118	2.26 (0.39)	.84	-.196	.032
Appearance comparisons	1 to 5	420	2.80 (1.18)	.95	-.316	< .001	292	2.60 (1.16)	.96	-.247	< .001	121	3.25 (1.11)	.93	-.398	< .001
Frequency of physical activity <sup>a</sup>	1 to 7	439	5.09 (1.75)	-	.288	< .001	300	5.05 (1.77)	-	.268	< .001	131	5.21 (1.67)	-	.379	< .001
Body satisfaction	1 to 5	430	3.29 (0.70)	.85	.741	< .001	295	3.32 (0.72)	.87	.750	< .001	127	3.22 (0.67)	.80	.725	< .001
Internalisation: General	1 to 5	400	2.92 (0.55)	.92	-.123	.014	278	2.87 (0.59)	.89	-.046	.442	115	3.01 (0.43)	.95	-.307	.001
Internalisation: Athlete	1 to 5	416	2.86 (1.10)	.86	-.143	.004	287	2.77 (1.14)	.86	-.082	.164	122	3.05 (1.02)	.86	-.262	.003
Drive for muscularity	1 to 6	421	2.42 (1.11)	.94	-.152	.002	287	2.28 (1.02)	.94	-.108	.064	127	2.75 (1.23)	.95	-.186	.034
Drive for leanness	1 to 6	431	3.72 (1.10)	.91	-.063	.195	296	3.59 (1.10)	.91	-.038	.512	127	4.01 (1.07)	.90	-.040	.660
Media consumption: Television <sup>a</sup>	1 to 8	418	4.16 (1.59)	-	-.123	.013	288	4.22 (1.65)	-	-.112	.059	123	3.98 (1.47)	-	-.195	.030
Media consumption: Magazines <sup>b</sup>	1 to 8	419	-	-	-	-	289	1.54 (0.99)	.80	.101	.085	123	1.84 (0.84)	.56	-	-
Media consumption: Internet	1 to 8	420	5.16 (1.71)	.73	-.129	.009	290	5.05 (1.70)	.71	-.114	.053	123	5.35 (1.71)	.75	-.117	.200
Appearance pressures: Partner <sup>b,c</sup>	1 to 5	296	-	-	-	-	223	1.86 (0.78)	.69	.035	.579	69	1.71 (0.53)	.38	-	-
Appearance pressures: Friends <sup>b</sup>	1 to 5	412	-	-	-	-	286	1.59 (0.69)	.81	.069	.239	119	1.68 (0.48)	.44	-	-
Appearance pressures: Media	1 to 5	417	1.94 (0.86)	.74	-.178	< .001	287	1.91 (0.90)	.77	-.121	.040	123	2.01 (0.77)	.66	-.327	< .001
Eating pathology	1 to 7	427	2.88 (1.86)	.67	-.410	< .001	295	2.67 (1.82)	.67	-.369	< .001	124	3.38 (1.86)	.60	-.439	< .001

*Note.* Means, SDs, and Cronbach's alphas are based on the dataset prior to multiple imputation; Range = possible range of scores for the questionnaire/items used to assess each variable;  $\alpha$  = Cronbach's alpha for the questionnaire/items used to assess each variable; *r* = Pearson correlation coefficient for the correlation with body appreciation; *p* = alpha corresponding to the Pearson correlation coefficient; <sup>a</sup> = Cronbach's alphas could not be calculated because this variable was assessed using a single item; <sup>b</sup> = Cronbach's alphas were low on the respective measure for the subsample of sexual minority men, so data for the full sample are not provided, nor were the Pearson correlation coefficients calculated for the subsample of sexual minority men; <sup>c</sup> = participants could skip these questions if they did not have a romantic partner; Total *N* may differ from the sum of the sample sizes of heterosexual and sexual minority men, given that participants who indicated their sexual orientation as "rather not say" (*n* = 7) or did not answer the question (*n* = 1) were not categorised as heterosexual or sexual minority.

Table 3.

*Results of bootstrapping analyses testing mediation of perceived appearance pressures from the media, appearance-ideal internalisation, and appearance comparisons in the relationship between sexual orientation and body appreciation*

Mediator	Total effect			Direct effect			Indirect effect	
	Estimate (SE)	<i>p</i>	95% CI	Estimate (SE)	<i>p</i>	95% CI	Estimate (SE)	95% CI
Appearance pressures: Media	-0.251 (0.084)	.003	-0.415, -0.086	-0.237 (0.083)	.004	-0.400, -0.075	-0.013 (0.015)	-0.050, 0.012
Internalisation: General	-0.271 (0.085)	.002	-0.439, -0.104	-0.252 (0.085)	.003	-0.419, -0.084	-0.020 (0.017)	-0.061, 0.002
Internalisation: Athlete	-0.258 (0.083)	.002	-0.421, -0.095	-0.235 (0.083)	.005	-0.398, -0.073	-0.023 (0.015)	-0.057, -0.0004
Appearance comparisons	-0.269 (0.084)	.001	-0.434, -0.105	-0.155 (0.083)	.062	-0.317, 0.008	-0.115 (0.032)	-0.182, -0.058

*Note.* Sexual orientation was coded such that 0 = *heterosexual* and 1 = *sexual minority*; the reported estimates are unstandardized.