An empirical investigation of gender, sexual attitudes, weight bias and body image

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ABSTRACT

This thesis will fill gaps in research exploring gender, weight bias, and body image. It investigates the potential consequences of having a negative body image (such as its association with sexual functioning), and how body image and attraction to different body types differ depending on gender and feminist identification. It also investigates how contact with overweight people\(^1\) is related to weight bias. Traditionally, most body image research has focused on women, given that women typically report worse body image than men, and face substantive societal pressure to look a certain way (Feingold & Mazzella, 1998). However, increasingly research is demonstrating that men also feel appearance-related societal pressure and suffer from marked body image issues (Davison & McCabe, 2005). Consequently, in this thesis both female and male perspectives are involved throughout.

In Chapters 1 and 3 I describe the literature that informed my research. Specifically, in Chapter 1 I discuss research on body image, including outlining which factors predict having a negative body image, what the consequences of having a poor body image are, and gender differences associated with body image. In Chapter 3, I describe research on anti-fat prejudice, including interventions to reduce negative attitudes towards those who are overweight. In Chapter 2, I investigate how thinking negatively about one’s body is associated with sexual problems. Female and male participants (\(N=519\)) completed questionnaires examining various aspects of sexual problems, as well as drive for thinness and drive for muscularity. Results indicated that for men as well as women, drive for thinness rather than drive for muscularity consistently predicted sexual dysfunction. This study provides the first evidence that drive for thinness can be associated with negative sexual experiences for men as well as women.

In Chapter 4 I shift my focus to examine which factors might predict people finding a range of different body types attractive, and conversely, what might predict the extent to which people impose the thin ideal onto others. Heterosexual female and male participants (\(N=359\)) rated how attractive they found a variety of male and female figures. Participants also completed a feminist identity questionnaire. Results demonstrated that men who identified as feminists were more likely to report being attracted to a larger female figure, while feminist identification was unrelated to what size figure women found attractive. In line with past research, women rated the “most attractive” female figure as being thinner than that preferred by men. This study demonstrates that male feminism may have an indirect positive effect on women by relaxing men’s standards for female beauty.

\(^1\) In the interest of brevity, the word ‘overweight’ is used to encompass both overweight and obese people.
In Chapter 5 I looked at how anti-fat prejudice might be associated with the positive and negative contact we have with overweight people. Participants (N=1176) completed questionnaires measuring anti-fat attitudes, drive for thinness, fat talk and body checking behaviours. Results demonstrated that positive contact was associated with reduced negative attitudes towards overweight people, while negative contact was associated with increased anti-fat attitudes. For non-overweight participants, any contact with overweight people - whether positive or negative - was predictive of increased body checking behaviours and fat talk, while negative contact predicted increased drive for thinness. However, for overweight participants, positive contact was protective, predicting decreased drive for thinness and body checking behaviours. These results indicate that contact with overweight people is inherently tied to our attitudes towards them, as well as our relationships with our own bodies.

The body of the empirical work as a whole, limitations, implications, and future directions for research are discussed in Chapter 6.
DECLARATION BY AUTHOR

This thesis is composed of my original work, and contains no material previously published or written by another person except where due reference has been made in the text. I have clearly stated the contribution by others to jointly-authored works that I have included in my thesis.

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CONTRIBUTIONS BY OTHERS TO THE THESIS

My primary advisor, Dr. Fiona Barlow, provided guidance on theory, study design, and data analysis. My secondary advisor, Professor Matthew Hornsey, assisted on theory and study design, and edited my manuscripts. Both Dr. Barlow and Professor Hornsey also edited my thesis and associated manuscripts. My collaborator from The University of the West of England, Dr. Phillippa Diedrichs, assisted with theorising and editing of my manuscript in Chapter 5. My lab group assisted with data collection for the manuscript in Chapter 4, and one of my follow RHD students, Michael Thai, helped with the design and creation the associated figures in Chapter 4. Another lab group member, Lydia Hayward, edited the paper presented in Chapter 5 and helped me run data analysis.

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CHAPTER 1

Body image disturbance: Prevalence, consequences, and gender differences

In this chapter I first define body image, before reviewing literature on body image disturbance. Specifically, I make the case that feeling negatively about one’s body is a significant problem, and highlight its prevalence. From there, I discuss the consequences and causes of having a negative body image, describe factors that predict feeling positively about one’s body, and discuss how body image may vary as a function of demographic variables. Finally, I review prevalent theories explaining the genesis of poor body image, and research supporting these theories. I conclude by outlining gaps in the literature that will be filled by this thesis.

Body image: Definition and prevalence

Body image is a social construct that includes perceptions and attitudes regarding one’s physical appearance (Grogan, 2007). This can involve overall appearance or specific physical characteristics, such as weight or shape. Body image is a complex term which can encompass body cognitions (i.e. unrealistic expectations of how the body should look), behaviour (i.e. avoiding situations that elicit body image scrutiny), perceptions (i.e. over- or under-estimating one’s body weight or size), and/or affect (i.e. emotions about one’s body) (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999).

There is a high prevalence of negative body image in Western societies, where it is considered normative to think negatively about one’s body (Al Sabbah et al., 2009; Feingold & Mazzella, 1998). This dissatisfaction appears to begin early. Tatangelo, McCabe, Mellor, and Mealey (2016) conducted a systematic review evaluating body dissatisfaction among preschool-aged children (aged between 3 and 6) and found that proportions of body dissatisfaction ranged from 20% to 70%. For example, Schur, Sanders and Steiner (2000) interviewed 62 children from Grades 3-6 (8-13 years old) about their knowledge and beliefs regarding dieting. Participants also completed measures of eating disturbance and desired weight change, and rated figures on which was the most similar to them and which they desired to look like (the discrepancy between the two being indicative of body dissatisfaction). Both male and female children displayed body dissatisfaction, with up to 50% of the children reporting wanting to weigh less and being afraid of becoming fat. Sixteen percent reported having attempted to lose weight in the past. The results of this study demonstrate that children as young as eight are already unhappy with their weight and are aware of the social preference for thinness.

These feelings extend into adulthood: in a survey of 320 women from the United Kingdom, 93% reported having had negative thoughts about their body that week (Diedrichs, Paraskeva, & New, 2011). Clearly, negative body image is pervasive from childhood to adulthood. The consequences of having a negative body image are discussed below.
Consequences of negative body image

Body image can be viewed on a continuum, with levels of disturbance ranging from none to extreme. At the highest end of the spectrum one can find body image disturbance so severe that it negatively influences day-to-day functioning, and increases disordered exercise or eating behaviour, such as excessive exercise, starvation, bingeing or purging (Thompson et al., 1999). The high prevalence of negative body image is problematic, as feeling negatively towards one’s body can result in various adverse behavioural, psychological, sexual and social consequences.

Behavioural consequences

Feeling badly about one’s body can have a significant impact on how one behaves towards it. Specifically, negative body image can be predictive of taking extreme measures in the hopes of changing one’s body, such as exercising excessively, engaging in eating disordered behaviours, and altering one’s appearance with the use of substances or cosmetic surgery. For example, a study of 421 teenage participants showed that body image disturbance was predictive of exercising to excess (White & Halliwell, 2010). Similarly, Neumark-Sztainer and colleagues (2006) conducted a longitudinal study across five years (Time 1, 1999 to Time 2, 2004). They found that the lower women’s body satisfaction was at Time 1, the more likely they were to engage in dieting, very unhealthy weight control behaviours, and decreased physical activity at Time 2. Similarly, body dissatisfaction at Time 1 was predictive of dieting, unhealthy weight control behaviours, and binge eating in men at Time 2. This suggests that body dissatisfaction predicts the use of unhealthy weight management behaviours, increasing risk for weight gain and poorer overall health. Similar results have been found in other longitudinal work (Bearman, Martinez, & Stice, 2006; Cattarin & Thompson, 1994; Davison, Markey, & Birch, 2003).

Other studies have also described the influence of body image on illicit substance use. Kanayama, Barry, Hudson, and Pope (2006) assessed the body image of 89 regular weight-lifting male participants, half which used anabolic steroids and half which did not. Body image pathology was related to long-term anabolic steroid use. It is clear, therefore, that possessing a negative body image can have a detrimental influence on both intentions and actions towards performing potentially damaging exercise and eating behaviours, as well as influencing actual substance use and intentions to have surgery to alter one’s appearance.

Psychological consequences

Having a negative body image has also been linked to negative psychological outcomes. For example, negative body image is associated with higher rates of anxiety and depression, and lower levels of self-esteem (e.g. Gitimu et al., 2016; Duchesne et al., 2016). Body image is also implicated in eating disorders. Jain and Madnawat (2015) conducted a study in which 300 female students completed measures of body dissatisfaction and eating disorders, among others, and found that
body dissatisfaction was a significant predictor of bulimia nervosa. Similar results have been found with anorexia and binge eating disorders (Lofrano-Prado, Prado, Barros, & Lopes, 2015). Overall, it is clear that body image dysfunction has profoundly negative psychological implications, affecting self-esteem and psychopathology such as depression, anxiety, and eating disorders.

**Sexual functioning**

Having a negative body image can influence not only how we interact with our own bodies, but also those of others. In one survey of 88 women, body image concerns were related to a range of negative sexual feelings and behaviours, including decreased desire, arousal, and orgasm (Quinn-Nilas, Benson, Milhausen, Buccholz, & Goncalves, 2016). Similarly, a survey of 154 women in sexual relationships also found relationships between negative body image and reduced sexual functioning and satisfaction (Pujols, Meston, & Seal, 2010). In another study, 85 women completed measures of sexual functioning and body esteem before reading an erotic story, after which they rated their sexual arousal. Decreased body esteem was related to lower levels of sexual desire and arousal (Seal, Bradford, & Meston, 2009). Furthermore, 192 participants completed surveys and were weighed and rated for physical attractiveness. Results showed relationships between self-rated facial and bodily attractiveness and sexual experience. Furthermore, a relationship was found between sexual esteem and subjective views on attractiveness, while sexual esteem was unrelated to actual body size or experimenter ratings of the participants’ physical attractiveness (Wiederman & Hurst, 1998). Lastly, Weaver and Byers (2006) found that in 214 women body image was related to sexual esteem, sexual assertiveness, sexual anxiety, sexual problems, and sexual functioning, over and above BMI. These results demonstrate how body image is related to sexual functioning beyond actual body size.

Body image can also influence sexual functioning by providing a distraction during sexual activities, a phenomenon known as ‘spectatoring’ (Wiederman, 2011). Indeed, when spectatoring is taken into account, relationships between body disturbance and sexual functioning either reduce dramatically or disappear (Wiederman, 2011). While for men, spectatoring may occur in the form of monitoring the quality of erections, for women it is likely that they are preoccupied with how their bodies are being viewed by their sexual partners (and are thus objectifying their own bodies; Meana & Nunnink, 2006). Unsurprisingly, spectatoring has been linked to sexual dysfunction, including decreased pleasure and enjoyment in sexual activity, increased aversion to sex, decreased sexual assertiveness, increased sexual risk-taking, and increased anxiety during sex (see Cash, Maikkula, & Yamamiya, 2004; Wiederman, 2011).

Further studies have examined how body image and sexual functioning are affected when body parts that influence sexual behaviours change. For example, Fobair and colleagues (2006) examined how sexual functioning and body image are affected in women diagnosed with breast
cancer at age 50 or younger. They interviewed 549 women who were either married or in stable relationships, and their analysis revealed that after diagnoses, a substantial number of women reported body image and sexual functioning problems. Body image problems arose from issues such as mastectomies and reconstructions, hair loss from chemotherapy, and weight gain or loss. Similar results were found by Muller and colleagues (2009) when examining sexual functioning and body image in patients who experienced inflammatory bowel disease. In their study, 347 patients completed surveys on relationships, quality of life, body image, and sexual function. Most participants who had undergone surgery to treat their inflammatory bowel disease reported impaired body image, as well as decreased frequency of sexual activity and decreased libido. These studies demonstrate the impact that a changed body (or body impacted on by illness) can have on both sexual functioning and feelings about one’s body.

**Social functioning**

Finally, feelings about one’s body can affect how one interacts with others, regardless of whether these interactions are with those of the same- or opposite-sex. For example, Ambwani and Strauss (2007) asked 220 students to complete measures of body esteem and romantic love experiences, and found that decreased body esteem was related to decreased trust and increased jealousy in romantic relationships for women. Furthermore, Cash, Theriault, and Annis (2004) asked 288 participants to complete evaluations of their body image, fear of negative evaluations, fear of intimacy, and experiences in close relationships. For both genders - regardless of participants’ actual body size - body dissatisfaction was associated with increased anxiety about approval and acceptance during social interactions. In women, body image dissatisfaction was also related to fear of intimacy. Similarly, in a study of 133 participants who completed measures of attachment style and body satisfaction, a negative relationship was found between body satisfaction and attachment anxiety (McKinley & Randa, 2005). These studies demonstrate that how we feel about our bodies can influence how we react to close others.

Unfortunately, having a negative body image can lead to lower quality relationships with others. For example, Nezlek (1999) asked participants to report their body satisfaction and record the quality and frequency of their social interactions in a daily diary. Those with higher body satisfaction reported more intimate social interactions and having more influence in these interactions than those with lower body image. There is also evidence that this relationship might be stronger for girls. For example, in a study of 418 adolescents, Davison and McCabe (2006) found that negative body image was predictive of negative same- and other-sex relationships for adolescent girls, whereas in adolescent boys it was only predictive of negative other-sex relationships. Similarly, Schutz and Paxton (2007) found that body dissatisfaction was related to
negative friendship qualities among adolescent girls, such as reporting higher levels of friend conflict and alienation.

**Demographic factors associated with having a negative body image**

*Ethnicity and body image.*

Differences in the extent of body dissatisfaction can be found depending on ethnic background. Wildes, Emery, and Simons (2001) examined 35 studies investigating eating disturbance and body dissatisfaction across various ethnicities. Consistently, White people reported the highest levels of body dissatisfaction compared to non-White populations. Similarly, Kronenfeld and colleagues (2010) surveyed 4023 women online and found lower body dissatisfaction among African-American women, compared to White women. However, a meta-analysis by Roberts, Cash, Feingold and Johnson (2006) revealed that although African-American women are indeed more satisfied with their bodies when compared to White women, this distinction is strongest around age 20 and disappears entirely from around the age of 40. The authors speculate that Western aesthetic preferences may be increasingly influencing minority cultures.

*Age and body image.*

Age has an interesting relationship with body image. Instinctually, it might be expected that body dissatisfaction would increase over time, as bodies move away from the youthful ideal. Indeed, age-related changes may be especially detrimental for women’s body image. Due to what has been termed the “double-standard of aging”, appearance and youth are promoted in Western society as being of the upmost importance for women, while men’s ageing is permitted (Sontag, 1972). However, research does not support the assumption that older women are consequentially less satisfied with their bodies than are younger women. Tiggemann (2004) reviewed empirical research evaluating body esteem across different age groups and found that, in general, research showed that body esteem did not appear to vary with age, with the exception of elderly women (aged 65 and older), who reported increased body esteem compared to other groups. Somewhat similarly, Öberg and Tornstam (1999) conducted a survey examining body image and age identification amongst 2002 participants and found that older women had a more positive body image than did younger women.

Tiggemann (2004) also reviewed cross-sectional research that demonstrated that as women aged, they reported decreased importance of body shape, weight, and appearance, as well as an understanding of weight gain as an inevitable part of aging. Taken together, this body of research indicates that concern with one’s appearance does not worsen over time, as might be expected given the double standard of aging (Sontag, 1972), but rather that it improves over time. Although women age and may remain dissatisfied with their bodies, their appearance becomes less important to them. It must be noted, however, that the findings outlined above do not necessarily extend to men – as
can be seen, the focus has primarily been on women. Further research should examine the role of aging on men’s body dissatisfaction.

Gender and body image

As noted above, predominantly, research focusing on the antecedents and consequences of body image disturbance has focused on women, due to the comparatively high pressure that they face to adhere to specific beauty ideals, as well as their higher prevalence of negative body image. However, recent research has shown that men are becoming increasingly dissatisfied with their appearance, and, like women, report a strong motivation to improve their bodies (Davison & McCabe, 2005). In fact, men are more likely than women to say that they would trade one year of their life to achieve their ideal body weight and shape (Diedrichs, Halliwell, Jankowski, & Paraskeva, 2011; Diedrichs et al., 2011b). Some researchers have characterised muscularity dissatisfaction as a normative discontent for men, in the same way that weight dissatisfaction is seen as normative for women (Tiggemann, Martins, & Kirkbride, 2007). For example, Hargreaves and Tiggemann (2006) conducted a focus group to examine the body image concerns of adolescent boys. In general, participants indicated that they were most concerned with being muscular. They reported that they were not influenced by the media, but later revealed that they were reluctant to discuss body image concerns for fear of seeming feminine or Gay. It appears that body image is not considered to be a traditionally ‘male’ problem, even amongst males themselves, and the norm is to pretend as if these issues do not exist.

It has been posited that the mesomorphic body type is so popular because it is tied to cultural views on masculinity and the male sex role – powerful, strong, efficacious, domineering and destructive – and indeed, this appears to be the case (Mishkind, Rodin, Silberstein, & Striegel-Moore, 1986). Perceiving oneself as falling short of the masculine ideal was predictive of having a negative body image for men (Borchert & Heinberg, 1996) and having traditionally masculine attitudes about male gender roles is associated with high drive for masculinity (McCreary, Saucier, & Courtenay, 2005). In a similar vein, Blashill (2011) conducted a meta-analysis on gender roles, eating pathology, and body dissatisfaction in men and found that femininity was predictive of lower muscle satisfaction in heterosexual men. It seems likely, then, that the portrayed bodily ideal for men as being hypermuscular is intrinsically linked to men’s thoughts and feelings regarding what is considered to be masculine. Therefore, when they do not meet this ideal, men may believe that they are not meeting societal ideals of masculinity.

Interestingly, there is also evidence that men and women view their bodies differently. For example, in-depth interviews with 42 adult men and women found that while men viewed their bodies as a holistic entity, women were more likely to view their bodies as distinct compartments, such as stomach, back, legs, and so on (Halliwell & Dittmar, 2003). Furthermore, men and women
differ in how they perceive their own weight. Isomaa and colleagues (2011) distributed questionnaires to 606 adolescents examining weight class and body image (among other measures). While half the female participants declared themselves as overweight, only one-third was actually overweight according to the BMI cut-offs. In contrast, only 1 in 6 male participants who presented themselves as underweight were truly underweight. It appears that although both men and women are inaccurate at perceiving their own weight, their differing concerns demonstrate the pervasiveness of their discontent with muscularity (for men) or weight (for women).

Men and women also differ in their beliefs regarding what the opposite sex finds attractive. In one study 120 participants were provided with figures depicting male and female bodies, ranging from very thin to very heavy. Participants were told to choose the same-sex figure that best resembled their own current figure, the one they would like to resemble, and that which would be considered to be most attractive to the opposite sex. While women believed that men desired a thinner female figure than men indicated preferring, men reported believing the opposite – that women desired a larger, more muscular male figure than women indicated preferring (Demarest & Allen, 2000). Indeed, in a seminal study by Lavrakas (1975), 70 women viewed 19 male silhouettes that varied in the arms, upper trunk, lower trunk, and legs and rated them in terms of attractiveness. Results demonstrated that women preferred the medium physiques over those that were overly thin or large, and preferred broad arms and upper trunks, while preferring thinner lower trunk and legs. Therefore, while it appears that heterosexual women do prefer muscular men, Lavrakas (1975) demonstrates that it is a moderate muscularity that is considered to be attractive. Again, while both men and women were inaccurate in perceiving what the opposite finds attractive, their beliefs are reflective of the differing pressures regarding ideal physiques.

Finally, gender differences have been found in how men and women respond to having a negative body image. In one study 208 adults completed measures of their height and weight (used to calculate BMI), body image, and healthy and unhealthy dieting behaviours. Both body dissatisfaction and dieting behaviours were common amongst both men and women. Furthermore, for women, BMI was not related to unhealthy dieting behaviours. That is, women of all sizes were equally likely to report participating in behaviours such as purging, fasting, or using dieting pills. But gender differences between motivations for dieting emerged: while men who frequently participated in unhealthy dieting behaviours thought they were heavier than did those who infrequently dieted, women who frequently dieted using unhealthy strategies wanted to look thinner than did those who infrequently dieted. These results indicate that men are more likely to adopt unhealthy dieting behaviours when they believe they are overweight, while women are doing so potentially because they have unrealistic standards of what they would like to look like and are more willing to use unhealthy strategies to achieve this ideal (Markey & Markey, 2005). In
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Summary, men and women differ on various aspects of body image: they view their bodies differently, differ in accuracy regarding their own weight and what others find attractive, have different bodily ideals, and go to different lengths to attempt to achieve these ideals. It is imperative to include both men and women when discussing body image. However, it is also important to disentangle the role of sexuality when evaluating men and women’s body image.

Sexual orientation, sexuality, and body image

Gay men appear to be particularly susceptible to body dissatisfaction relative to heterosexual men. Frederick and Essayli (2016) conducted five studies to determine the extent to which Gay and Straight men differed on body image measures. Participants (N=111,958) completed various measures of body dissatisfaction, and results revealed that Gay men (relative to Straight men) reported lower overall body satisfaction, and decreased satisfaction with their muscle size and tone, but not weight. Furthermore, Gay men (relative to Straight men) reported higher levels of experiencing objectification, surveillance, appearance-based comparisons, and increased pressure from the media to appear attractive. Potentially as a result of this dissatisfaction, Gay men scored higher on considerations of cosmetic surgery, use diet pills, dieting to lose weight, and avoid sex, than did Straight men.

Similar results were found by Yelland and Tiggemann (2003). They recruited 158 Straight and Gay men and Straight women to complete scales of drive for muscularity and disordered eating (among others). They found that Gay men reported increased disordered eating than Straight men, and did not differ from women on drive for thinness or bulimia symptoms. Gay men also scored the highest on measures of drive for muscularity, indicating that for Gay men, drive for thinness and drive for muscularity are both important concerns.

Drive for muscularity has also been related to sexual functioning. Swami, Diwell, and McCreary (2014) recruited 292 men to complete measures of drive for muscularity and various aspects of sexual functioning. They found that drive for muscularity was predictive of having more short-term, transient relationships, greater sexual sensation-seeking, and having more sexual assertiveness. In contrast, Daniel and Bridges (2013) found no relationship between sexual satisfaction and drive for muscularity. Drive for muscularity appears to influence some aspects of sexual functioning, but the relationships between the two are unclear and warrant further investigation.

The addition of drive for thinness may be able to clarify these relationships. Research has demonstrated that drive for muscularity and drive for thinness are related, as those who desire to be more muscular often have equal desires to be slimmer (Brunet, Sabiston, Dorsch, & McCreary, 2010). As of yet, no research has examined how both drives in conjunction may influence sexual
functioning in men and women. In Chapter 3 I present the first empirical attempt to investigate this issue.

The above section has discussed the demographic differences in body image; demonstrating how these internal factors can influence feelings towards one’s body. However, it is also imperative to understand how body image is affected by external factors, such as societal pressure, comparisons with others, self-objectification, and the cultural images and messages transmitted by the media.

**The Sociocultural Model**

In this section, I briefly explain how the sociocultural model transmits beauty standards, and describe the various external factors that can influence body image. The sociocultural model states that 1) there are societal ideals of beauty in a particular culture, 2) these standards are transmitted by a variety of sociocultural channels, 3) individuals internalise these ideals, and 4) whether or not one meets these ideals determines the extent to which one experiences (dis)satisfaction with one’s appearance (Tiggemann, 2011). Because beauty standards are most frequently conveyed through family, peers and the mass media (Van den Berg, Thompson, Obremski-Brandon, & Coovert, 2002) the sociocultural model is often referred to as the tripartite model (Tiggemann, 2011).

**Societal pressure**

People differ in the extent to which they internalise messages about societal ideals of beauty. Compared to boys, adolescent girls report higher perceived pressure to lose weight, which in turn is associated with increased internalisation of appearance-related societal attitudes, and higher levels of body dissatisfaction and eating disordered behaviours. Furthermore, those who are more influenced by social comparisons are more likely to assess their weight negatively, and perceive themselves as being overweight (Halliwell & Harvey, 2006).

Helfert and Warschburger (2011) recruited 429 adolescents to complete measures of body dissatisfaction and appearance-related social pressure from peers and parents. Regardless of gender, parental encouragement to control weight strongly predicted weight concerns. However, the influence of peers influenced participants differently depending on their gender: for girls peer influence was associated with weight concerns whereas for boys it was associated with muscle concerns.

Adult women are also affected by cultural beliefs regarding attractiveness. Evans (2003) activated thoughts about lifestyle and health by asking 126 women about their dietary and exercise habits before weighing them in front of a mirror (activating thoughts about their bodies). Participants then read passages stating either that thin women typically report the highest levels of life satisfaction; that thin women were the least satisfied with their lives; or that thin women were no more or less satisfied than other women. Women who received information that contradicted the
stereotype about thin women (namely, that they do not experience increased life satisfaction) reported better mood, increased self-esteem, and more optimism about their own futures. In contrast, viewing the stereotype-confirming image (that thin women experience high life satisfaction) was associated with relatively low levels of life satisfaction and optimism among participants.

Appearance-related comparisons

It is clear that appearance-related comparisons are influential on self-esteem and body esteem. Social Comparison Theory can help explain the mechanisms underlying this. This theory states that even when an objective standard is present (such as Body Mass Index (BMI) charts) people are more likely to rely on their relative standing in their social environment to define themselves (such as the weight of their peers; Thompson et al., 1999). According to this theory, people make either upward comparisons to others (when the comparison target is seen as superior to the self on the attribute of interest) or downward comparisons (when the target is seen is inferior), and these comparisons can affect how one feels about oneself. For example, downward comparisons may serve as a mechanism for self-enhancement. Upward comparisons – common when people compare their bodies to those presented in the media - can be used as an inspirational target for improvement. But there is always the risk that making upward comparisons will remind that person of their own inferiority (Thompson et al., 1999), with damaging consequences for their self-esteem and body image.

For example, Patrick, Neighbors and Knee (2004) asked 88 women to complete measures of contingent self-esteem (that is, self-esteem based on social comparisons or on the approval of others) and self-perceived attractiveness. They also reported every social comparison made over 10 days (and its resulting affect) in a diary. Predominantly, participants reported comparing themselves to others on elements of physical attractiveness, with the majority of comparisons being made unintentionally. They reported feeling better about themselves after making downward comparisons, and worse after making upwards comparisons. Those high in contingent self-esteem were more likely to make upward comparisons and felt worse after making them.

Interestingly, research has revealed that upward comparisons can influence body image and self-esteem even when the targets of comparison are strangers. Posavac and Posavac (2002) asked 46 female participants to complete self-esteem and weight concern measures before viewing 20 slides of advertisements featuring thin models. They were then asked to respond to questions asking how similar and discrepant participants’ attractiveness and body shape were from the models in the advertisements. The perceived discrepancy between one’s self-image and the ideal media image was predictive of weight concern, even after controlling for self-esteem. Taken together, these studies demonstrate that comparing one’s body with those of others (whether they be in person or in
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the media) can have detrimental effects on feelings about oneself and one’s body. These results have been confirmed by a more recent meta-analysis on social comparisons and their influence on body dissatisfaction (Myers & Crowther, 2009).

**Self-objectification**

One way to understand the development of negative body image is through Objectification Theory. This theory states that the implicit and explicit sexual objectification of women’s bodies in Western cultures can result in the development of a self-perspective known as self-objectification. When women internalise observers’ perspectives on their bodies they monitor their bodies as they believe others do (Frederickson & Roberts, 1997). For example, Calogero (2004) told 105 female participants that they would soon be interacting with either a male stranger, a female stranger, or were not provided with any information. Results demonstrated that when participants thought they would be experiencing a male gaze, they reported greater body shame and anxiety about their physique. In contrast, those who anticipated a female gaze reported the lowest means on body shame and physique anxiety. By imagining how they looked from a male perspective, these women objectified themselves, with demonstrably negative repercussions (Calogero, 2004).

In another study measuring the harmful influence of self-objectification, 116 women created sentences from words that were presented in scrambled order. They were assigned to one of three conditions, where a) most of the words were sexually objectifying and primed self-objectification (such as sexiness, beauty, physique), b) the words were related to physicality but not sexually objectifying (such as health, wellness, energetic) or c) the words were non-objectifying and neutral (such as hasty, car, silly). Those in the sexually objectifying condition increased body shame and higher intentions to have cosmetic surgery, demonstrating that self-objectification can have harmful micro-level consequences on the body (Calogero, Pina, & Sutton, 2013).

Self-objectification can also affect how one interacts with the body by influencing eating habits. Calogero (2009) asked participants (N=252) to complete measures of self-objectification, body surveillance, body shame, and eating disorder symptomology. Women who were more likely to objectify their bodies reported increased body monitoring and body shame, which was related to disordered eating attitudes and behaviours. Similarly, men high in self-objectification were more likely to report disordered eating.

As in the above study, self-objectification theory has also been extended and applied to men. For example, Martins, Tiggesmann, and Kirkbride (2007) investigated the role of self-objectification on body image in Gay and Straight men. In their first study, 98 Gay and 103 heterosexual men completed measures of self-objectification, body surveillance, shame, and dissatisfaction, and drive for thinness. Across all measures, Gay men scored higher than heterosexual men. In their second study, the authors manipulated self-objectification. Both Gay (N = 57) and straight (N = 68) men...
were told they were going to sample a cologne, item of clothing and food item. After sampling cologne, half of the participants tried on Speedos (self-objectification condition), while the other half tried on a turtleneck sweater (non-self-objectification condition). Participants were to look at themselves in the full-length mirror as if they were considering purchasing the garment. While still wearing the clothing, participants completed measures of body surveillance, shame, and dissatisfaction, as well as self-objectification, and were instructed to eat as much as they desired of the food item. Regardless of sexual orientation, those in the swimsuit condition displayed higher levels of self-objectification than in the sweater condition. Moreover, self-objectification resulted in increased negative consequences for Gay men – Gay men in the swimsuit condition reported feeling more ashamed and less satisfied with their bodies, and displayed more restrained eating. These results support the predictions of Objectification Theory in Gay men. Taken together, these results demonstrate that objectifying oneself can have serious repercussions on both body image and eating behaviours.

Media pressure on women

One of the proposed causes of self-objectification is viewing the unrealistic images of bodies presented in the media, and comparing one’s body against these. The media is viewed as the factor most responsible for the increase in negative body image in Western women: it is frequently accused of propagating the objectification of women, promoting the cultural ideal that women are defined by their bodies and that their self-worth is tied to their appearance, and of endorsing unrealistically thin beauty standards through advertising and overrepresentation of these bodies (Frederickson & Roberts, 1997; Kaufman, 1980; Sanchez & Crocker, 2005). These messages are internalised by women, who compare their own bodies with these images and attempt to become as thin as the ‘ideal’, wasting time, energy, and effort on a goal that is very difficult or impossible to achieve.

Research has consistently demonstrated that media exposure to the thin-ideal is harmful to body image. This effect begins as early as childhood. For example, one study examined how watching television influences children’s body-related thoughts and behaviours. In this study, 245 girls (aged 7-9) completed measures of their television watching behaviour, thin-ideal internalisation, body dissatisfaction and restrained eating. Watching various types of television programs was related to higher thin-ideal internalisation, which was associated with higher body dissatisfaction and restrained eating. A residual direct relationship between watching television and restrained eating was also found (Anschutz, Engels, van Leeuwe, & van Strien, 2009).

Dittmar, Halliwell and Ive (2006) examined whether this effect could also be found with exposure to various-sized toys. In their study, 162 5- and 8-year old girls viewed images of Barbie dolls (which are traditionally very thin), large dolls or no dolls before completing measures of body
image. Those who had viewed the Barbie dolls reported lower body esteem and greater drive for thinness than those in the other conditions, although this effect was reduced in older girls, indicating that for them the dolls may be no longer serve as aspirational models. Taken together, these studies demonstrate that children’s body image is easily influenced by external factors such the media or toys.

It could be speculated that media literacy improves with age, and thus these images may be less influential on body image after childhood. However, similar results have been found when investigating the effects of media images on teenagers. Participants ($N=241$) completed an interactive computer program where they were asked questions about advertisements while viewing either 10 images depicting a slim, idealised female body or control images that did not include any bodies. After viewing the idealised images, participants reported increased depression and decreased body satisfaction (Durkin & Paxton, 2002).

Idealised media images can also have a negative influence on adult women’s body image. A meta-analysis by Groesz, Levine, and Murnen (2002) examined the influence of mass media images of the thin-ideal on female body image. They investigated 25 studies and concluded that women’s body image was significantly more negative after viewing images of thin models, compared to average-sized models, plus-sized models or inanimate objects. This was particularly the case when the studies involved a between-subjects design, when participants were younger than 19 years old, or when participants were particularly vulnerable to activation of a thinness schema (e.g., had strongly internalised the thin ideal). This meta-analysis supports the sociocultural perspective that the media transmits images of the thin-ideal which elicits body dissatisfaction in women. More recent meta-analyses lend weight to these findings, showing that for women, exposure to media images depicting the thin-ideal is related to body image concerns (Grabe, Ward, & Hyde, 2008; Want, 2009). Furthermore, multiple studies have examined the impact of the media on men’s body dissatisfaction. Bartlett, Vowels, and Saucier (2008) conducted a meta-analysis of this work which demonstrated a similar relationship between exposure to media images and body dissatisfaction in men.

In sum, it can be seen that the media can have deleterious effects on body image, from childhood to adulthood. Consequently, researchers have begun to examine how to minimise the negative impact of the media. For example, Halliwell, Easun and Harcourt (2011) investigated whether improving media literacy would reduce the influence that media images have on adolescent girls. Participants ($N=127$) completed measures of trait body dissatisfaction, body image, and body esteem and were assigned to one of four conditions: the intervention thin-ideal exposure condition, intervention control image exposure condition, no intervention thin-ideal exposure condition, and a no intervention control image exposure condition. The thin-ideal image was taken from a magazine,
while the control conditions viewed images of a coastline. Those who were assigned to the intervention condition viewed a clip from Dove (a personal care brand) that demonstrated how an image can be easily distorted to adhere to beauty standards with the use of editing tools such as Photoshop. After viewing this clip, participants in the intervention condition did not report the negative effects associated with viewing thin-ideal images. In comparison, those who did not receive the intervention reported the expected effects on their body esteem and satisfaction. These findings are promising, indicating that with education the negative influence of viewing the idealised images in the media can be minimised.

Media pressure on men

The ideal images presented in the media are not only influential on women, but also on men. It has been posited that there has been an increase in objectifying media images, which portray the ‘ideal’ shape for male bodies that are prominent in sports, health, fitness and lifestyle magazines, as well as by athletes and actors (Chia & Wen, 2010). Increasingly, men are being sent the message that they need to achieve a mesomorphic ‘V-shape’ body, which only a small number of men are able to achieve naturally (Blouin & Goldfield, 1995). It is only recently that men’s bodies have begun to be objectified in a similar manner to those of women.

As with women, media objectification has a significant influence on men. Bardone-Cone, Cass, and Ford (2008) recruited 111 male and 236 female participants to complete measures examining media influence, weight-related teasing, socially prescribed perfectionism, body mass index, and body dissatisfaction. They found that for women there were several factors that predicted their body dissatisfaction. However, the only predictive factor for men’s body dissatisfaction was the perceived pressure from the media to appear a certain way. This study demonstrates the power of these images on men’s body image.

However, these images are still not as pervasive and homogeneous as those of women, as demonstrated across several studies by Buote and colleagues (2011). In the first, 55 participants completed questionnaires regarding their perceptions of the homogeneity of norms regarding appearance for men and women. Regardless of gender, participants were in consensus regarding the standards of appearance for women being more specific and inflexible, with more “types” of appearance being acceptable for men compared to women. In the second study, 559 images of well-known celebrities were coded on age, attractiveness and body type. In the third, one issue from eight fashion and lifestyle magazines were coded for the same variables as the second study. The second and third study found that images of attractive women were more homogeneous than images of attractive men. This demonstrates the rigidity of attractiveness norms for women and indicates that the media conveys a single standard of attractiveness as being valued, while at the same time portraying the idea that there are many varied types of male attractiveness.
The fourth study by Buote and colleagues (2011) involved 69 participants reading a brief description of the male and female physical “ideal” before indicating how often they were exposed to these images. Both men and women reported that they were exposed more frequently to the ideal female body than the ideal male body. Taken together, Buote and colleagues’ (2011) findings indicate that despite the contention that the ideal male body has been more frequently presented, there is still a disparity with regard to the frequency of presentation of female bodies, and in the perceived attractiveness standards for each gender.

Therefore, although there is a pervasive ‘ideal’ male body, other male body types may also be seen as attractive. In general, the bodies presented in the media are very slim, due in part to the advertising industry stating that consumers do not find average-sized models to be appealing (Connolly, 2009). To evaluate this claim, Diedrichs and Lee (2010) examined the impact of average-sized male models on body image. Participants (330 men, 289 women) were assigned to view either advertisements featuring no male models, advertisements featuring muscular male fashion models, advertisements where the male models were of slim-to-average size, or advertisements where the male models were average-to-large sized. Eight advertisements were created per condition. After viewing each image, participants completed measures of advertising effectiveness. Once they had viewed all the images, participants filled out body image measures, among others. Interestingly, both men and women rated advertisements featuring male models of average size as being as effective as those featuring muscular models or those without any models. After viewing the images of male models, women reported a more positive body image, regardless of their body size or muscularity (with the exception of the average-large condition). This study provides support for the positive influence of having size diversity in media imagery.

However, Diedrichs and Lee (2010) also found that in general exposure to the average-sized models did not result in a more positive body image in men. Surprisingly, men rated the advertisements featuring the muscular models as being less effective than those featuring no models at all and did not experience a decrease in body image after exposure to these images (contrary to what was hypothesised). The authors posit that the muscular models presented in this study were not viewed as suitable targets with which to make upward comparisons against but rather, were associated with vanity, femininity or homosexuality, since they appeared in fashion advertisements.

It appears that for men, having a muscular body is intrinsically linked to feeling masculine (and/or heterosexual) – with the exception of muscular bodies that may be associated with being Gay (such as in the case with the fashion models presented in the aforementioned study by Diedrichs and Lee, 2010). While fashion magazines may not be as influential on male body image, other magazines have been demonstrated to have a negative impact. For example, in one study 181 boys completed measures of self-reported exposure to magazines, including health/fitness, fashion,
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sports, and gaming magazines (Harrison & Bond, 2007). Interestingly, gaming magazines were more predictive of drive for muscularity than other types of magazines. The authors hypothesise that these magazines were more influential than other magazines because they depict exaggeratedly muscular (usually virtual) bodies in comparison to the bodies depicted in the other magazines which, while fit and muscular, do not look unlike real men.

However, these fit and muscular bodies do appear to have an impact on the body image of adult men. Hargreaves and Tiggemann (2009) recruited 104 male participants to complete measures of body satisfaction before watching 18 commercials which either included the muscular male ideal or “normal” males. Half the participants were asked to make social comparisons by rating each actor in the commercials as more, equal, or less attractive than themselves. The other half were assigned to the control group. As hypothesised, men who viewed the television commercials featuring muscular models reported feeling less attractive or satisfied with their muscle shape and size, compared to the control group. This study demonstrates how comparisons with the muscular models had significant effects on adult men’s body image (see also Arbour & Ginis, 2006; Bartlett & Harris, 2008; Blond, 2008; Lorenzen, Grieve, & Thomas, 2004). Clearly, the images that the media presents as ‘ideal’ are very influential on male body image.

In this chapter I have reviewed literature on body image and body image disturbance. I discussed the consequences and causes of having a negative body image, and which factors predicted feeling positively about one’s body, as well as which variables are predictive of having a negative body image. Finally, I outlined a gap in the literature that will be filled by this Chapter 3 of this thesis – examining the relationship between drive for thinness and drive for muscularity on sexual dysfunction.
CHAPTER 2

Sexual problems are related to drive for thinness, not drive for muscularity

As mentioned in Chapter 1, body dissatisfaction is negatively associated with both men and women’s sexual attitudes and performance. In women, feeling negatively about one’s body can result in reduced sexual activity and likelihood of orgasm, as well as decreased arousal and satisfaction (Ackard, Kearney-Cooke, & Peterson, 2000; Pujols et al., 2010). For men, focusing on one’s body during sex has been linked to decreased enjoyment of sex, reduced sexual desire, and less consistency and quality in both sexual arousal and orgasm. Therefore, one of the primary aims of this thesis was to examine the association between body appearance related drives and sexual function, and investigate whether these differ depending on one’s gender. This chapter addresses this aim. Specifically, it investigates how desires to change one’s body or look a certain way is associated with how one feels about and performs sexual behaviours.

In this chapter, I present a large correlational study on a sample of American men and women (N = 555), the same sample as in Chapter 5. I measured drive for thinness and drive for muscularity, as well as measures of sexual problems (namely, sexual esteem, sexual assertiveness, discomfort exposing one’s bodies during sex and genital satisfaction). This paper is the first to investigate whether sexual dissatisfaction and performance is predicted by an excessive drive for thinness or drive for muscularity, and whether these patterns differ for men and women. Below is the complete draft of this paper, which is currently under review at Body Image.
Abstract

Body dissatisfaction has been associated with sexual problems in both men and women. In this area of research it is largely assumed that poor body image in men is predominantly associated with wanting to appear more muscular, whereas for women it is related to a drive to become thinner. This study tests this assumption, using measures of drive for muscularity and drive for thinness simultaneously to predict self-reported sexual behaviors, problems and attitudes in both men and women. Participants (N=555) completed drive for thinness and drive for muscularity measures, as well as reporting on their sexual esteem, sexual assertiveness, discomfort exposing their bodies during sex, and genital satisfaction. Results found that it was drive for thinness, not drive for muscularity, which consistently predicted sexual problems in both men and women. These patterns held when accounting for self-esteem and depression. This paper adds to the growing body of literature on the destructive nature of excessive drive for thinness, and highlight that it may be a core factor in promoting and maintaining sexual problems.
Sexual problems are related to drive for thinness, not drive for muscularity

Dissatisfaction with one’s body, or inability to achieve an ideal body, is robustly associated with sexual dysfunction for both genders. Those who hold the belief that they are unattractive are more likely to feel dissatisfied with their sex lives, avoid sexual activities, and to have an avoidant or anxious focus during sex (La Roque & Chloe, 2011; Woertman & van der Brink, 2012). This is problematic because sexual avoidance can in turn create negative rumination about one’s body, resulting in a cycle of self-loathing and sexual failure (Faith & Schare, 1993). Perhaps consequently, those who have a negative body image also report having a lower desire for sex, and less consistency and quality in their sexual arousal and orgasm (Cash et al., 2004).

Predominantly, body image researchers state that negative body image for women stems from a desire to become thinner (Johnson, Lewis, Love, Lewis, & Stuckey, 1984; Pavelo, 2006; Wiederman & Pryor, 2000). Conversely, researchers have indicated that men have a drive to become more muscular (Duggan & McCreary, 2004; Mishkind, Rodin, Silberstein, & Striegel-Moore, 1986; Morrison, Morrison, & Hopkins, 2003). Indeed, research has demonstrated that men will often pick the mesomorphic shape as their bodily ideal rather than a slimmer shape (Mishkind et al., 1986). This is also the shape that they believe women prefer; a belief that has been demonstrated to be predominantly true (Tovee, Maisey, Vale, & Cornelissen, 1999). Reports indicate that the vast majority (78%) of men wish they were more muscular, particularly in the arms (63%) and chest (63%; Diedrichs, Halliwell, Jankowski, & Paraskeva, 2011). Having a strong desire to be muscular can be detrimental, as drive for muscularity has been associated with poor self-esteem, depression and eating disorder symptoms (McCreary & Sasse, 2000; Olivardia, Pope, Borowiecki, & Cohane, 2004). Emerging research has revealed that men may also hold a drive for thinness. For example, Yelland and Tiggemann (2003) found that Gay men scored highly on measures of both drive for muscularity and drive for thinness.

To date, no research has tested whether it is male drive for muscularity or drive for thinness that is most strongly linked with sexual dysfunction, or for that matter, which is most important when predicting female sexual dysfunction. Preliminary studies have examined the association between drive for muscularity (but not drive for thinness) and men’s sexual attitudes and performance. For example, Swami, Diwell and McCreary (2014) found that for men, drive for muscularity was a positive predictor of sexual performance and enjoyment – the more muscular men wanted to be, the more agentic and disinhibited in bed they reported being. Men with high levels of drive for muscularity were sociosexually unrestricted (having more short-term, transient relationships) relative to men low in drive for muscularity, and also reported increased sexual sensation seeking and being more sexually assertive. However, Daniel and Bridges (2013) found no relationship between men’s drive for muscularity and sexual satisfaction.
In sum, body dissatisfaction is linked to sexual dissatisfaction and impaired sexual performance (Cash et al., 2004). What is not known is whether a) such problems are underpinned by an excessive drive for thinness or an excessive drive for muscularity, b) whether drive for thinness and drive for muscularity uniquely predict sexual problems, and c) whether patterns differ for men and women.

Establishing the unique predictive power of both drives is important, as research suggests that they are related. That is, those who feel a pull to be muscular also want to be slimmer (Brunet, Sabiston, Dorsch, & McCreary, 2010; Kelley, Neufeld, & Musher-Eizenman, 2010; but see McCreary and Sasse, 2000). Modelling these two constructs as predictors simultaneously will allow us to see which drive is the stronger predictor of sexual problems. Further, as stated earlier, it has largely been assumed that men will be more influenced by a desire to be muscular, rather than slim (with the opposite being true for women; Daniel & Bridges, 2013; Swami, Diwell, & McCreary, 2014). If this were true we would expect drive for muscularity to emerge as a key predictor of sexual functioning for men, compared to drive for thinness for women.

Accordingly, the present study explores how having an increased focus on the body, through drive for thinness or drive for muscularity, may predict sexual problems. Data was analyzed from a larger dataset (see Alperin, Hornsey, Hayward, Diedrichs, & Barlow, 2014). Age and BMI were included as control variables, to see if results would hold over and above objective body weight. In addition, depression and self-esteem have both been linked to drive for muscularity in the past (Bartlett, Vowels, & Saucier, 2008; McCreary & Sasse, 2000), as well as sexual dysfunction (Althof et al., 2003; DeRogatis & Burnett, 2008). Given this, both variables were measured and included as controls in all analyses to ensure that any observed findings were not due to underlying poor mental health.

Since drive for muscularity has been associated with poor mental health outcomes similar results on sexual outcomes might be expected (McCreary & Sasse, 2000; Olivardia, Pope, Borowiecki, & Cohane, 2004). However, past work has proposed that drive for muscularity predicted sexual performance and enjoyment (Swami, Diwell, & McCreary, 2014). Therefore, two competing hypotheses were proposed: that drive for muscularity would be associated with declined or improved sexual performance. Furthermore, it was hypothesized that participants who had a high drive for thinness would report more sexual problems, relative to those with lower drives. In line with theorizing on differentially gendered body concerns it was further hypothesized that gender should emerge as a core moderator of effects, with an excessive desire to be muscular linking most strongly with the sexual variables for men, and an excessive desire to be thin linking most strongly with sexual problems in women. Sexual problems were conceptualized broadly, looking at how satisfied participants were with their sexual performances (sexual esteem), the degree to which they
were sexually assertive, whether they were worried about exposing their bodies during sex, and how satisfied they were with their genitals.

Method

Participants

Participants (N=1452) were recruited as part of a larger survey via the online survey platform socialsci.com. Of these, 555 completed all the measures in this study. Participants (266 men, 289 women) were from the United States, and had to be at least 18 years old to participate, with ages ranging from 18 to 91 (M=28.41, SD=8.84). They were reimbursed with points from socialsci.com, which could be redeemed for prizes.

Measures

Control variables

Demographics included age and participant sex, which were self-reported by participants.

Body Mass Index (BMI) was measured by asking participants for their height in feet and inches and weight in pounds. Height was converted into centimetres and pounds into kilograms. Participant weight was then divided by the square of their height to produce their BMI (Eknoyan, 2008).

Depression was measured with the use of the Beck Depression Inventory-II (Beck, Steer, & Brown, 1996). This scale involves 21 questions relating to the diagnostic criteria for depression. Examples include “I am sad all the time” and “I do not feel like a failure” (reverse scored). Scale items ranged from 0 to 3 for each category, with higher numbers indicating higher levels of depression (α=.95). As per scale scoring instructions, a summed score was created for depression.

Self-esteem was measured with the 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965). Examples are “On the whole, I am satisfied with myself” and “I wish I could have more respect for myself” (reverse scored) (1=strongly disagree, 4=strongly agree, α=.77). Scale scores were created by averaging across the items, with a higher score indicating high self-esteem.

Predictors

Drive for thinness was measured via the 7-item Drive for Thinness subscale of the Eating Disorder Inventory (Garner et al., 1983). Examples are “I feel extremely guilty after overeating” and “I am not terrified of gaining weight” (reverse scored) (1=never; 6=always, α=.85). Scale scores were averaged across the items, with higher scores indicating higher drive for thinness.

Drive for muscularity was measured with McCreary and Sasse’s (2000) 15-item Drive for Muscularity Scale. Examples are “I wish that I were more muscular” and “I think I would feel more confident if I had more muscle mass” (1=always, 6=never, α=.92). Scale scores were created by averaging across the items, with a higher score indicating higher drive for muscularity.

Outcome variables
Sexual esteem was measured via the 10-item Sexual Esteem Subscale of the Sexuality Scale (Snell & Papini, 1989). Examples are “I am a good sexual partner” and “I am not very confident in sexual encounters” (reverse scored) (1=strongly disagree, 5=strongly agree, α=.94). Scores were added, with higher scores indicating higher levels of sexual esteem.

Sexual assertiveness was measured with the 25-item Hurlbert Index of Sexual Assertiveness (Hurlbert, 1991). Examples include “I feel that I am shy when it comes to sex” and “I approach my partner for sex when I desire it” (reverse scored). Scale scores were averaged across the items and higher scores indicated lower sexual assertiveness (0=strongly disagree, 4=strongly agree, α=.93).

Body exposure during sex was measured with the 28-item Body Exposure during Sexual Activities Questionnaire (BESAQ; Cash et al., 2004). Examples include “I prefer to keep certain articles of clothing on during sex” and “I am comfortable while being undressed by my partner” (reverse scored) (0=never, 4=always or almost always, α=.96). Scale scores were created by averaging across the items, with higher scores indicating more discomfort with exposing one's body during sexual activities.

Male genital satisfaction was measured with the 14-item Male Genital Image Scale (Morrison, Bearden, Ellis, & Harriman, 2005). Examples include “Length of your erect penis” and “The size of your testicles” (1=very dissatisfied, 5=very satisfied, α=.94). Scores were averaged across the items, with higher scores indicating higher levels of genital satisfaction.

Female genital satisfaction was measured with the 12-item Female Genital Image Scale (Morrison et al., 2005). Examples include “Attractiveness of your vulva” and “The tightness of your vagina” (1=very dissatisfied, 5=very satisfied, α=.93). Scores were averaged across the items, with higher scores indicating higher levels of genital satisfaction.

Results
Means, standard deviations and intercorrelations for all measures are displayed in Table 1.
Table 1

Means, standard deviations and intercorrelations among variables

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Note: *p<.05, **p<.01, ***p<.001, BMI=Body Mass Index
Regression analyses

Hierarchical regression analyses were used to test predictions. Participant sex (1=female, -1=male), drive for thinness, and drive for muscularity (both of which were mean-centered), as well as the interactions between both drives and participant sex, were used to predict four dependent variables: sexual esteem, sexual assertiveness, body exposure during sex, and genital satisfaction (genital satisfaction was measured and tested separately for men and women; thus no interactions were modelled for this outcome variable). For each set of analyses, age, BMI, depression and self-esteem were entered in at Step 1 as control variables. Key predictors – participant sex, drive for thinness and drive for muscularity - were entered at Step 2. Two-way interactions were entered at Step 3, while at Step 4 the three-way interaction between participant sex, drive for thinness and drive for muscularity was entered. Full regression results can be seen in Tables 2-4.
Table 2
Regression variables – sexual esteem and sexual assertiveness

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*Note: *p<.05, **p<.01, ***p<.001; BMI=Body Mass Index; DM=Drive for muscularity; DT=Drive for thinness
Table 3
Regression variables – body exposure during sex

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Note: *p<.05, **p<.01, ***p<.001; BMI=Body Measurement Index; DM=Drive for muscularity; DT=Drive for thinness
Table 4
Regression variables – Male and female genital satisfaction

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*Note: *p<.05, **p<.01, ***p<.001; BMI=Body Measurement Index; DM=Drive for muscularity; DT=Drive for thinness. Participant sex was not included as part of these analyses as the data set was split, allowing us to analyze genital satisfaction separately according to gender.

**Sexual esteem.** The extent to which people reported a drive for muscularity was unrelated to their sexual esteem ($β=.04 \ p=.393$). In line with hypotheses, however, those who had a higher drive for thinness reported lower sexual self-esteem ($β=−.18, \ p<.001$). Contrary to predictions, participant sex did not moderate either relationship ($βs<.10, \ ps>.05$). That is, drive for thinness predicted lower sexual esteem for both men and women, but drive for muscularity did not. The
interaction between drive for thinness, drive for muscularity and participant sex was marginally significant ($\beta=-.09$, $p=.051$). Further investigation revealed that drive for muscularity did not predict sexual esteem for women, regardless of whether they have a high or low drive for thinness ($\beta_s<.10$, $p_s>.05$). However, drive for muscularity was predictive of sexual esteem for men with high levels of drive for thinness ($\beta=.23$, $p=.037$).

**Figure 1.** Interaction between drive for thinness and drive for muscularity for men

**Sexual assertiveness.** Once more, the extent to which participants reported a drive for muscularity was not related to their sexual assertiveness for either men ($\beta=-.01$, $p=.845$) or women ($\beta=.00$, $p=.986$). As predicted, people who had a high drive for thinness, however, reported being less sexually assertive ($\beta=.10$, $p=.024$). There was also a significant interaction between participant sex and drive for thinness ($\beta=-.10$, $p=.013$; see Figure 2). Contrary to hypotheses, simple slopes analyses revealed that drive for thinness was related to being more sexually unassertive for men ($\beta=.22$, $p<.001$), but not for women ($\beta=.03$, $p=.656$).
Body exposure during sex. Consistent with predictions, participants with a high drive for thinness were more likely to report being afraid to expose their bodies during sex ($\beta=.31, p<.001$). Drive for muscularity was only marginally related to participants’ discomfort exposing their bodies during sex ($\beta=.07, p=.057$). Contrary to what was hypothesized, participant sex did not moderate either relationship ($\beta$s $<.10$, $p$s $>.10$), indicating again that drive for thinness predicted whether or not one wanted to show one’s body during sex for both men and women, while drive for muscularity did not.

When evaluating genital satisfaction, male and female participants were analyzed separately, as they answered sex-specific questions about their genitals.

Male genital satisfaction. In line with predictions, male participants with a higher drive for thinness reported having lower genital satisfaction ($\beta=-.17, p=.001$) while (contrary to hypotheses) drive for muscularity was not predictive of genital satisfaction ($\beta=.02, p=.695$).

Female genital satisfaction. Interestingly, and contrary to hypotheses, women with a drive for muscularity reported having higher genital satisfaction ($\beta=.14, p=.005$), while genital satisfaction for women was unrelated to their drive for thinness ($\beta=-.02, p=.759$).
Discussion

Poor body image has consistently been associated with sexual dysfunction (Cash et al., 2004). Although it has been revealed that drive for thinness and drive for muscularity are related constructs (Brunet et al., 2010; Kelley et al., 2010), and that Gay men report experiencing high levels of both constructs (Yelland & Tiggemann, 2003), as of yet there has been no research exploring whether the relationship between body dissatisfaction and sexual problems is more strongly driven by a desire to be thinner or to be more muscular. This study examined which construct consistently predicted sexual outcome variables. Furthermore, this study tested whether men and women showed different patterns of association, as usually it is assumed that women are more concerned with losing weight, while men are more interested in gaining muscle (Anderson & Bulik, 2004; McCreary & Sasse, 2000). In order to ensure any observed associations were due to participants’ body concerns rather than body weight or general mental health, BMI, self-esteem and depression were included as control variables.

Two competing hypotheses were presented: that drive for muscularity would be associated with increased sexual problems (as it is with other mental health variables, see (McCreary & Sasse, 2000; Olivardia, Pope, Borowiecki, & Cohane, 2004) or that it would be associated with decreased sexual problems (as per Swami, Diwell, & McCreary, 2014). For the most part, neither hypotheses were supported. Drive for muscularity was marginally associated with being unwilling to expose one’s body during sex but was not predictive of sexual assertiveness or male genital satisfaction (although, unexpectedly, it was associated with female genital satisfaction). Exercising for fitness, rather than to improve appearance, has been linked to feeling positively about one’s body (Tylka & Homan, 2015). It is plausible that this extends to genital satisfaction also. However, it is still surprising that this would be the case for women and not men. This may be due to the decreased pressure on women to build muscle. It may also be due to the positive influence that exercising has on female sexual arousal and sexual satisfaction, which may extend to improved feelings towards one’s genitals (Hamilton, Fogle, & Meston, 2008; Lindeman, King, & Wilson, 2007).

Drive for muscularity was, however, marginally associated with sexual esteem in men with high levels of drive for thinness. It could be that other factors may be more predictive of sexual esteem. For example, research has found that the most important predictor of sexual esteem is self-rated attractiveness, rather than BMI, which was not associated with sexual esteem (Wiederman & Hurst, 1998). Furthermore, emerging evidence has found that muscle dissatisfaction is not related to drive for muscularity (Stratton, Donovan, Bramwell, & Loxton, 2015). That is, one can desire to be more muscular and can perform behaviors to achieve this, but may not necessarily be dissatisfied with their appearance. Potentially, if people are focused on both increasing muscle and
decreasing body fat, they may perform many behaviors to achieve this goal, and may be closer to their ideal body. That is, they desire to change their bodies but still consider themselves to be attractive, which predicts their sexual esteem. Future studies could measure self-rated attractiveness, muscle dissatisfaction or use other measures of body image to expand upon these findings.

In line with past research, it was proposed that drive for muscularity would be particularly important for men. Again, this hypothesis was predominantly not supported. In the cases where drive for muscularity was marginally associated with sexual problems, women showed the same pattern as men (reluctance to expose their bodies during sex). In the case of sexual esteem, the relationship could only be found in men who also reported having high levels of drive for thinness, and in the opposite direction as predicted.

In terms of drive for thinness, the results were clearer. Every dependent variable related to sex was associated with drive for thinness for both men and women (with the exception of genital satisfaction for women). Irrespective of their body weight and general mental health, men and women who reported a high drive for thinness were also more likely to report low sexual esteem, low sexual assertiveness, a reluctance to reveal their bodies during sex, and dissatisfaction with their genitals (for men). In contrast to predictions, these relationships were not stronger for women than for men. In fact, drive for thinness was related to reduced sexual assertiveness for men, but not women. For the other sexual variables, drive for thinness was associated irrespective of participant sex.

It appears that drive for muscularity is not particularly predictive of men’s sexual problems, at least in comparison to drive for thinness. At this point, however, it must be highlighted that future research should aim to further examine this issue, potentially using different measures of drive for muscularity. For example, when examining the current study’s measures, the Drive for Thinness scale (Garner et al., 1983) is predominantly involved with cognitions surrounding weight gain (i.e., “I think about dieting” or “I am preoccupied with the desire to be thinner”). In contrast, in addition to wanting more muscle mass, the Drive for Muscularity Scale (McCreary & Sasse, 2000) has a focus on enacting behaviors to build muscle (i.e., “I use protein or energy supplements” or “I lift weights to build up more muscle”). Past work has shown that those who are objectively not thin (e.g., overweight or obese) and who may not perform behaviors to reduce their weight have a higher drive for thinness than those who are already thin (Alperin et al., 2014). In the same way, it is possible that men who lack muscle tone and may not desire to perform behaviors aimed at
muscle building have still have a drive to be muscular. The scale used in this study may not have been able to differentiate these men.

Nonetheless, the findings concerning drive for thinness - over and above body weight and mental health - are intriguing. Past research has indicated that drive for thinness affects women rather than men (Anderson & Bulik, 2004). In the current work, however, it was a drive to be thin that was robustly associated with almost all indices of sexual function for men, as well as women. If anything, as per Yelland and Tiggemann’s (2003) findings, and in contrast to McCreary and Sasse (2000), it was men who had to contend with both a drive for thinness and drive for muscularity.

The findings from this study may have implications for those suffering from problems regarding sexual attitudes and behaviors. Potentially, conducting body image interventions may have the unintended effect of improving how participants feel about sex and their own sexual performance. Future body image interventions examining their long-term effects could include some of the measures included in this study to see if this is indeed the case.
References

Alperin, A., Hornsey, M.J., Hayward, L.E., Diedrichs, P.C., & Barlow, F.K. (2014). Applying the contact hypothesis to anti-fat attitudes: Contact with overweight people is related to how we interact with our bodies and those of others. *Social Science & Medicine, 123*, 37-44. doi:10.1016/j.socscimed.2014.10.051


CHAPTER 3

Weight bias

Overview

In this chapter I discuss weight bias. I describe why it occurs, in whom, and various ways that it can manifest. I also explain the various physical and mental health consequences of experiencing weight bias, strategies that overweight people may use to defend against weight bias, and finally, interventions to combat weight bias. I conclude by identifying gaps in the literature filled by this thesis.

Negative attitudes towards overweight people

Chapter 1 describes the considerable pressure surrounding body image and obtaining the ‘perfect body’ for both genders; with people getting larger and moving further away from the ‘ideal’ bodies that are presented in the media (WHO, 1998). Classifications of weight are usually assigned with the use of BMI, a height-weight index. To calculate BMI, body weight is divided by height in metres squared. According to the World Health Organization (2015), a BMI equal or greater than 25 is considered to be overweight, while a BMI equal or greater than 30 is classified as obese.

On average Western populations are becoming heavier, but despite this anti-fat attitudes are prevalent, even amongst overweight people themselves. For example, Crandall (1994) showed there was no relationship between one’s own weight and attitudes regarding the weight of others – that is, people held similar levels of weight bias, regardless of their own body size. Similarly, Gumble and Carels (2012) showed that there was no difference between average-weight and overweight participants in their levels of explicit or implicit weight bias. Unlike many other groups, then, overweight people do not have a bias towards their own group (although they may have weaker anti-fat bias than average-weight people, see Marini et al., 2013). Instead, both overweight and average-weight people are prejudiced against overweight people.

One study investigated the depth of this prejudice. Participants (N=4283) completed measures of explicit and implicit anti-fat attitudes, stereotypes about overweight people, and the trade-offs they would make rather than be obese. Average-weight participants were more likely to make trade-offs, indicating that they would rather be divorced, severely depressed, unable to have children or live shorter lives than be obese. Although overweight participants had weaker explicit anti-fat bias and were less likely to make the trade-offs, they still held strong implicit anti-fat attitudes and believed stereotypes of overweight people (Schwartz, Vartanian, Nosek, & Brownell, 2006).
Another study examined if these stereotypes influence the perceived healthiness of food, and if this influence differs depending on participant weight. Participants \((N=230)\) viewed images of healthy or unhealthy food that were presented in similar fashion to those that are seen on Instagram or Pinterest, including a photograph of the source (the owner of the blog – who was presented as either average-weight or obese) and health-related information about the meal (calories and fat content). Participants reported how healthy they thought the meal and the source of the photograph were. The images of the meals posted by the obese source were rated as being less healthy than if posted by the average-weight source, even after controlling for calories and fat content of the meal. This demonstrates that participants were relying on stereotypes of the obese person as being less healthy due to their size and/or dietary habits. This was particularly the case for participants who reported that they themselves had a high BMI (Schuldt, Guillory, & Gay, 2015). This study indicates that stigmatised individuals may pay more attention to information that confirms stereotypes about their group.

Taken together, these studies demonstrate the ingrained nature of weight bias, to the extent where it is found within the very group that it derogates. One explanation that has been proposed is that these negative attitudes stem from an internalisation of cultural attractiveness norms, such as the idealisation of thinness and denigration towards those who are overweight (Crandall, 1994; Puhl & Brownell, 2001). The prevalence of weight bias in overweight people is concerning as experiencing antipathy towards one’s own stigmatised group has been linked to increased mental health symptoms (Newcomb & Mustanski, 2010).

Weight bias is present from as early as preschool. In one study 69 preschoolers completed measures of anti-fat attitudes by rating figures based on how acceptable they were, and which characteristics they prescribed to thin, average, and overweight figures (e.g. mean, smart, has no friends, sloppy, and so on). The overweight figures were rated most negatively, indicating the presence of anti-fat attitudes amongst these pre-schoolers (Holub, 2008). Similar results were found in a study by Cramer and Steinwert (1998). Eighty-three 3-5 year old children were told a story in which three children were playing together, and one was either mean or nice to the other. Afterwards, participants were shown a picture of a thin child, an average-weight child, or an overweight child, and asked which was the ‘nice’ character and which was the ‘mean’ character. They were also asked to attribute traits to the children in the story, such as smart/stupid, healthy/sick, neat/sloppy and so on. Overall, the preschoolers showed evidence of stigmatisation, describing the overweight character as being mean, possessing negative attributes, and being undesirable as a playmate. These results are troubling, as peer rejection has been demonstrated to
have long-term negative consequences, including externalising difficulties (such as delinquency and acting out), internalising difficulties (such as depression, loneliness and self-esteem), impaired academic performance and increased psychopathology (McDougall, Hymel, Vaillancourt, & Mercer, 2001).

Anti-fat attitudes are so strong that when a person of average weight is close to an overweight person they can also become the victim of stigmatisation (known as the “mere proximity” effect; Hebl & Mannix, 2003). In one study 89 children aged between 5 and 10 rated drawings of children on how much they would like to be friends with them. The drawings were of either average-weight or overweight children, with either average-weight or overweight children in the background. Again, anti-fat attitudes were evident as children preferred to be friends with the average-weight child rather than the overweight child. Furthermore, overweight female targets were disliked more than the average-weight female target (note that there was no difference regarding target size for males), indicating that even at this young age, children understand the increased importance that society places on female thinness. Finally, the average-weight female target was evaluated more negatively when there were overweight children in the background of the picture (Penny & Haddock, 2007). This study demonstrates that the mere proximity effect is present in children as young as 5. It also hints that weight bias might be disproportionally directed to women.

The mere proximity effect has also been demonstrated in adults. Hebl and Mannix (2003) recruited 196 participants to make hiring recommendations. When the participants arrived they encountered two more participants of either gender (both confederates), or only encountered one male confederate (control condition). The female confederate was either average-weight or overweight, was presented as either being the male confederate’s girlfriend or as having no relationship with him, and was either spoken of positively by the experimenter or was not mentioned. Participants were then escorted to another room where they rated the male candidate on personal and professional measures and hiring opinions. Candidates who were in the presence of an overweight woman were judged more negatively than those in the control condition, regardless of what the woman’s relationship was with the confederate, and whether or not the experimenter spoke positively about her. Clearly, even a minimal connection with an overweight person is enough to spread stigma.

Disliking overweight people is seen as the last socially acceptable form of prejudice, apparently unaffected by concerns of social desirability (Crandall, 1994; Puhl & Brownell, 2001). People who are overweight are stereotyped as undisciplined, unintelligent, worthless, inactive and
unappealing, with emotional and psychological problems such as low self-esteem and depression (Robinson, Bacon, & O’Reilly, 1993; Teachman, Gapinski, Brownell, Rawlins, & Jeyaram, 2003). Bessenoff and Sherman (2000) investigated how stereotypes about overweight people can affect people’s actions towards them. In this study participants completed an anti-fat attitudes questionnaire and 127 of them were divided into two groups based on their extreme scores: low-prejudiced and high-prejudiced. Participants viewed 12 15-millisecond images of thin or overweight women. These images alternated with words that were either stereotypic of overweight people, stereotypic of thin people, stereotypes that were unrelated to weight, or non-words. Participants then completed a test measuring their implicit associations. Following this, participants were given a folder containing information about another “participant” who they were to meet, which included a picture of an overweight woman. They were then asked to bring in a chair and wait for this participant. Finally, the researchers measured the distance between where the participant chose to place their chair and the other “participant’s” chair. Results demonstrated that automatically activated attitudes toward overweight women were more negative than for thin women. That is, participants were faster to react to the negative words after viewing images of overweight women than thin women. Furthermore, participants with greater activation of negative traits to the overweight target chose to sit further away from her, demonstrating that their anti-fat attitudes extended to behaviour towards overweight women.

Controllability

One reason why people have reported holding anti-fat attitudes is due to their ideas regarding the controllability of weight. Despite evidence displaying that body weight is the result of genetic, metabolic and biological factors, rather than solely dietary habits (Stunkard et al., 1986), it has been demonstrated that anti-fat attitudes are held in part due to the belief that weight is controllable, and that people get what they deserve. Therefore, overweight people are to be blamed for being their current weight (Crandall, 1994).

For example, in one study 63 university students viewed Polaroids of a woman who had supposedly participated in a prior portion of the experiment. They also received information about her eating and exercise habits, as well as her current weight, and recent weight change. Participants received information about either a slim woman with or without a recent weight loss, a woman of average weight with or without a recent weight loss, or a woman of average weight with a recent weight gain. Results demonstrated that being exposed to someone who had lost weight was associated with stronger beliefs regarding weight as being controllable, regardless of the woman’s weight. Furthermore, those who received information about the woman who had lost
weight reported increased dislike of overweight people and of holding greater perceptions of the woman as being unattractive (Blaine, DiBlasi, & Connor, 2002). These findings demonstrate that weight loss can have negative social implications, as it confirms others’ beliefs that weight is controllable, which may exacerbate prejudice against overweight people.

Indeed, research has shown that when participants are provided with information stating that the prime cause of obesity is due to overeating and lack of exercise (rather than genetics) they score higher on anti-fat attitudes tests. On the other hand, when people are told that someone is overweight due to factors outside of their control, such as a glandular disorder, they evaluated that person more positively (De Jong, 1980). Other research has demonstrated that participants with high anti-fat attitudes rated targets more positively if they had lost weight with high levels of exercise and diet (factors that are perceived to require self-control). For example, Bullock, Stambush, and Mattingly (2011) recruited 80 undergraduate participants who read one of two scenarios in which the target had lost weight by either exercising every day and following a strict diet, or by exercising occasionally and watching what she ate. Even though in both cases the target lost the same amount of weight, participants who were high in anti-fat attitudes rated the high-effort target as being more sociable (i.e. likeable, personable, and friendly) than the low-effort target, arguably because by losing weight in this way they are adhering to the values of discipline and self-control. Those who were moderate or low in anti-fat attitudes did not differ in their ratings of sociability for either target.

A recent study examined the role of Twitter in promoting weight bias. The researchers searched for words such as obese, obesity, overweight and fat on Twitter and chose the 30 most frequently retweeted tweets from each category. A content analysis was conducted to determine which were the common features of frequent retweets. The most retweeted tweets regarding weight focused on humour (usually derogatory). Tweets regarding the individual-level causes of obesity (such as eating and exercise habits) were more commonly retweeted than those about social-level causes of obesity (such as availability of nutritious food), illustrating the Twitter users’ beliefs regarding the controllability of weight (So et al., 2015). Taken together, these studies demonstrate how the primary cause of anti-fat attitudes is the belief that weight is controllable and thus overweight people have chosen this lifestyle.

**Social Comparison Theory**

In seeking an underlying motivation for anti-fat attitudes, some theorists have focused on Social Comparison Theory. As mentioned in Chapter 1, Social Comparison Theory proposes that people compare themselves to others in order to establish their social standing. It has been argued
that these comparisons may serve self-enhancing motives (Festinger, 1954). For example, downward comparisons, or comparing oneself to somebody who is viewed as being worse off, can have a positive influence on one’s self-esteem. This may be a motivating factor to hold or express anti-fat attitudes. Indeed, weight bias appears to enhance perceptions of self for those who are not overweight. Thinner people with greater implicit weight bias have higher appearance evaluations and body satisfaction, higher implicit self-esteem, and increased implicit body image (Gumble & Carels, 2012). For these participants, having anti-fat attitudes was ego-enhancing, through the lens of downwards comparisons.

Further research has provided support for this idea. O’Brien, Hunter, Halberstadt, and Anderson (2007) recruited 227 students and measured their tendency to make appearance-related comparisons, as well as their body image and anti-fat attitudes. Participants with a higher tendency to compare their appearance to others reported a greater dislike of overweight people, as well as holding a stronger belief that those who are overweight lack self-control and willpower. Compared to those who were unlikely to make appearance-related comparisons, those who were likely to compare had worse body image and stronger beliefs regarding the importance of their appearance. The authors speculated that since these participants were particularly invested in their appearance, they believe 1) that others should be as invested as they are, and b) that overweight people who maintain their current weight are demonstrating their indifference towards their appearance. Therefore, they tend to dislike overweight people. Similar inferences could be made regarding the finding that frequent exercisers are more likely to hold anti-fat attitudes (Flint, Hudson, & Lavallee, 2015). These studies demonstrate how the self-enhancing strategy of making comparisons with overweight people (through denigrating them and thus making oneself appear superior) could partially explain the prevalence of anti-fat attitudes (at least in non-overweight and obese people).

**Correlates of anti-fat prejudice**

Up until now I have discussed the causes and functions of denigrating overweight people. In this section I review the literature examining the upstream and downstream correlates of holding these biased attitudes. As discussed above, some correlates of anti-fat attitudes are related to how one views oneself (O’Brien et al., 2007). However stronger predictors of prejudice appear to be related to political ideologies and how one views the world. People who are more likely to hold anti-fat attitudes include those who believe in a just world, those who believe that poverty is controllable, and those who are politically conservative, as well as those who hold conservative

Crandall and Martinez (1996) examined if these correlates were universal or culture-bound by comparing attribution of blame scores from an individualistic culture (the United States) with another culture where individual responsibility is not as central to cultural identity (Mexico). As hypothesised, anti-fat attitudes were lower in Mexico than the United States. Mexicans were also less likely to believe that weight is under the individual’s control. Finally, as predicted and as demonstrated in other studies (Crandall, 1994), belief in a just world, controllable attributions of poverty, and political conservatism contributed to the two cultures’ differences in anti-fat attitudes, by increasing the tendency to make internal, controllable attributions about weight. Taken together, these studies demonstrate how believing that the world is just, being socially and politically conservative, and believing that poverty is controllable, are all predictive of holding anti-fat attitudes. Through these attitudes we see a general assumption – if something bad happens to someone it is likely their own fault (and good things happen to good people; the world is just). As might be expected, such attitudes can translate into prejudice and discrimination against overweight people, as discussed below.

**Discrimination towards overweight people**

In general, overweight people experience discrimination across multiple domains, including employment, medical and health care, the media, and education. Puhl, Andreyeva and Brownell (2008) examined data from the National Survey of Midlife Development in the United States, a survey collected from 1995-1996 of 2290 participants. They found that weight-based discrimination was common in America, and predominantly found in employment settings and interpersonal relationships. Women were penalised more than men for being overweight, with overweight women reporting experiencing similar prevalence rates of weight-based discrimination as race-based discrimination. While men were only at risk of discrimination once they reached a BMI of 35 of higher (i.e., were in the ‘obese’ category), women were at risk at a lower BMI of 27 (i.e., in the ‘overweight’ category). Another study of 3304 adults from a weight loss support group showed that the most common stigmatising experiences were others making negative assumptions, receiving negative comments from children, encountering physical barriers and obstacles, and receiving inappropriate and negative comments from doctors and family members (Puhl & Brownell, 2006).

There has been extensive work on the relationship between socioeconomic status and weight, with the assumption being that people of a low socioeconomic status are larger due to their
lack of resources and education (McLaren, 2007). However, various researchers have proposed that it could also be the case that overweight people experience so much weight-based discrimination in the arenas of employment and education that it significantly impacts their socioeconomic opportunities in life (Ernsburger, 2009; Fikkan & Rothblum, 2012). In sum, it is evident that overweight people report experiencing stigma in various domains. Some of these domains will be discussed in further detail below.

Employment

One commonly researched area is discrimination against overweight people in employment, both in hiring practices and in inequities in wages, promotions and employment termination. In a simulated hiring study, students were given a resume, personnel selection booklet and a photo of the candidate, who was either average-weight or overweight (O’Brien et al., 2008). Results demonstrated that anti-fat discrimination was evident across both implicit and explicit measures, and that the overweight target was rated as less qualified and assigned a lower salary than the thinner target. Other studies have confirmed that participants report preferring to work with average-weight rather than overweight targets, provide significantly more negative judgements of overweight targets, and are less likely to hire them (Bellizzi & Hasty, 1998; Klassen, Jasper, & Harris, 1993; Melville & Cardinal, 1997; Pingitore, Dugoni, Tindale, & Spring, 1994). Furthermore, overweight people notice the discrimination. In one study (N=2249), 25% of participants reported having experienced job discrimination because of their weight, including being the target of derogatory humour, pejorative comments from supervisors and co-workers, and differential treatment such as being denied promotions (Puhl & Brownell, 2006). Some overweight people have indicated that they had been fired due to their weight, or did not receive benefits such as health insurance because of their size (Rothblum, Brand, Miller, & Oetjen, 1990).

Medical and health care

Health care professionals often report holding negative attitudes towards overweight people. For example, 1620 physicians completed a questionnaire examining their attitudes towards obesity and its treatment, including their beliefs regarding the causes of obesity, attributes of obese individuals, beliefs about treatment, and weight loss outcomes. Physicians reported a reluctance to treat obese patients, indicating that they view obesity as a predominantly behavioural issue, related to physical inactivity. Almost half of them cited “psychological problems” as an important cause of obesity. Over 50% of participants reported that they view obese patients as awkward,
unattractive, ugly, and non-compliant, and over a third characterised them as weak-willed, sloppy, and lazy (Foster et al., 2003).

Experimental work has found similar results. In one study 122 physicians were provided with one of six patient charts. The patient presented with a headache and was either male or female; average-weight, overweight, or obese. Participants indicated on a standard medical procedure form how long they would spend with the patient, which tests they would conduct, and their affective and behavioural reactions towards them. Results demonstrated that patient weight was an influential factor on how the physician treated the patient. Participants indicated that although they would order more tests for the heavier patients, they would spend less time with them and viewed them more negatively than patients of average weight. As patient weight increased, participants rated them as being less healthy, worse at taking care of themselves, and less self-disciplined. They also reported liking their jobs less, having less patience, and feeling a decreased desire to help the patient. Finally, they believed that the heavier patients were a greater waste of their time, more annoying, and less likely to comply with medical advice. The authors suggested that these attitudes might create a self-fulfilling prophecy, whereupon physicians treat their overweight patients less favourably and as a result the patients may respond negatively or be reluctant to return, confirming the physicians’ beliefs of them as unhealthy and unwilling to comply with their advice (Hebl & Xu, 2001). Indeed, doctors have been named by overweight people as being the second most common source of weight-based stigma (Puhl & Brownell, 2006).

Similar anti-fat prejudice have been found regarding the attitudes of other health professionals, including nurses (Brown, 2006), medical students (Wigton & McGaghie, 2001), fitness professionals (Hare, Price, Flynn, & King, 2000), exercise science students (Chambliss, Finley, & Blair, 2004), dietetics students (Berryman, Dubale, Manchester, & Mittelstaedt, 2006), and dieticians (Harvey, Summerbell, Kirk, & Hill, 2002). Again, these health care providers’ attitudes have negative influences on overweight people, who report having experienced stigma from them (Puhl & Brownell, 2006). These studies demonstrate the prevalence of weight-based stigma in the medical community, which has clear negative impacts on the physical and mental health of overweight patients.

**Education**

Education is another arena in which weight-based discrimination is prevalent. Neumark-Sztainer, Story, and Harris (1999) mailed surveys to 115 junior and high school teachers within a large school district. Participants viewed obese people as less healthy, more self-conscious, as
encountering more negative social attitudes and having lower self-esteem than people of average weight. Clearly, it is not uncommon for secondary-school teachers to hold problematic attitudes and beliefs regarding their overweight students.

Weight-based discrimination has also been demonstrated to be present in tertiary education. In their seminal study, Canning and Mayer (1966) examined school records and ratios of acceptance rates into university and found that there was less obesity in college than in high schools, with no differences in academic criteria or application rates. There was also no relationship between social class and obesity. They theorised that teachers and college interviewers display marked discrimination against obese adolescents, especially females.

Following on from this, Crandall (1991) recruited 241 college students to complete surveys regarding variables such as their weight and source of college funding. Thinner women were more likely to receive financial support for college from their parents, indicating that larger women appear to be victims of weight-based discrimination within their families.

**Media**

Finally, weight bias has also been demonstrated to be present in the way that overweight people are presented in the media. White, Brown and Ginsburg (1999) conducted a content analysis on one episode of all American broadcast television networks’ regularly scheduled fiction programs broadcast during primetime and soap operas broadcast during the day. They found that overweight people are rarely seen, and if present are less likely to be portrayed in romantic relationships, are more likely to be eating, and are often the objects of humour and ridicule. Similarly, Fouts and Burggraf (2000) conducted a content analysis on two episodes of eighteen situation comedies. They coded each female central character for body weight, negative verbal comments she received from males, and audience reaction to these comment. Heavier female characters received more negative comments from male characters, which were typically reinforced by audience laughter. Himes and Thompson (2007) speculate that the frequency of weight bias that is present in the media demonstrates its social acceptability. Below I discuss some of the negative consequences that can arise from being discriminated against due to one's weight.

**Negative consequences of prejudice and discrimination**

Anti-weight bias has profoundly negative consequences on the mental health of those subject to it. For example, weight-based teasing has been suggested as a mediator between obesity and depression (Stunkard, Faith, & Allison, 2003). In their study of 93 obese treatment-seeking participants, Friedman and colleagues (2005) found that frequency of stigmatisation was positively associated with depression and general psychiatric symptoms, and was negatively
related to body image and self-esteem. Others have also found these relationships between weight-based stigmatisation and depression (Chen et al., 2007; Rosenberger, Henderson, Bell, & Grilo, 2007), self-esteem (Annis, Cash, & Hrabosky, 2004; Carr & Friedman, 2005) and body dissatisfaction (Jackson, Grilo, & Masheb, 2000; Vartanian & Shaprow, 2008).

Weight stigma can also have negative influences on physical health. As mentioned earlier, patients who experience stigma are less likely to seek healthcare, which can significantly hinder their physical health (Puhl & Brownell, 2006). Furthermore, weight stigma can affect exercise behaviour. Vartanian and Shaprow (2008) recruited 100 female participants to complete measures of stigma frequency, body dissatisfaction, exercise motivation, and current exercise behaviour. They found that stigma was positively related to an increased desire to avoid exercise, even after controlling for BMI and body dissatisfaction.

Finally, weight stigma can also affect eating patterns. In a study by Benas and Gibb (2008), 203 participants completed measures of frequency of weight-based teasing, depressive symptoms and cognitions, and dysfunctional and disordered eating and cognitions. Weight-based teasing was related to eating disorder symptoms, and was more related to dysfunctional eating cognitions than depressive cognitions. Similarly, Puhl and Brownell (2006) found that weight-based teasing influenced eating behaviours, with most participants reporting that they coped with weight bias using strategies such as eating more food, refusing to diet, and attempting eating restraint. Likewise, experiencing stigma has been linked to binge eating and decreased interest in exercise or dieting (Nolan & Eshleman, 2016). Furthermore, recent research has linked weight stigma with decreased body esteem and increased perceptions of barriers to healthy eating (Schmalz & Colistra, 2016). Taken together, these studies demonstrate the physical and mental health consequences of experience weight-based stigma.

Some overweight people have reported that they cope with weight bias by confirming others’ negative perceptions, potentially because they believe that their status is temporary and therefore are less inclined to challenge stereotypes that others may hold regarding overweight people (Crocker, Cornwell, & Major, 1993; Quinn & Crocker, 1998; Snyder & Haugen, 1995). Indeed, it has been proposed that those who are overweight see themselves as reluctant, temporary members of a low status group which they can leave if they lost weight (Gumble & Carels, 2012; Puhl & Brownell, 2003). Social identity literature describes this as identity negation; where members of a derogated group attempt to disassociate themselves from this aversive identity, and believe that they can escape this category (Deaux & Ethier, 1998). This may explain why those who are overweight still demonstrate strong anti-fat attitudes, despite belonging to this group.
(Schwartz et al., 2006). Unfortunately, confirming others’ negative perceptions of overweight people as a coping strategy frequently results in increased negative affect (Crocker et al., 1993). However, others utilise more positive coping strategies, as detailed below.

**The Fat Acceptance movement**

A prime example of this can be seen in the Fat Acceptance movement, which includes groups such as the National Association to Advance Fat Acceptance (NAAFA, 2016), who promote embracing positive attributes of being overweight, and the idea that negative attributes are a result of societal attitudes. Many self-described ‘fat activists’ subscribe to the idea of Health at Every Size (HAES), which promotes the belief that exercise and adequate nutrition have better long-term health effects than does weight loss (Bacon, Stern, Van Loan, & Keim, 2005). They believe that being overweight is not a condition that is in need of treatment, and that losing weight is not as easy as merely eating less or exercising more. Furthermore, fat activists espouse that the medicalisation of obesity promotes self-hatred and helplessness in overweight people (Cooper, 2008) and that this increased focus on weight can result in people utilising excessive and disordered methods of weight loss, such as getting bariatric surgery (Meleo-Erwin, 2011).

The Fat Acceptance movement has had a positive influence on those who are overweight, and have contact with the group. This is unsurprising, as feeling connected with a group has often been linked to increased self-esteem, improved academic performance, and improved health and well-being (Lee & Robbins, 1998; Walton & Cohen, 2011). Of relevance to the current issue, obese people who blog on an online fat-acceptance community about experiencing weight-based stigma reported feeling empowered, included, supported, connected to others and accepting of themselves (Dickins, Browning, Feldman, & Thomas, 2016; Dickins, Thomas, King, Lewis, & Holland, 2011). Another study recruited 128 obese women who believed that overweight people should accept their body size, and/or do not need to change their size, and/or were publically committed to changing cultural attitudes towards overweight people. Advocating for societal change was related to higher body esteem, autonomy, self-acceptance, personal growth, and reduced levels of body shame (McKinley, 2004).

Finally, a study by Robinson and colleagues (1993) involved presenting overweight women with magazines, books, experiential exercises and other materials that promoted the physical beauty of overweight people, minimised the perceived disability associated with being overweight, presented information about the discrimination and prejudice overweight people face, and encouraged assertiveness, political activism and consumer pressure techniques to refute this prejudice. Afterwards, participants reported lower levels of fat phobia and improved self-esteem.
It appears that subscribing to Fat Activism or its beliefs may provide a positive barrier with which to counter the damage that stigma may cause.

**Feminism**

Another individual difference variable that is associated with attitudes to body weight is feminist identification. Chapter 4 examines if societal attitudes, such as feminist identification, can predict finding larger bodies attractive. If this were the case then potentially, feminism could be an important influencing factor in reducing stigma against those who are overweight. It has been suggested that feminism may assist in focusing attention away from appearance towards intrinsic factors such as intelligence, as well as encouraging scepticism towards the media and the cultural messages it sends regarding appearance (Murnen & Smolak, 2009; Peterson, Grippo, & Tantleff-Dunn, 2008). Indeed, in one study 250 women completed questionnaires regarding sociocultural appearance-related pressure and feminist attitudes and behaviours. Feminist beliefs moderated the relationship between media awareness and thin-ideal internalisation, indicating that in an environment characterised by media exposure to the thin-ideal, feminist beliefs may be protective, potentially by giving women a different lens with which to interpret these images and information (Myers & Crowther, 2007). However, a meta-analysis of 26 studies on the subject found that the relationship between feminist identity and internalisation of the media was stronger than the relationship between feminist identity and body attitudes (Murnen & Smolak, 2009).

Despite the body of evidence regarding how societal beliefs about beauty can be affected by feminism, only two studies have examined how feminism influences whether this translates to finding a variety of body types to be attractive. The first recruited 218 women to rate black and white images of 50 women on attractiveness, 10 from each of the 5 BMI categories. Participants also completed measures of feminist ascription. Findings indicated that BMI was an important predictor of physical attractiveness ratings, regardless of feminist ascription. That is, regardless of feminist ascription, women rated the thinner figures as being most attractive (Swami & Tovée, 2006).

In a follow up study, Swami, Salem, Furnham and Tovée (2008) asked 129 feminist and 132 non-feminist women to rate black and white photographs of 10 women’s bodies on which was the largest and smallest figure that they considered to be physically attractive, and which figure overall was considered to be the most attractive. Again, feminism did not influence which figure was chosen as the most attractive. The authors (as well as others; see Tiggemann & Stevens, 1999) suggested that this finding is an indication that the thin ideal is so pervasive that even feminist
women are not protected against it. However, feminist women did consider a wider range of female figures as being attractive, compared to non-feminist women.

The results of these studies suggest that while both feminist and non-feminist women find the same thin body attractive in women, feminist women are more open to the possibility of larger body types as being attractive. However, these studies did not include men, either as targets of attraction or as participants. As mentioned in Chapter 1, men’s bodies are being more objectified than even before. It is therefore crucial to include them in the discussion of what is considered to be attractive. Second, evidence indicates that acceptance of feminist attitudes have been increasing in men (Bolzendahl & Myers, 2004). Therefore, when discussing feminist identification there is no reason not to include men. In Chapter 4, I examined the relationship between feminist identification and what men and women find attractive when viewing a range of men and women’s bodies.

**Reducing anti-fat prejudice**

Some research has focused not on fat acceptance, but on reducing anti-fat attitudes among those who hold fat stigma. Below I examine the relevant research on the power of empathy, consensus, education, and contact to reduce prejudice. As can be seen, evidence for the efficacy of these interventions is mixed.

**Empathy**

Some researchers have attempted to reduce anti-fat attitudes by evoking empathy. This strategy has been effective in promoting positive attitudes towards other stigmatised groups, such as the homeless, people with AIDS, or even convicted murderers (Batson et al., 1997). However, it has predominantly not been uniformly successful in reducing weight bias. In one study, 90 participants were provided with a scenario in which an obese person described experiencing prejudiced jokes and social rejection because of her weight, as well as her sadness and hurt feelings. Following this, participants in this condition displayed less bias against overweight people. A follow up study found similar results when 63 participants were provided with a news story where an obese woman was sent to a “fat camp” where she was verbally abused and forced to exercise until she died. However, in both of these studies these findings were only significant for overweight participants. For those who were not overweight, empathy did not effectively reduce their anti-fat attitudes (Teachman et al., 2003).

In another study, 108 participants watched either a control video or a video that evoked empathy towards overweight people and the cruel treatment and stigma they face. They then completed empathy scales and watched either a video that portrayed overweight women positively
or negatively. Following this, they completed implicit and explicit measures of their attitudes towards overweight people. Results demonstrated that neither the empathy video nor the positive video influenced implicit or explicit anti-fat bias (Gapinski, Schwarz, & Brownell, 2006). Taken together, these studies indicate that in general, increasing empathy towards overweight people may not be an effective strategy to reduce anti-fat attitudes. Whilst this is discouraging regarding weight bias interventions, some have speculated that increasing empathy might be a potential strategy to increase in-group favouritism in overweight people (McHugh & Kasardo, 2012).

Consensus approach

Other strategies to reduce weight prejudice that have been successful include taking a consensus approach via informing participants that others hold favourable attitudes towards overweight people. Puhl, Schwartz, and Brownell (2005) conducted three studies where participants were informed that others held favourable attitudes or stereotypes about obese people. They completed measures regarding their attitudes towards, and perceived traits of, obese people. One week later, when the participants returned, they were provided with (bogus) information about another participant’s results. These results were the original participants’ scores on positive traits of obese people inflated by an average of 20 points (the favourable feedback condition) or the original participants’ scores of negative traits of obese people inflated by an average of 20 points (the unfavourable feedback condition). They then completed the initial measures again. When participants were told that others held favourable attitudes or believed in positive stereotypes of obese people, participants themselves reported similar beliefs. This effect was even stronger when it came from an in-group member (such as other students from that university) than an out-group member.

Comparably, Zitek and Hebl (2007) recruited 270 participants and read aloud statements about discrimination from individuals who were Black, Gay, obese, ex-convicts or racists. A confederate verbally expressed their agreement with the statements, and the participant was called upon to follow suit. Depending on which condition the participant had been assigned to, the confederate either condemned or condoned discrimination, or wrote their responses down (control condition). One month later, participants were contacted to complete the same measures. Participants were more likely to favour or oppose discrimination in line with the opinion that they heard a month previously. Although this study did not solely focus on obese people, its findings (as well as those found by Puhl, Schwartz, and Brownell, 2005) demonstrate that there is some success in reducing weight bias by altering social norms regarding discrimination.
Education

Others have attempted to reduce anti-fat attitudes with the provision of information regarding the causes of obesity. It has been speculated that reducing prejudice this way may be difficult, due to the fact that automatically activated responses appear to play a larger role than beliefs in determining people’s attitudes towards overweight people (Bessenoff & Sherman, 2000). Therefore, attempting to change negative stereotypes may not be as useful in reducing prejudice as inhibiting the automatic activation of negative evaluations that may occur when one is near an overweight person. Perhaps because of this, knowledge based interventions have had mixed success in reducing negative weight-based attitudes. For example, Crandall (1994) recruited 42 participants and divided them into one of two conditions: the ‘persuade’ condition, who were provided with information regarding weight metabolism (including twin studies, genetics, and the effects of dieting on metabolism) or the control condition, who were given information about the role of stress on illness. All participants then completed measures about their opinion regarding weight and weight loss. Results demonstrated that those in the persuade condition scored lower in the dislike subscale of the anti-fat attitudes measure, although their scores were not different for the other subscales.

Similarly, Puhl et al. (2005) found that when they provided participants with information about the uncontrollable genetic and biological causes of obesity, participants’ belief in the positive traits of obese people did not improve. Rather, their beliefs in the negative traits of obese people decreased, as did their beliefs regarding the controllability of obesity. Likewise, Bell and Morgan (2000) assigned 184 children to one of three conditions where they watched a video of a child that was either of average-weight, obese, or obese with a voiceover that explained that the target was obese due to a glandular issue. The children then completed measures where they assigned adjectives to the target and indicated to which extent they would interact with them. Providing medical information had a positive effect on attitudes towards the overweight target for younger children, but had a negative effect on the older children and how much they would interact with the target.

Finally, Teachman and colleagues (2003) recruited 144 participants to complete implicit and explicit association tests after receiving either no information, information regarding obesity being caused primarily by genetic factors, or information regarding obesity being caused by overeating and lack of exercise. They found that providing education regarding the genetic influence on obesity did not result in a lower bias against obese people on either the implicit or
explicit measures. Taken together, these studies show mixed support towards education-based weight bias.

**Contact**

Prejudice reduction literature reveals that traditionally, one of the most successful ways to reduce prejudice between groups is for them to have increased contact. The contact hypothesis states that under favourable conditions (equal status, cooperative interdependence, institutional support, and mutual goals) increased contact between groups can reduce anxiety and fear about the outgroup, leading to decreased negative attitudes and thus reducing prejudice (Allport, 1954). In contrast, when groups are isolated from each other there is little chance for the balming effects of positive contact to take effect, and as a result prejudice and conflict can arise. Pettigrew and Tropp (2006) conducted a meta-analysis examining 515 studies on the influence of contact on prejudice and found that indeed, there was a significant negative relationship – increased intergroup contact resulted in reduced prejudice towards the outgroup in 94% of the samples. This effect was found across different subgroups, was not specific to interracial conflict, and was not an artefact of participant selection or publication bias.

Expanding upon these results, Barlow et al. (2012) conducted two studies to examine the impact of negative contact on prejudice. The first was a meta-analysis examining seven studies involving contact valence and prejudice. They found that positive contact was linked to lower levels of prejudice, and that the association between contact quantity and prejudice was stronger when the contact was negative than when it was positive (positive-negative asymmetry). Study 2 examined these effects further, recruiting 441 participants who completed measures on positive and negative contact, modern racism, old-fashioned racism, issue avoidance, active avoidance and scepticism about Obama’s birthplace. Results demonstrated that again, negative contact was a stronger and more robust predictor of racism, avoidance, and scepticism regarding U.S. President Obama’s birthplace.

Despite the promise that contact shows in reducing prejudice, researchers have not yet examined whether anti-fat attitudes can be reduced with the use of contact, nor the potential ability of negative contact to increase anti-fat attitudes. Thus, Chapter 5 of this thesis will present the first empirical application of contact theory to the issue of prejudice towards overweight people, and examine if contact with them differentially affects people of various weights (Alperin et al., 2015). This study also explores if there are any potential negative consequences to contact with overweight people; if it has a relationship with personal body image, or behaviours towards the body.
In this chapter I have reviewed literature on bias, discrimination and prejudice towards overweight people. I discussed the causes and predictors of anti-fat attitudes, and interventions aiming to reduce weight bias. Finally, I outlined gaps in the literature that will be filled by this Chapters 4 and 5 of this thesis – examining contact as a weight bias reduction intervention, and the relationship between feminism and beauty ideals regarding which bodies are considered to be attractive.
CHAPTER 4

Feminism is associated with finding larger women attractive, but only among male perceivers

As mentioned in Chapter 2, one factor that has been hypothesised to be protective against societal pressures of attractiveness is feminism. Arguably, holding a feminist stance would assist in being critical of societal pressure to appear a certain way, predominantly perpetrated by the media and the arguments and images it presents as the ‘ideal’ (Murnen & Smolak, 2009). In general, this has not been found to be the case, with feminists and non-feminists rating the same thin bodies as being the most attractive (Swami et al., 2008; Swami & Tovee, 2006). However, there is evidence that feminist women do consider a larger range of bodies to be attractive, compared to women who do not describe themselves as feminists (Swami et al., 2008).

Traditionally, past research has required women to rate the bodies of other women. The work presented in Chapter 4 comprises the first study in which women were also asked to rate the bodies of men as well as those of women. Since men are increasingly becoming more likely to describe themselves as feminists (Bolzendahl & Myers, 2004) this study is also the first to include their input.

In this study, I measured feminist identification in 359 heterosexual men and women after asking them to rate male and female bodies, which ranged from very thin to very large. Participants were asked which figure was the most attractive, and identified the range of figures that they considered to be attractive. This study is the first to examine how feminism predicts what men and women find attractive in other male and female bodies. These results have important implications regarding potential ways to decrease negative attitudes towards those whose bodies may fit outside of what is presented as the ideal. The following manuscript is currently under review at the journal Sex Roles.
Abstract

Past research has focused on how feminism influences what is considered attractive in others. However, this research has predominantly excluded men, both as participants and as those rated for attractiveness. This study examines how both women and men’s feminist identification might predict the extent to which they find women and men of differing sizes attractive. Three hundred and fifty-nine participants indicated how much they identified as a feminist, and rated various-sized figures for attractiveness. Results showed that the higher men scored on feminist identification, the more likely they were to report attraction to a larger female figure. Unexpectedly, feminist identification in women was unrelated to their ratings of male or female bodies. Cultural norms dictating what is traditionally considered to be attractive may influence women irrespective of feminist identity. Importantly, however, feminism may have an indirectly positive effect on women by relaxing men’s standards for female beauty.

Keywords: weight, bodies, attraction, feminism
Feminism is associated with finding larger women attractive, but only among male perceivers

Body image concerns have been increasing throughout the last decade in Western society, to the point where having a negative perception of one’s body is considered normative (Tiggemann, 2011). Inferences about others are often made based on their bodies, and people who are unable to meet beauty ideals (e.g., slimness in women) are judged harshly for it (Crandall, 1994). For example, dating profiles of larger women are evaluated negatively relative to those of slim women (Smith, Schmoll, Konik, & Oberlander, 2007), and men are less likely to respond to dating advertisements of obese women than they are to women with a history of drug addiction (Sitton & Blanchard, 1997). Overweight and obese women are less likely to date than other women, and when they do, report being less satisfied with their relationships (Sheets & Ajmere, 2005). Body size also has implications when it comes to friendships. For example, larger women report having fewer close friends than thinner women (Sarlio-Lahteenkorva, 2001), and overweight women who are stigmatized by their friends report increased depressive symptoms (Puhl & Brownell, 2006). It is clear that women’s body size influences whether people are romantically attracted to them, as well as their friendship relationships. As is evident from the brief review above, however, existing body image research tends to focus more on women than men. Research that has included men suggests that overweight and obese men are also discriminated against (Puhl & Brownell, 2006), albeit to a lesser extent than women (Fikkan & Rothblum, 2012). It is therefore imperative to examine factors that might bolster people’s acceptance of a range of female and male body sizes.

Feminism

In this paper, feminism is examined as a potential psychological factor that might be linked to what we see as attractive in others, increasing the range of body types that is considered beautiful and desirable. Objectification theory suggests that objectification of women leads them to internalize an outsider’s perspective of their physical self, which in turn leads to excessive body monitoring and concern about how their body looks rather than feels (Fredrickson & Roberts, 1997). Researchers have suggested that feminism could act as a filter through which one could challenge cultural messages about body image (Myers & Crowther, 2007). Although the term feminism has many different definitions, it is generally agreed upon that feminists recognize that discrimination against women exists, have a feeling of shared fate with women as a group, and work to improve women’s status (McCabe, 2005; Murnen & Smolak, 2009). Feminism may also assist to focus attention away from appearance towards intrinsic factors such as intelligence, and
help people become critical of media representations of appearance ideals (Murnen & Smolak, 2009; Peterson, Grippo, & Tantleff-Dunn, 2008).

Research has demonstrated that a feminist perspective may be protective in terms of personal body image. In line with theorizing (Myers & Crowther, 2007), focus groups have revealed that their feminist participants report embracing body diversity (Rubin, Nemeroff, & Russo, 2004). They also report having developed strategies to resist cultural pressures regarding attractiveness, as well as reclaiming their bodies through activities such as athletics and dance (Rubin et al., 2004). Other research has found that the more women subscribe to feminist attitudes regarding appearance, the more they avoid mainstream depictions of women and the less they tend to evaluate themselves based solely on their appearance (Coles & Swami, 2013; Dionne, Davis, Fox, & Gurevich, 1995). Experimentally, an intervention study aiming to decrease body image disturbance demonstrated that increasing feminist identification in women led to increased body satisfaction (Peterson, Tantleff-Dunn, & Bedwell, 2006). Further, a meta-analysis confirmed that for women, a mature and consolidated feminist identity helps protect against body dissatisfaction, and is linked to a reduced drive for thinness and lower scores on eating disorder inventories (Murnen & Smolak, 2009, but see Cash et al., 1997 and Rubin et al., 2004). However, qualitative research indicates that even feminist activists may feel a disparity between their political views and personal body dissatisfaction, with the latter resulting in feelings of guilt and shame (Coles & Swami, 2013).

It has also been demonstrated that sexism (as distinct from feminism) is linked to how people judge others’ appearances. For example, women who are sexist endorse more beauty ideals relative to non-sexist women (Forbes, Collinsworth, Jobe, Braun, & Wise, 2007). Additionally, when asking participants to rate a series of figures as being 1) the most attractive, 2) the largest figure that they considered to be attractive, and 3) the smallest figure that they considered to be attractive, Swami and colleagues (2010) found that for both men and women, sexist beliefs predicted ratings of thinner women as being most attractive. This research informs the present work, however it should be noted that while sexism is related to feminism, it is not simply feminism in reverse. As stated earlier, identifying as a feminist involves more than just rejecting gender inequality, but rather defining oneself as a member of a cause, dedicated to reducing and eradicating gender inequality.

To date, only two papers have examined how feminist identification might influence what we find attractive in others. First, Swami and Tovée (2006) asked 72 non-feminist and 36 feminist heterosexual women to rate black and white images of 50 real but faceless women by responding
to the question: “how beautiful is the person in the photograph?” They found that regardless of feminist ascription, women rated those with a body mass index (BMI) of about 21 as the most beautiful. A BMI of 21 is towards the lower end of the healthy weight range, as indexed by BMI classifications set by the World Health Organization (1995).

Comparably, Swami, Salem, Furnham and Tovée (2008) asked feminist and non-feminist women to view 10 of the aforementioned figures of women, and identify which were the largest and smallest figures that they considered to be physically attractive, as well as the figure that they considered to be the most attractive. Again, they found that feminist and non-feminist women did not differ regarding which figure they considered to be the most attractive, a figure with a BMI of around 18.45 (i.e., underweight; WHO, 1995). However, feminists chose a larger range of bodies as being acceptably attractive compared to non-feminists.

Collectively, this work hints at an intriguing link between women’s feminist identity and preferences. It suggests that both feminist and non-feminist women both see beauty as being “thin”, but suggests that feminists are open to the possibility of larger body types being acceptably attractive. However, this research does not consider the fact that often women’s bodies are also assessed by men (Coles & Swami, 2013), and further, that both men and women assess both male and female bodies. In general, women’s physical attractiveness is seen as paramount amongst their qualities (Forbes et al., 2007). Therefore, research regarding physical attractiveness has primarily focused on what is considered to be physically attractive in women. Recently, however, the ‘ideal’ body for men has been presented in the media as more muscular, visible and objectified than ever before (Blond, 2008; Buote, Wilson, Strahan, Gazzola, & Papps, 2011; Daniel & Bridges, 2010). Therefore, it is crucial to include men when discussing physical attraction. There is also evidence that male acceptance of feminist attitudes have been increasing in men over the last 25 years (Bolzendahl & Myers, 2004), and thus it as a valid identity and potential factor driving men’s preferences for female body types. Finally, feminism, while not explicitly targeting restrictive standards of male beauty, does work to challenge restrictive gender roles and norms for both men and women. As of yet, there has been no work exploring whether this extends to men’s bodies.

**The Current Study**

The primary goal of the present study is to explore how men and women’s feminist identification is associated with what is considered to be attractive in both men and women. In line with past research on feminism (Swami & Tovée, 2006; Swami et al., 2008), it was not expected that feminist identification would predict which female body shape women find *most* attractive. It is, however, expected that female feminists will view a larger range of female body sizes as
It is also expected that feminism in women would predict accepting a wide range of male bodies as attractive. Similarly, given that feminism involves challenging gender norms, with a particular focus on female equality, choice, and freedom, it is expected that feminism will predict men finding a wide range of female body types attractive. It is also tentatively proposed that feminist men, relative to non-feminist men, might choose a larger female body type as the most attractive. Men are unlikely to have internalized the female thin ideal to the same extent as women, as it is less personally relevant. Thus, for them, feminism might be linked to a relative rejection of the thin ideal for women. Note that a-priori predictions have not been made for how male feminism might predict the extent to which they see different male body shapes as attractive.

In this study, both male and female participants rated the extent to which they found a range of male and female body types attractive. It was recognized that feminist identification might work to predict ratings of attractiveness of these body types differently for men and women, and consequently we tested the interaction between participant gender and feminist identification as a predictor of ratings for both men and women. Although firm a priori hypotheses about the direction of potential interactions were not made, competing possibilities were identified. First, feminism is more personally relevant to women, and thus may have more predictive power for them relative to men. Alternatively, because feminism is more focused on women than men, it is possible that feminism may be predictive of men’s scores about women’s bodies, but not women’s scores about men’s bodies.

**Method**

**Participants**

Participants (200 male and 200 female) were approached from the campus of a large university. They were aged between 17 and 35 ($M=20.29$) and were reimbursed for their time with a small chocolate. They were provided with an information sheet, and were told that this study was examining ‘social attitudes’. Participants were told they could leave questions blank if they wanted to and could end their participation at any time with no penalty. If they withdrew, their data were deleted. They were provided with a debriefing sheet following their participation. The questionnaires were then locked in a secure place. Because this study involved rating members of the opposite sex as romantically attractive, 41 participants who did not identify as heterosexual or did not specify their sexual orientation were removed from the data set prior to analyses. This left us with 359 participants (180 male and 179 female). Ethical clearance for this study was obtained by the Behavioural and Social Sciences Ethical Review Committee at the University of Queensland.
**Procedure and Measures**

**Demographics** included age, gender and sexual orientation.

**Identification as a feminist** was measured by participants indicating the extent to which they agreed with the following three statements: 1) I identify as a feminist, 2) Feminists and I have a lot in common, and 3) Being a feminist is an important part of my identity (1=Strongly disagree to 7=Strongly agree, with higher scores indicating stronger identification as a feminist, \( \alpha=.93 \)). This scale was adapted from a standard social psychological measure of ingroup identification (Leach et al., 2008), specifically the ‘individual self-stereotyping’ and ‘group centrality’ subsections. To avoid priming effects, identification as a feminist was the last variable measured.

**Figure ratings** were assessed by asking participants to rate a series of male and female figures varying in body size. To create these figures the Photographic Figure Rating Scale created by Swami and colleagues (2008) was drawn upon. However, their figures were black and white images of real women’s bodies, which varied in height as well as weight. Other existing figure scales such as the Stunkard Scale (Stunkard, Sørensen, & Schulsinger, 1983) and Pulvers and colleagues’ Figure Rating Scale (Pulvers et al., 2004) have similar issues, potentially due to being hand-drawn. For this study, figures were created using Photoshop in order to create figures that were more standardized in height, weight and proportion.

For both male and female stimuli, visual representations of 9 bodies varying in weight were created (see Figures 1 and 2). The figures were designed such that the starting figure would appear to be underweight and the top figure would appear to be obese. Each figure was manipulated to increase body weight by approximately 10%, resulting in 9 overall figures, and a rating scale of 1-9. While we believe the approach taken presents realistic figures varying at the interval level in size, it should be noted that this scale has not been validated.

Participants were asked to pick (a) which figure was the most attractive to them, and (b) which were the largest and smallest figures that they considered to be attractive. The smallest figure rating was subtracted from the largest to create a ‘range’ scale, indicating how large a range of figures participants found attractive. Heterosexual male participants were then asked to indicate which female body type they would most like to date (see Figure 1). All participants then completed the same questions regarding the male figures, with heterosexual female participants answering the dating question regarding male figures (see Figure 2). This left us with ratings of male and female attractiveness and range for all participants, as well as a dating score for male participants rating female figures and vice versa. Participants’ evaluations of the figures were measured prior to feminist identification in order to avoid priming feminism.
Perceived weight category was measured as in past research (Halmi, Falk, & Schwartz, 1981; Pulvers et al., 2004) by asking participants to choose from a list of five descriptors to indicate which best described their own bodies. These included: 1) very underweight, 2) underweight, 3) average weight, 4) overweight, and 5) very overweight. This measure was chosen over more popular measures of weight category such as BMI, as it has been correlated with BMI in other research (Lee et al., 2005) and is less invasive.

Results

Means, standard deviations and intercorrelations for all measures are displayed in Table 1 and 2. In general, men scored slightly below average (M=2.60, SD=1.60) on the feminist identification scale, with almost 30% of respondents choosing the lowest possible score. Women scored above the midpoint on the feminist identification scale (M=3.87, SD=1.63), scoring significantly higher than men, t(353)=-7.43, p<.001.
Table 1

Means, standard deviations and intercorrelations – Male participants

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
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<th>2</th>
<th>3</th>
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<th>5</th>
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<td>-</td>
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<tr>
<td>Feminist identification</td>
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<td>1.60</td>
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<td>.08</td>
<td>1</td>
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<td>-</td>
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<tr>
<td>Most attractive (female figures)</td>
<td>4.16</td>
<td>.69</td>
<td>-.01</td>
<td>.22**</td>
<td>.22**</td>
<td>1</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Most attractive (male figures)</td>
<td>4.19</td>
<td>.84</td>
<td>.14</td>
<td>.17*</td>
<td>.02</td>
<td>.21*</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Range (female figures)</td>
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<td>-.07</td>
<td>.15*</td>
<td>.12</td>
<td>.18*</td>
<td>.10</td>
<td>1</td>
<td>-</td>
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<tr>
<td>Range (male figures)</td>
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<td>1.58</td>
<td>-.05</td>
<td>-.02</td>
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<td>.19*</td>
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<td>.25**</td>
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<tr>
<td>Most like to date (opposite sex figures)</td>
<td>4.18</td>
<td>.76</td>
<td>.01</td>
<td>.17*</td>
<td>.30***</td>
<td>.75***</td>
<td>.13</td>
<td>.20**</td>
<td>.14</td>
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*Note.* *p*<.05, **p*<.01, ***p*<.001.
Table 2
Mean, standard deviations and intercorrelations – Female participants

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<th>Mean</th>
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<td>-</td>
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<tr>
<td>3. Feminist identification</td>
<td>3.87</td>
<td>1.63</td>
<td>.01</td>
<td>.00</td>
<td>1</td>
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<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>4. Most attractive (female figures)</td>
<td>3.95</td>
<td>.74</td>
<td>.18*</td>
<td>.10</td>
<td>-.03</td>
<td>1</td>
<td>-</td>
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<td>-</td>
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<tr>
<td>5. Most attractive (male figures)</td>
<td>4.24</td>
<td>.78</td>
<td>.19**</td>
<td>.06</td>
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<td>.38***</td>
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<td>6. Range (female figures)</td>
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<td>-.10</td>
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<td>-.00</td>
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<td>8. Most like to date (opposite sex figures)</td>
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<td>.26***</td>
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</table>

Note. *p<.05, **p<.01, ***p<.001.
Regression Analyses

Hierarchical regression analyses were used to test predictions. For each set of analyses, age and weight category were entered at Step 1 as control variables. The key predictors - participant gender (1=male, -1= female) and identification as a feminist (mean-centered) - were entered at Step 2. At Step 3 the interaction term between feminist identification and gender was entered. See Table 3 for full regression results.

Table 3

<table>
<thead>
<tr>
<th>Regression variables</th>
<th>Step 1</th>
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<tr>
<td>Age</td>
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<td>Gender</td>
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<td>.18**</td>
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<tr>
<td>Gender*Fem ID</td>
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<tr>
<td><strong>Most attractive (male figure)</strong></td>
<td></td>
<td></td>
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<tr>
<td>Age</td>
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<tr>
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<td>-.05</td>
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An empirical investigation of gender, sexual attitudes, weight bias and body image

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**Dating preferences**

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Note: *p < .05, **p < .01, ***p < .001

**Most attractive (female figure).** The first set of analyses focused on ratings of the female figures. Of the control variables (Step 1) participants with larger bodies were more likely to find a larger figure most attractive ($\beta = .15$, $p = .008$). At Step 2 a main effect of participant gender emerged: men picked a larger-sized woman as the most attractive than did female participants ($\beta = .18$, $p = .002$). Feminist identification was not linked to which female figure was considered to be the most attractive ($\beta = .10$, $p = .103$).

However, the interaction between gender and feminist identification ($\beta = .12$, $p = .025$) was significant (see Figure 3). Simple slopes analyses revealed that for men, feminist identification was linked to choosing a larger female figure as being the most attractive ($\beta = .22$, $p = .003$). The same relationship was not found for women ($\beta = -.04$, $p = .654$).
For completeness, simple slopes were also analyzed at high (+1SD) and low (-1SD) levels of feminist identification. At low levels of feminist identification, gender did not predict which figure was considered to be more attractive ($\beta=.05, p=.571$). However, at high levels of feminist identification, men chose a significantly larger figure than did women ($\beta=.31, p<.001$).

**Most attractive (male figure).** Analyses were repeated, this time focusing on ratings of male figures. Being older ($\beta=.18, p=.001$) and having a larger body ($\beta=.12, p=.036$) were linked to picking larger male figures as the most attractive. However, gender ($\beta=-.05, p=.372$), feminist identification ($\beta=.01, p=.866$), and the interaction between them ($\beta=-.01, p=.933$) were unrelated to attraction ratings.

**Range (female figures).** Range of attractiveness refers to the absolute difference between the largest figure that was considered attractive and the smallest figure considered attractive. Of the control variables, those who reported having larger bodies themselves were marginally more likely to find a broader range of figures attractive ($\beta=.11, p=.054$). At Step 2, neither feminist identification ($\beta=.02, p=.796$) nor gender ($\beta=-.07, p=.250$) were related to the range of attractiveness, but the interaction between the two was significant ($\beta=.11, p=.050$; see Figure 4).
Simple slopes were analyzed by gender and revealed that feminist identification did not predict the range of attractiveness for men (β=.13, \( p=0.100 \)) or women (β=-.09, \( p=0.271 \)). However, when simple slopes were analyzed at high and low levels of feminist identification they revealed that at high levels of feminist identification, gender did not predict the range of attractiveness (β=.05, \( p=0.570 \)), whereas at low levels women were more likely than men to report finding a larger range of female body types attractive (β=-.18, \( p=0.027 \)).

**Range (male figures).** Participant gender (β=-.02, \( p=0.744 \)), feminist identification (β=.08, \( p=0.177 \)) and the interaction between gender and feminist identification (β=.03, \( p=.640 \)) all failed to predict the range of body types participants reported being attractive in men.

**Dating preferences (opposite sex figures).** Finally, participants were asked which figure they would most like to date, with each participant only rating opposite-sex figures. At Step 1, having a larger body was linked to a preference for dating larger bodies (β=.17, \( p=0.002 \)). At Step 2, feminist identification was related to choosing a larger body (β=.14, \( p=0.017 \)), but this finding was qualified by a significant interaction between feminist identification and gender (β=.16, \( p=0.003 \); see Figure 5).
Simple slopes analyses revealed that feminist identification was linked to preferring to date a larger woman for male participants ($\beta=.30$, $p<.001$), but was unrelated to dating preferences for female participants ($\beta=-.03$, $p=.702$). When simple slopes were analyzed at high and low levels of feminist identification, gender did not predict which figure was chosen at low levels of feminist identification ($\beta=-.13$, $p=.092$). At high levels of feminist identification, however, men were more likely than women to prefer a larger-sized date than were women ($\beta=.21$, $p=.010$).

**Discussion**

Past research examining the influence of feminism on attractiveness preferences (Swami & Tovée, 2006; Swami et al., 2008) has demonstrated that women will choose a relatively slim body size as being the most attractive, regardless of whether or not they identify as feminists. However, these studies did not include male participants to examine how identifying as a feminist might be associated with what men find attractive. Further, no studies to date have looked at how feminism might be linked to what women and men find attractive in men. The current results demonstrated that the more men identified as feminists the more likely they were to find a larger woman attractive. The same relationship was not found for feminist women, however. As per Swami and Tovée’s (2006) and Swami and colleagues (2008), it was found that for women, feminism had no relationship with which figure (and in this case female or male) they considered to be the most attractive.
Also in line with past research it was predicted that female feminists would find a larger range of figures as being more attractive than non-feminists (Swami & Tovée, 2006; Swami et al., 2008). This hypothesis was not supported. Instead, there was a significant interaction between gender and feminist identification. Again, the primary action seemed to occur for men. It was found that at low levels of feminist identification, women were more generous to women than were male participants. Specifically, they reported a larger range of female body types as attractive compared to men (a pattern that might be expected). However at high levels of feminist identification this difference disappeared. Feminist men reported finding as large a range of body types as attractive as did feminist women. It could be that women tend to be more generous to women regardless of feminist ascription, whereas men may be generous solely when they identify as feminists.

Regarding the male figures, feminism was not related to attractiveness ratings for either male or female participants. Finally, it was predicted that both men and women would express preferences for dating a larger body type the more they identified as feminists. Similar results were found to those reported when looking at ratings of attractiveness. Feminist men were more likely to find larger female figures to be the most dateable, while feminism had no relationship with which male figures women considered the most dateable.

This study is the first to include feminist men into the discussion about feminism and body size. Frequently, men are overlooked in the arena of feminism. Although there is debate about whether or not men are able to truly be feminists (Heath, 2013; Tarrant, 2009), this study clearly demonstrates that the distinction and category is meaningful to men – at least when it comes to how they evaluate women. The question thus arises as to why the proposed pattern for the relationship between feminism and body preference emerged for men but not women. One possibility is that, given that men do not face the same beauty standards as women, they may be able to disengage from cultural beliefs about attractiveness in a way that women cannot. This might leave them better able to apply their feminist beliefs. In this case, feminism may be broadening men’s ideas on attractiveness, which has implications not only for their own romantic relationships but those of women whose bodies fall outside Western beauty ideals.

Perhaps the more intriguing result was why women who self-identify as feminists failed to show the same level of generosity to other women with regards to their size (see also Swami & Tovée, 2006; Swami et al., 2008). Feminism has traditionally focused on throwing off the yoke of gender stereotypes and restrictive gender norms, one of which is slimness in women. Further, feminist women are part of an identity group that values supporting and enhancing other women.
Consequently, it would be expected that feminist women would reject thin ideals more stridently than non-feminist women, and report a wider range of female figures as both acceptable and attractive. This is not what this data suggests, however. In general, women valued thinness more so than did men. With reference to Figure 1, women rated the most attractive figure as just under 4 (3.95), while men rated the most attractive figure as above 4 (4.16). Broadly, this finding is in line with past research showing that women believe that men prefer thinner women than men actually report preferring (Fallon & Rozin, 1985; Rozin & Fallon, 1988). Of more relevance to the current research question, this relative preference for thin body shapes in other women was just as pronounced in female participants who were high in feminism as it was for those low in feminism.

While one possible explanation for this finding centers on oppressive beauty standards for women (detailed above), other possibilities can be identified. First, in this study participants were college-aged. Older women typically have a more developed feminist identity than do younger women (Coles & Swami, 2013; Murnen & Smolak, 2009) and thus it may be that the proposed difference would be found in an older sample. Another possibility lies in what it means for men and women to identify as a feminist. Being a feminist may mean different things to different people; the label is contentious and unclear (McCabe, 2005). Women are significantly more likely than men to identify as feminists (McCabe, 2005), as was found in the current sample. Thus, it is possible that for those men who do identify as feminists, it represents a core part of their identity (as evidenced by their willingness to identify as a feminist in the face of normative pressure not to do so). If this is the case then feminism in men - a difficult category to take on - may hold more power in terms of influencing attitudes about appearance and female attractiveness.

A final point should be made with regard to evaluations of male bodies. Since feminism usually espouses eschewing cultural norms around attractiveness, it was believed that feminists would be more likely to find different male body types attractive. Interestingly, no significant results were found for the male figures: for both men and women, feminism was unrelated to how different male body types were rated regarding attractiveness. While feminism has long challenged cultural norms about attractiveness in women, it appears that male attractiveness norms may not yet be seen as requiring change, or linked to feminist ideology.

Conclusions

While past research has predominantly focused on how feminism influences how women rate other women’s bodies, this paper is the first to examine if feminism is linked to what men find attractive, and if feminism is associated with evaluations of male bodies. It was found that men who identified as feminists appear to be applying feminist values regarding attractiveness more so
than women who identify as feminists. Feminist men may be critical in changing social norms of attractiveness, and therefore this group should be examined further.
References

Alperin, A., Hornsey, M. J., Hayward, L. E., Diedrichs, P. C., & Barlow, F. K. (2014). Applying the contact hypothesis to anti-fat attitudes: Contact with overweight people is related to how we interact with our bodies and those of others. *Social Science & Medicine, 123*, 37-44. doi:10.1016/j.socscimed.2014.10.051


CHAPTER 5

Applying the contact hypothesis to anti-fat attitudes: Contact with overweight people is related to how we interact with our bodies and those of others

As people are becoming larger (WHO, 1998) it is becoming increasingly important to investigate how others respond to those who are overweight or obese. As mentioned in Chapter 2, the evidence indicates that overwhelmingly, people hold negative attitudes about overweight people (Crandall, 1994) and are often prejudiced and discriminate against them (Puhl et al., 2008). As a consequence, those who experience discrimination or prejudice due to their weight report higher levels of depression and psychiatric symptoms, lower self-esteem and body image (Friedman et al., 2005), disordered eating (Benas & Gibb, 2008) and exercise avoidance (Vartanian & Shaprow, 2008).

Attempts to reduce this prejudice against overweight people have had mixed success. In general, these attempts have included increasing empathy towards overweight people (Gapinski et al., 2006; Teachman et al., 2003), telling participants that others hold positive attitudes towards them (Puhl et al., 2005; Zitek & Hebl, 2007), and educating participants about the various uncontrollable reasons that one may be overweight (Bell & Morgan, 2000; Crandall, 1994; Puhl et al., 2005; Teachman et al., 2003). However, as of yet there has been no research examining the influence of increased contact with overweight people on negative attitudes towards them, despite increased contact being successfully utilised in reducing negative attitudes towards many other groups, including those of different races, ethnicities, and ages (Pettigrew & Tropp, 2006). This study is the first to examine the relationship between increased positive or negative contact towards overweight people and our attitudes towards them. The below study was published in 2014 in the journal Social Science and Medicine.

Abstract

This paper is the first to apply the contact hypothesis, a social psychological theory of prejudice reduction, to the field of weight bias. It aims to investigate whether contact with overweight people is associated with the extent to which people report weight bias, as well as vigilance around their own bodies. In 2013 we recruited 1176 American participants to complete surveys regarding prejudice toward overweight people, as well as a suite of measures capturing people’s relationship to their own weight (fat talk, drive for thinness, and body-checking behavior). Positive contact with overweight people predicted decreased prejudice, regardless of whether participants were overweight ($p<.001$) or not ($p=.003$). However, negative contact was a stronger predictor of increased prejudice ($p<.001$ for both samples). For non-overweight participants, any contact with
overweight people (whether positive or negative) predicted increased body-checking behaviors (positive-\(p=.002\), negative-\(p<.001\)) and fat talk (positive-\(p=.047\), negative-\(p<.001\)), and negative contact predicted increased drive for thinness (\(p<.001\)). However, for those who were overweight a different picture emerged. While negative contact predicted increased body-checking behaviors (\(p<.001\)) and fat talk (\(p<.001\)), positive contact was protective, predicting decreased drive for thinness (\(p=.001\)) and body-checking behaviors (\(p<.001\)). This paper demonstrates that the interactions we have with overweight people are inherently tied to both our attitudes towards them and our relationship with our own bodies.

**Keywords:** United States, weight bias, anti-fat attitudes, obesity, prejudice, stigma, discrimination
Applying the contact hypothesis to anti-fat attitudes: Contact with overweight people is related to how we interact with our bodies and those of others

Negative attitudes towards overweight people are pervasive and widespread (Latner & Stunkard, 2003). Being subject to discrimination because of one’s body size is an overwhelmingly negative experience, leading to psychological distress, lower self-esteem and poor body image (Ashmore, Friedman, Reichmann, & Musante, 2008). As such, we must identify factors that reduce weight bias.

Prejudice reduction research presents positive interactions or contact between group members as an antidote to intergroup hostility (Pettigrew & Tropp, 2006). However, researchers have never investigated whether having overweight friends reduces weight bias. Accordingly, we look at how both positive and negative contact with overweight people predicts anti-fat attitudes. We also examine how contact with overweight people is associated with our feelings about our own bodies, and how we monitor and talk about our bodies. This paper is one of the first to apply theory and knowledge from social psychological prejudice reduction research that is well established in other domains (such as race, sexuality) to further the field of weight bias. We demonstrate that interactions with overweight people influence both our attitudes towards them, and our relationship with our own bodies.

Weight Bias

Despite people getting fatter (Mokdad et al., 1999), negative attitudes against fat people are prevalent, widespread, and begin in early childhood (Latner & Stunkard, 2003). Furthermore, anti-fat attitudes are one of the last socially acceptable forms of prejudice, and fat people some of the last acceptable targets (Annis, Cash, & Hrabosky, 2004; Gumble & Carels, 2012). As a result, both implicit and explicit anti-fat attitudes are prevalent (O’Brien, Hunter, Halberstadt, & Anderson, 2007), and predictive of discrimination based on size (O’Brien et al., 2013).

The influence of weight bias is far-reaching. Overweight people get lower grades (MacCann & Roberts, 2013), and are less likely to be accepted into higher education (O’Brien et al., 2007; O’Brien et al., 2008; Puhl & Brownell, 2006) or to be employed (O’Brien et al., 2007; O’Brien et al., 2008; Robinson et al., 1993). Furthermore, they receive substandard mental and physical health care in comparison to ‘normal’-weight individuals. Many doctors and health practitioners prefer not to treat fat patients, and spend less time with them, often dismissing or overlooking health problems unrelated to weight (O’Brien et al., 2007; O’Brien et al., 2008; Robinson et al., 1993). Weight bias also manifests in other settings, including the media, adoption services, and the legal system (Schvey, Puhl, Levandoski, & Brownell, 2013).

Reducing Weight Bias
Given the prevalence of weight bias, a number of researchers have attempted to reduce anti-fat attitudes. A stable predictor of anti-fat attitudes is the belief that weight is controllable, and that excess weight is due to poor self-control or laziness (Robinson et al., 1993). Consequently, weight bias reduction interventions have focused predominantly on providing information about the uncontrollable biological and genetic factors that influence obesity, and the difficulties of losing weight and maintaining weight loss. In general, this approach has reduced anti-fat attitudes, especially if the person presenting the information was overweight (Crandall, 1994; Robinson et al., 1993; Diedrichs & Barlow, 2011; but see Teachman, Gapinski, Brownell, Rawlins, & Jeyaram, 2003). Anti-fat attitudes have also been reduced by telling participants that others hold favorable beliefs about overweight people (Puhl, Schwartz, & Brownell, 2005). However, interventions focusing on evoking empathy towards overweight people have been largely unsuccessful in reducing negative attitudes towards them (Gapinski, Schwartz, & Brownell, 2006; Teachment et al., 2003).

The interventions reviewed above come predominantly from a public and clinical health psychology perspective. However, social psychologists have spent the past 50 years researching prejudice, and to date very few researchers have wed together the insights from clinical, health and social psychology. Accordingly, we suggest that the approaches identified as effective by social psychologists have been underutilized in the field of weight bias. From a social psychology perspective, and in light of strong existing evidence on prejudice reduction in other domains (e.g., race, sexual orientation), we suggest that interpersonal factors that influence our weight-based attitudes also need to be examined. Thus, we introduce the contact hypothesis and argue that contact with overweight people might be critical in influencing how we feel about them.

**The Contact Hypothesis**

The contact hypothesis, formalized by Gordon Allport (1954), proposes that face-to-face contact between opposing group members can reduce prejudice. Since the contact hypothesis was developed, many studies have demonstrated that the premise holds. Contact with outgroup members (that is, members of a group to which one does not belong) is typically linked to reduced prejudice towards the outgroup. Such effects hold cross-sectionally and experimentally, and across multiple intergroup contexts, such as different races and sexualities (for a meta-analysis see Pettigrew & Tropp, 2006).

Recently, focus has shifted towards examining negative aspects of intergroup contact. Not all contact is positive, and it makes sense that negative contact might intensify rather than ameliorate prejudice. In addition, there is evidence that people are primed to attend more to negative than positive experiences. For example, people focus more on negative stereotypes than
positive ones (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). Theorists have thus posited a positive-negative asymmetry such that negative contact should have a stronger and more consistent influence on increasing prejudice than positive contact should have on reducing it (Paolini, Harwood, & Rubin, 2010). Evidence for this positive-negative asymmetry has been found across a range of inter-ethnic contexts (Barlow et al., 2012).

Irrespective of valence, a contact framework has never been applied to anti-fat attitudes. This presents an exciting opportunity to use existing social psychology knowledge and apply it to the weight bias field (for example, in interventions to reduce weight bias). Thus, in the present paper we examine whether contact with overweight people predicts how we feel about them. A traditional contact perspective would state that positive contact with overweight people would reduce anti-fat attitudes, and negative contact would increase them. However, we argue that various factors indicate important differences when looking at contact with a weight-based group compared to other domains.

**The Special Case of the Overweight**

When applying the contact hypothesis to anti-fat attitudes, several considerations must be noted. First, both overweight and ‘normal’-weight people display weight bias (Schwartz, Vartanian, Nosek, & Brownell, 2006). As such, the relationship between contact and prejudice should be examined for both groups. Second, overweight people often do not accept that they are part of this group, and may believe that they can move out of it (if they lose weight; Johnson, Cooke, Croker, & Wardle, 2008). Third, this is a group that anyone can join (if they gain weight), and the fear of joining is a strong concern for both genders (potentially due to the discrimination that overweight people face; Herek & Capitanio, 1996). In short, the permeability of the boundary between overweight and ‘normal’-weight people presents a different psychological dynamic from other groups typically examined in the contact literature (e.g., race, sexual orientation). Critically, it is both possible to move into this group and difficult to control whether one does.

One consequence of this is that for ‘normal’-weight people, any contact with overweight people might be aversive – a reminder of whom they fear becoming. Given the potentially aversive consequences of contact outlined above, contact with overweight people may also have a less positive influence on prejudice than one would normally expect on the basis of the contact hypothesis. However, for those who are already overweight we suggest that contact should function as expected. People who are overweight already belong to the stigmatized group, and thus do not face the same anxieties about migrating into the group as do people with a low BMI. They do, however, face substantial prejudice as a consequence of their group membership. As such, research looking at race-relations in the United States might provide some clues as to what the relationship
between contact with overweight people and associated outcome variables might be for those that are overweight themselves. Past research typically suggests that being embedded in, and feeling a part of, a minority group is protective. Specifically, multiple studies have found that Black Americans who are embraced by their group, and identify with them are happier and healthier (see Branscombe, Schmitt, & Harvey, 1999; Miller & MacIntosh, 1999). Here, we might expect something similar for those who are overweight – positive contact should be protective, and negative contact damaging. Consequently, for overweight people the classic contact pattern should emerge: negative contact should increase prejudice, and positive contact should decrease it.

Self-focused attitudes and behaviors. In the present paper we examine not just how contact with overweight people predicts anti-fat prejudice, but also the extent to which contact is associated with how people think about and monitor their own weight. Our argument is to some extent an intuitive one. We know that people are very aware of others’ weight, and that fear of fat is prevalent (Cash, Counts, & Huffine, 1990). Consequently, we suggest that interacting with fat people should shine a light on our own weight concerns. While no one has explicitly tested this assumption before, there is theoretical reason to suspect that contact with overweight people might have the potential to make us more aware of our own bodies. Literature on friendship groups demonstrate that body image concerns and eating behaviors are innately social in nature, and to some extent a product of whom we spend time with (Crandall, 1988; Hutchinson & Rapee, 2007; Paxton, Schutz, Wertheim, & Muir, 1999).

How contact is associated with body monitoring, however, should depend on one’s own weight. Above, we made the case that any contact with overweight people might be somewhat aversive for ‘normal’-weight people. As a downstream consequence of this response, we propose that ‘normal’-weight people may reflexively experience an increase in drive for thinness (an excessive desire to be thin; Garner et al., 1983) following contact with overweight people. In addition to being associated with drive for thinness, we suggest that for ‘normal’-weight people, such contact may increase vigilance around one’s body, and result in behaviors such as body-checking (compulsively checking the body to monitor changes) and fat talk. Fat talk is another way people monitor their bodies via conversations about their own and others’ weight, including ideal exercise and eating habits, comparison of eating and exercise behaviors, and discussion of appearance. Note that while the aforementioned behaviors and attitudes may at face value seem like positive factors that help control weight, they have all been linked to body dissatisfaction, and none have been shown to lead to weight loss or healthy weight maintenance (Arroyo & Harwood, 2012; Garner, Olmstead, & Polivy, 1983; Reas, Whisenhunt, Netemeyer, & Williamson, 2002).
For people who are overweight themselves we suspect that the picture is different. While we would expect negative contact with overweight people to be linked to indicators of negative body-related behavior (i.e. drive for thinness, body-checking behavior, and fat talk), positive contact may have the opposite effect. As highlighted above, there is evidence that for stigmatized group members, being embedded within the group can help to shield from the effects of pervasive discrimination (see Branscombe et al., 1999; Miller & MacIntosh, 1999). While this work is on ethnic identification and race, rather than contact and weight, parallels may be drawn. In particular, friendly and pleasant interactions with other fat people may serve as protective social factors that work to reduce body insecurities and consequent behaviors. Although there is no existing direct evidence to support this point, anecdotally, overweight people who have come together to work as ‘fat activists’ report benefits of positive interactions with other fat people (Johnston & Taylor, 2008). Should positive contact be protective for overweight people, we would expect a moderated relationship, such that positive contact would predict increased drive for thinness, body-checking and fat talk for ‘normal’-weight people, but the opposite would be true for people who are overweight themselves.

The Current Study

Participants disclosed their weight and how much positive and negative contact with overweight people they experienced. These measures then predicted prejudice towards overweight people. In addition, we used various constructs relating to how people feel about their own bodies as outcome variables (fat talk, drive for thinness, and body-checking behaviors). In line with our theoretical arguments, and the literature reviewed throughout the introduction, we predicted that positive contact with overweight people would be linked to decreased anti-fat attitudes (although this pattern may be less pronounced for ‘normal’-weight people), and that negative contact would be linked to increases in anti-fat attitudes. We further hypothesized that there would be a positive-negative asymmetry such that negative contact would emerge as a stronger predictor than positive contact (see Barlow et al., 2012). Finally, taking into account the special nature of the context of weight we suggested that contact with overweight people would reliably predict how people felt about their own bodies. We argued that for ‘normal’-weight people any contact might be associated with detrimental outcomes (i.e., increased drive for thinness, body-checking behavior, and fat talk). Conversely, we suggested that contact with fellow overweight people might be protective for those who were overweight themselves (i.e., associated with decreased drive for thinness, body-checking behavior and fat talk).

Method

Participants
Participants were recruited from the survey platform socialsci.com. Of the 1452 people who clicked on the study, 1176 (54% male) completed all measures. Participants were from the United States and at least 18 years old. Ages ranged from 18 to 91 ($M=28.41, SD=8.84$) and their BMI ranged from 13.21 to 60.47 ($M=25.85, SD=6.28$). The World Health Organization (1995) categorizes a BMI between 18.5-25 as ‘normal’-weight and over 25 as overweight. Therefore, 45.3% of participants were categorized as overweight or obese and 54.8% as under- to ‘normal’-weight. Sixty-two were excluded due to incorrect responses regarding weight (a BMI of under 13 or over 70). Participants were reimbursed with points from socialsci.com, to be redeemed for prizes.

**Ethics**

Ethical approval was received from the Behavioral and Social Sciences Ethical Review Committee at the University of Queensland, Australia. Participants were provided with an information sheet before completing the study, detailing the aims and content, as well as warning them that they would be asked potentially sensitive questions about body image. The information sheet also specified that participants were able to withdraw at any time or leave any question blank without penalty. The survey was only accessible to participants who indicated that they were 18 years of age or older. Finally, participants were only directed to the main survey if they indicated that they had read and understood the information provided, and that they consented to participation on the basis of this information.

**Procedure and Measures**

**Demographics** included age, biological gender, income, education, and percentage of fat family members.

**BMI** was measured by asking for height in feet and inches and weight in pounds. We converted their height into centimeters and weight into kilograms and then divided participants’ weight by the square of their height to produce their BMI (Eknoyan, 2008).

**Positive contact** with overweight people was measured with a single item as per Barlow and colleagues (Barlow et al., 2012): “On average, how frequently do you have POSITIVE/GOOD contact with overweight or obese people?” (1=never; 7=extremely frequently).

**Negative contact** with overweight people was also measured by asking “On average, how frequently do you have NEGATIVE/BAD contact with overweight or obese people?”, using the above scale (Barlow et al., 2012).

Note that above we have measured positive and negative contact with single items, in line with past studies. In their work on contact, Pettigrew and Tropp (2000) state that single item IVs and DVs yield moderate effect sizes (and the single item measures yield stronger effects than multi-item measures with low or unknown reliabilities). Barlow et al. (2012) also examined both positive
and negative contact and their effects on prejudice, using traditional measures of contact as well as the single-item measures that we use in this paper. Both types of measures found that positive contact was associated with decreased prejudice while negative contact was associated with increased prejudice. Further, both types of measures revealed predictive validity and similar effect sizes. Multiple other researchers have also used single-item measures of contact, with similar results (e.g., Barlow et al., 2012; De Tezanos-Pinto, Bratt, & Brown, 2010; Pettigrew, Christ, Wagner, & Stellmacher, 2007; Tropp & Pettigrew, 2005).

**Anti-fat attitudes** were measured using 13 items adapted from Crandall (1994; 1=strongly disagree; 7=strongly agree; α=.88). This scale comprises three subscales: Dislike (7 items, α=.91, e.g. “I really don’t like fat people much”); Willpower (3 items, α=.80; e.g. “Fat people tend to be fat pretty much through their own fault”); and Fear of Fat (3 items, α=.87; e.g. “I worry about becoming fat). Note that the first two of these subscales most closely approximate our goal to measure other-focused anti-fat prejudice. The third subscale – Fear of Fat – is more aligned with the other constructs (outlined below) measuring vigilance around one’s own body.

**Fat talk** was measured with a 4-item original scale based on qualitative data (Ousley, Cordero, & White, 2007), with high scores indicating more fat talk. The questions were: “How often do you and your friends: Discuss how your current eating habits compare to what they ‘should’ be?; Discuss how much you fear becoming overweight?; Compare your eating habits to those of others?; Evaluate the appearance of others?” (1=never; 5=always; α=.85).

**Drive for thinness** is measured via the 7-item Drive for Thinness Scale, a subscale of the Eating Disorder Inventory (Garner et al., 1983). Examples are “I feel extremely guilty after overeating” and “I am not terrified of gaining weight” (reverse scored) (1=never; 6=always; α=.85).

**Body-checking behaviors** were measured via 28 positively-worded items (5 added to be gender-inclusive regarding checking for muscularity; the reminder drawn from Reas et al., 2002). Examples are: “I check to see if my thighs spread when I’m sitting down” and “I look to see if I have muscle definition” (1=never; 5=very often; α=.98).

Upon completion, participants were given a debriefing sheet with information about body image, the study and researchers, and links and phone numbers for counseling services. Participants could also provide their emails if they wanted to receive information about results, and were able to provide feedback via personal messages on Social Sci.

**Results**

Means, standard deviations and intercorrelations for all measures (N=1176) are displayed in Table 1.
An empirical investigation of gender, sexual attitudes, weight bias and body image

Table 1
Correlations (means and standard deviations) between variables

<table>
<thead>
<tr>
<th></th>
<th>Means</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td>28.41</td>
<td>8.84</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>2. Income</td>
<td>2.36</td>
<td>1.44</td>
<td>.38***</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3. Education</td>
<td>3.85</td>
<td>1.24</td>
<td>.24***</td>
<td>.36***</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4. Sex</td>
<td>1.56</td>
<td>0.50</td>
<td>-.07**</td>
<td>0.02</td>
<td>-.02</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>5. Percentage of fat family members</td>
<td>28.97</td>
<td>28.06</td>
<td>.07*</td>
<td>-0.04</td>
<td>0.04</td>
<td>-0.14***</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6. Negative contact</td>
<td>3.05</td>
<td>1.38</td>
<td>-.07*</td>
<td>.09**</td>
<td>0.01</td>
<td>-0.04</td>
<td>0.03</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7. Positive contact</td>
<td>5.11</td>
<td>1.40</td>
<td>0.05</td>
<td>0.04</td>
<td>0.05</td>
<td>-.17***</td>
<td>.30***</td>
<td>-.26***</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>8. BMI</td>
<td>25.85</td>
<td>6.28</td>
<td>.22***</td>
<td>0.03</td>
<td>0.00</td>
<td>.06*</td>
<td>.29***</td>
<td>-.12***</td>
<td>.17***</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>9. Anti-fat attitudes</td>
<td>3.43</td>
<td>1.18</td>
<td>-.03</td>
<td>.16***</td>
<td>.09**</td>
<td>0.01</td>
<td>-0.04</td>
<td>.47***</td>
<td>-.27***</td>
<td>-.17***</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10. Fat talk</td>
<td>2.44</td>
<td>1.00</td>
<td>-.02</td>
<td>.11***</td>
<td>0.01</td>
<td>-.16***</td>
<td>.10**</td>
<td>.36***</td>
<td>-0.02</td>
<td>-0.04</td>
<td>.43***</td>
<td>1.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>11. Drive for thinness</td>
<td>3.17</td>
<td>1.10</td>
<td>.08**</td>
<td>.13***</td>
<td>.11***</td>
<td>-.22***</td>
<td>.24***</td>
<td>.16***</td>
<td>0.05</td>
<td>.22***</td>
<td>.40***</td>
<td>.48***</td>
<td>1.00</td>
<td>-</td>
</tr>
<tr>
<td>12. Body checking behavior</td>
<td>2.21</td>
<td>0.85</td>
<td>-.03</td>
<td>.13***</td>
<td>0.04</td>
<td>-.19***</td>
<td>.08**</td>
<td>.37***</td>
<td>-.06*</td>
<td>-.08*</td>
<td>.50***</td>
<td>.61***</td>
<td>.61***</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Note. *p<.05, **p<.01, ***p<.001.
Regression Analyses

Hierarchical regression analyses were conducted to test the model predicting the effects of BMI, positive contact, and negative contact with overweight people on four dependent variables: anti-fat attitudes, fat talk, drive for thinness, and body-checking behaviors. BMI, positive contact, and negative contact were mean-centered. For each set of analyses, control variables were entered at Step 1: age, sex (1=female; 2= male), income, education, and the percentage of fat family members. The predictors were entered at Step 2. At Step 3, two-way interactions (between BMI and positive contact, and BMI and negative contact) were entered.

Anti-Fat Attitudes. Participants displayed higher prejudice towards fat people if they were younger (β=-.08, p=.009, CI95%=-.019 to -.003), more educated (β=.06, p=. 048, CI95%=.000 to .116), and had a higher income (β=.14, p<.001, CI95%=.059 to .169). More pertinent to our hypotheses, negative contact predicted higher prejudice towards those who are overweight (β=.38, p<.001, CI95%=.267 to .367). In contrast, positive contact (β=.18, p<.001, CI95%=.193 to -.099) and having a higher BMI (β=.11, p<.001, CI95%=.029 to -.009) were associated with lower anti-fat prejudice. As predicted, the relationship between negative contact and anti-fat attitudes was stronger than the relationship between positive contact and anti-fat attitudes, t(1166)=12.53, p<.001, signaling a positive-negative asymmetry.

As can be seen in Figure 1, there was also the predicted interaction between BMI and
negative contact ($\beta=-.07, p=.012, \text{ CI95\%}=-.018 \text{ to } -.002$). This was decomposed by examining negative contact as a predictor of anti-fat attitudes at both low (-1SD) and high (+1SD) levels of BMI. Simple slopes revealed that for people with a low BMI increased negative contact predicted increased anti-fat attitudes ($\beta=.44, p<.001, \text{ CI95\%}=.312 \text{ to } .436$). A weaker association was found for those with a high BMI ($\beta=.29, p<.001, \text{ CI95\%}=.172 \text{ to } .320$).

As seen in Figure 2, an interaction also emerged between BMI and positive contact ($\beta=.07, p=.019, \text{ CI95\%}=.017 \text{ to } -.001$). For participants with a low BMI increased positive contact predicted decreased anti-fat attitudes ($\beta=-.12, p=.003, \text{ CI95\%}=-.160 \text{ to } -.032$). For participants with a high BMI, the same pattern of results was found, but even stronger ($\beta=-.26, p<.001, \text{ CI95\%}=-.282 \text{ to } -.140$).

**Ancillary analyses.** For the sake of thoroughness we conducted a series of ancillary analyses looking at each subscale of the anti-fat attitudes measure separately. In terms of main effects, the pattern of results was the same when looking at the Dislike subscale as it was when looking at anti-fat attitudes as a whole; that is, positive contact was associated with decreased dislike of fat people ($\beta=-.28, p<.001$) while negative contact it was associated with increased dislike of fat people ($\beta=.39, p<.001$). As was found for the initial Anti-Fat Attitudes Scale, BMI was negatively linked to disliking overweight people ($\beta=-.15, p<.001$). There was an interaction between negative contact and BMI ($\beta=-.07, p=.008$). Simple slopes revealed that for all participants, the more negative contact people reported having with overweight people the more they disliked.
them, however this effect was more pronounced for participants with a lower BMI ($\beta=.46, p<.001$) than for participants with a higher BMI ($\beta=.31, p<.001$).

When examining the Willpower subscale, negative contact was positively linked to the belief that weight was due to willpower ($\beta=.17, p<.001$), while BMI and willpower were negatively linked ($\beta=-.10, p=.001$). The association between BMI and negative contact was marginally significant ($\beta=-.06, p=.051$). For participants with a low BMI, negative contact predicted an increased belief that weight was reliant on willpower ($\beta=.23, p<.001$). The same association was found for participants with a high BMI, although to a lesser extent and non-significantly ($\beta=.10, p=.054$). However, there was no significant interaction between BMI and positive contact ($\beta=.00, p=.993$).

Finally, negative contact was linked to increased scores on the Fear of Fat subscale ($\beta=.20, p<.001$). The interaction between BMI and positive contact was significant ($\beta=-.13, p<.001$), revealing that for participants with a low BMI, positive contact was positively linked to fear of fat ($\beta=.11, p=.007$) while the reverse association was found for participants with a high BMI ($\beta=-.14, p=.002$).

**Fat talk.** Participants reported more fat talk when they were younger ($\beta=-.08, p=.016$, CI95%=-.015 to -.002), had a higher income ($\beta=.12, p<.001$, CI95%=.038 to .131), were female ($\beta=-.19, p<.001$, CI95%=-.489 to -.262), and had a higher percentage of fat family members ($\beta=.08, p=.010$, CI95%=.001 to .005). As predicted, negative contact predicted increased fat talk ($\beta=.33, p<.001$, CI95%=.197 to .280) while positive contact ($\beta=.02, p=.605$, CI95%=.031 to .054) and BMI ($\beta=.00, p=.911$, CI95%=-.010 to .009) were unrelated to fat talk. The association between negative contact and fat talk was significantly stronger than the association between positive contact and fat talk, $t(1166)=8.69, p<.001$, again demonstrating the positive-negative asymmetry.

The interaction between BMI and negative contact ($\beta=-.04, p=.180$, CI95%=-.012 to .002) was not significant. Hence, increased negative contact was linked to increased levels of fat talk, regardless of BMI. The interaction between BMI and positive contact, however, was significant ($\beta=-.07, p=.017$, CI95%=-.015 to -.002).
As seen in Figure 3, for participants with a low BMI higher levels of positive contact were associated with increased fat talk ($\beta=.08$, $p=.047$, CI95%=.001 to .116). However, no association was found between positive contact and fat talk for participants with a high BMI ($\beta=-.07$, $p=.142$, CI95%=-.113 to .016).

**Drive for thinness.** Participants reported higher levels of drive for thinness when they had a higher income ($\beta=.12$, $p<.001$, CI95%=.047 to .146), were female ($\beta=-.22$, $p<.001$, CI95%=-.609 to -.366), and had a higher percentage of fat family members ($\beta=.20$, $p<.001$, CI95%=.006 to .010). Negative contact predicted increased drive for thinness ($\beta=.14$, $p<.001$, CI95%=.064 to .156) as did having a higher BMI ($\beta=.20$, $p<.001$, CI95%=.024 to .044). Positive contact was unassociated with drive for thinness ($\beta=-.04$, $p=.200$, CI95%=-.078 to .016). The association between negative contact and drive for thinness was significantly stronger than the association between positive contact and drive for thinness, $t(1166)=2.77$, $p=.010$.

An interaction emerged between BMI and negative contact ($\beta=-.07$, $p=.022$, CI95%=-.017 to -.001) such that negative contact predicted increased drive for thinness among low ($\beta=.19$, $p<.001$, CI95%=.094 to .218), but not high BMI participants ($\beta=.05$, $p=.302$, CI95%=-.035 to .113; refer to Figure 4).
The interaction between BMI and positive contact ($\beta=-.10, p=.001, CI_{95\%}=-.021 \text{ to } -.005$) revealed a mirror image of this pattern (see Figure 5): for participants with a low BMI positive contact was unassociated with drive for thinness ($\beta=.05, p=.199, CI_{95\%}=-.022 \text{ to } .105$) whereas for participants with a high BMI increased positive contact predicted decreased drive for thinness ($\beta=-.16, p=.001, CI_{95\%}=-.194 \text{ to } -.052$).
Body-checking behavior. Participants were significantly more likely to engage in body-checking behavior if they were younger (β=.08, \( p=.009 \), CI95%=-.014 to -.002), had a higher income (β=.14, \( p<.001 \), CI95%=.046 to .124), and were female (β=.22, \( p<.001 \), CI95%=-.471 to -.279). Negative contact predicted increased body-checking behavior (β=.31, \( p<.001 \), CI95%=.156 to .226). Neither positive contact (β=.03, \( p=.313 \), CI95%=.054 to .017) nor BMI (β=.05, \( p=.076 \), CI95%=-.015 to .001) significantly predicted body-checking behavior. As per the other outcome measures, the association between negative contact and body-checking behaviors was significantly stronger than the association between positive contact and body-checking behaviors, \( t(1166)=3.80, p<.001 \).

There was a significant interaction between BMI and negative contact (β=-.09, \( p=.002 \), CI95%=-.016 to -.003). Analyses of simple slopes revealed that increased negative contact predicted increased body-checking behaviors, but this was stronger for low (β=.38, \( p<.001 \), CI95%=.190 to .284) than for high BMI participants (β=.19, \( p<.001 \), CI95%=.061 to .173; see Figure 1 for a similar interaction pattern). The interaction between BMI and positive contact (β=-.17, \( p<.001 \), CI95%=-.023 to -.011) revealed a different effect (see Figure 3 for a similar interaction pattern): for participants with a low BMI increased positive contact predicted increased body-checking behaviors (β=.12, \( p=.002 \), CI95%=.027 to .123). Conversely, for participants with a high
BMI, increased positive contact predicted decreased body-checking behaviors ($\beta = -.23, p < .001$, CI95% = -.190 to -.082).

**Discussion**

Negative attitudes against fat people are pervasive (Latner & Stunkard, 2003). To date, interventions to reduce these attitudes have primarily focused on shifting personal beliefs and have not included interpersonal factors that may influence anti-fat attitudes, such as the amount and type of contact people have with overweight people. This study is the first to examine how contact with overweight people is linked to how we feel about them and about our own bodies.

Consistent with the contact hypothesis, the more participants reported experiencing positive contact with overweight people, the more they had positive attitudes towards them. However, this effect was modest in size, and only emerged on one of the three sub-scales of anti-fat attitudes. Neither did the effect emerge on other indices such as fat talk, drive for thinness or body-checking behaviors. What did have a large and consistent association with attitudes and behaviors was *negative* contact with overweight people. Negative contact was positively associated with all three sub-scales of anti-fat attitudes. Overall, there was a consistent and strong positive-negative asymmetry effect: Positive contact had a much weaker relationship with attitudes and behavior than did negative contact.

As predicted, these effects were frequently moderated by the extent to which participants were overweight themselves. For people who were not overweight, the effects of contact were more negative overall than for overweight participants. In other words, for low-BMI people the constructive effects of positive contact on anti-fat attitudes were more subdued than for high-BMI people, and the destructive effects of negative contact were more pronounced. This general picture – that contact has a more negative impact for low-BMI than high-BMI people – emerged also on other relevant cognitions and behaviors. Indeed, for low BMI participants, even positive contact was linked to increased fear of fat, fat talk, and body-checking.

The notion that positive contact can have negative effects for low-BMI people contrasts sharply with the more traditional effects found for high-BMI people, where positive contact was associated with decreased fear of fat, drive for thinness, and body-checking. The one exception to this pattern was for fat talk, where positive contact failed to have a positive effect even for high-BMI people. This may be because the other outcome variables are primarily focused exclusively on the *self*, whereas fat talk also involves focusing on others (their appearance, weight, exercise and eating habits).

**Theoretical and Practical Implications**
Together, the results indicate that contact with those who are overweight is intrinsically linked to how one feels about overweight people in general. Unfortunately, the effects were not always positive, and the overall picture is much more pessimistic than that implied by the broader contact literature. Most notably, the effects of contact skewed towards the negative among those who are the most obvious perpetrators of anti-fat discrimination: those with a low BMI (Schwartz et al., 2006). For them, negative contact had a consistently negative effect regarding their attitudes and behaviors towards their own bodies. In contrast, the effects of positive contact ranged from neutral (drive for thinness) to mildly negative (body-checking and fat talk). However, positive contact did appear to have a small but positive effect for this group regarding their attitudes towards overweight people; those who reported more positive contact also reported slightly less dislike of fat people.

As outlined earlier, one possible reason why positive contact had different effects in this context than in other intergroup contexts is that the intergroup boundary is permeable: depending on fluctuations in their weight, people may find themselves slipping in or out of the stigmatized group. This is a qualitatively different intergroup context to those traditionally examined in the contact literature (race, sexuality) where group membership is largely static. Due to the strong social stigma attached to being overweight, it seems reasonable to suggest that the knowledge of permeability may not be a welcome prospect for those who are not overweight. For these people, contact with someone who is overweight may provide a reminder that this group is joinable, which may in turn trigger fear, self-consciousness, vigilance, and/or disgust toward the overweight.

These results have implications for other derogated and permeable groups, such as the elderly, those who are divorced, and those who are unemployed. It could be that the fear of joining a derogated and permeable group – predominantly where one has little or no control over whether one will join it - may influence how even positive contact with these groups influences attitudes towards them. These results also have implications for interventions aiming to reduce prejudice against the overweight. Potentially, increasing contact between overweight and average-weight people may not be as effective at reducing weight bias as is contact between opposite race interaction partners at reducing racism, for example. Specifically, we would suggest that interventions should aim to reduce the amount of negative contact between overweight and ‘normal’-weight people.

It should be noted, though, that the current story is not entirely pessimistic. For ingroup members (i.e., high-BMI participants), positive contact was beneficial in reducing prejudice towards their own group, and in reducing signs of self-consciousness and vigilance around their weight (i.e., drive for thinness, body-checking). These results are encouraging, as they suggest that those who are overweight may find benefits from engaging with their group membership. For people who are overweight, having positive contact with others who are overweight might be
An empirical investigation of gender, sexual attitudes, weight bias and body image

protective against body image concerns, and potentially even buffer the effects of weight bias that they face. In line with past work on how ethnic identification can help to defend members of racial minority groups from discrimination (Branscombe et al., 1999; Miller & MacIntosh, 1999), future studies could examine the strength of overweight people’s group-based identification. It may be that for them, identifying with others who are overweight may lead to decreased internalized prejudice and self-criticism.

The pattern that emerged was clear. For overweight people, positive contact with fellow overweight people was associated with decreased drive for thinness and body-checking behavior. Extrapolating from this, it could be argued that the positive effects of contact among high-BMI individuals may encourage overweight people to find comfort in their weight, and potentially reduce the likelihood that they would take action to lose weight. However, research has indicated that people who are overweight and feel positive about their bodies often report increased well-being, improved confidence in performing exercise activities, and improved relationships with food. Interestingly, this positivity can also lead to weight stabilization or weight loss (Dickins, Thomas, King, Lewis, & Holland, 2012). As such, it is unlikely that any positive benefits that may be experienced when overweight people have high levels of positive contact with other overweight people would lead to weight gain. Rather, it may have the reverse effect (if any).

Limitations

Of course, cross-sectional data cannot be interpreted to present causal information. We have proposed a directional model in which contact influences prejudice. It is also possible, however, that the extent to which we are vigilant around our own bodies and are prejudiced against overweight people may feed back into how we interpret contact with them as positive or negative. It should also be noted that past research has demonstrated that the relationship between contact and prejudice does appear to be bidirectional and cyclical (Barlow, Louis, & Hewstone, 2009; Binder et al., 2009). As such we anticipate that it is likely that increased anti-fat attitudes may lead to more negative contact, and vice versa. It is unclear, however, how this reverse causal argument could be extended to some of our results; it is unlikely that increased body-checking and fat talk among low-BMI participants would lead them to seek out positive contact with overweight people.

Another limitation is the use of BMI as a measure of body fat. Studies have demonstrated that BMI may not be the most effective measure of adiposity, as it does not distinguish between those who are heavy because they are overweight or because they are muscular (Snijder, van Dam, Visser, & Seidell, 2006). Future studies should use a different method for assessing body fat, such as measuring weight circumference or using imaging techniques (Snijder et al., 2006).

Summary and conclusions
This paper provides the first evidence that the day-to-day interactions that we have with those who are overweight are linked to how we view them as a group, as well as how we view ourselves. This study adds nuance to the weight bias literature by showing that for those who are thin- to ‘normal’-weight, positive contact with those who are overweight may not always lead to positive results. This study also provides some encouragement, however, suggesting that for those who are overweight, positive relationships with other overweight people may lead to healthy outcomes.

Note:
1In the interest of brevity, the word ‘overweight’ is used to encompass both overweight and obese people
References


CHAPTER 6

Discussion

Summary of findings

This thesis comprised three studies. In Chapter 3 I evaluated how drive for thinness and drive for muscularity were associated with sexual function and problems in men and women. I proposed two competing hypotheses, based on past research: that having a high drive for muscularity would be associated with either increased or decreased sexual problems. Furthermore, having a high drive for thinness would be linked to increased sexual problems. Furthermore, I postulated that men’s sexual problems would be more likely to be predicted by drive for muscularity rather than drive for thinness, with the reverse being true for women. Lastly, I hypothesised that drive for muscularity would be linked most strongly with the sexual variables for men, and drive for thinness linked most strongly with sexual problems in women.

I recruited 266 men and 289 women to complete scales of depression, self-esteem, drive for thinness, drive for muscularity, and measures of sexual outcomes, including sexual esteem, sexual assertiveness, discomfort exposing one’s body during sex, and genital satisfaction. My hypotheses were partially supported. First, drive for muscularity was predominantly not associated with sexual problems. This was the case across all sexual variables, with the exception of a marginal association being found regarding feeling discomfort when exposing one’s body during sex. Drive for muscularity was associated with genital satisfaction for women (but not men).

When it came to men, a relationship was found between drive for muscularity and sexual esteem for men with high levels of drive for thinness. That is, for men with high drive for thinness, increasing drive for muscularity predicted increased sexual self-esteem. In contrast, drive for thinness predicted every sexual variable across both genders – that is, regardless of BMI, mental health, or gender, having a high drive for thinness was related to decreased sexual esteem, sexual assertiveness, and genital satisfaction, as well as increased discomfort exposing one’s body during sex. The one exception was genital satisfaction for women, which was the only sexual variable that was not related to drive for thinness.

The study presented in Chapter 4 examines the relationship between social attitudes and what we find attractive in others. Specifically, I investigated how having a feminist identity may be related to ratings of different bodies as attractive. Based on past research (as per Chapter 2) I expected that feminism would not be related to which female figure was considered to be the most attractive by women, but rather expected them to find a larger range of female and male bodies as attractive. Furthermore, I tentatively posited that feminist men should choose a larger female body as being the most attractive. Participants (N=359; 180=men, 179=women) completed demographic
measures of age, gender, and sexual orientation, as well as perceived weight category. Following this, they evaluated a range of female and male bodies and rated them in terms of which figure they considered to be the most attractive, and which were the largest and smallest figures that they considered to be attractive, as well as which figure they would be the most likely to date. They then completed measures of feminist identity (to avoid priming effects).

This study found that, as expected, women who identified as feminists found the same female bodies to be the most attractive as women who did not identify as feminists. Also as hypothesised, male feminists were more likely to choose larger female bodies as the most attractive and dateable then men who did not identify as feminists. Women with low levels of feminist identification found a larger range of women attractive than did men with low levels of feminist identification. However, at high levels of feminist identification both men and women reported finding the same range of body types attractive. Finally, feminism was not related to attractiveness ratings when evaluating the male figures.

In Chapter 5 I evaluated protective factors against having a negative body image and which variables are related to how we treat others. I examined whether contact with overweight people is associated with how participants feel about them, if there are any potential positive or negative consequences to this contact, and if these consequences differ depending on whether one is overweight or not. I hypothesised that, in line with past research on contact (see Chapter 2), positive contact with overweight people would predict decreased prejudice against them, while negative contact would have the opposite effect. Furthermore, as per theorising on positive-negative asymmetry (Barlow et al., 2012), negative contact should have a stronger association with prejudice than positive contact. Finally, I hypothesised that for those who were not overweight, experiencing this contact would have potentially negative consequences for how they interact with their own bodies, with either positive or negative contact being linked to fat talk, drive for thinness, and body-checking behaviours. I speculated that for overweight participants, experiencing negative contact with others who were overweight might have the same influence. However, positive contact may have a potentially positive influence, being associated with reduced fat talk, drive for thinness, and body-checking behaviours. Using the same dataset as per the study in Chapter 3, participants ($N = 1176$) completed measures of positive contact with overweight people, negative contact with overweight people, anti-fat attitudes, fat talk, drive for thinness, and body-checking behaviours.

As hypothesised, positive contact with overweight people was linked to reduced prejudice against them, while negative contact was linked to increased prejudice. However, the relationship between positive contact and prejudice was only modest and associated with only one of the three anti-fat attitudes subscales. Contrary to what was hypothesised, positive contact did not have a
relationship with fat talk, drive for thinness, or body-checking behaviours. As expected, the relationship between contact and prejudice was stronger for negative than positive contact.

Also as predicted, differences emerged depending on participant weight. The negative influence of contact was stronger for participants who were not overweight. That is, positive contact did reduce prejudice for this group, but to a lesser extent than for overweight participants. In contrast, for these participants, negative contact was a stronger predictor of prejudice than for overweight participants. Similar relationships were found on the other body-related variables: for participants with a low BMI, even positive contact was associated with fear of fat, fat talk and body-checking. As hypothesised, however, for those who were overweight, positive contact was associated with decreased fear of fat, drive for thinness, and body checking. This study provided evidence that our interactions with overweight people are associated with how we view them as a group and how we view ourselves.

**Implications and future directions**

In Chapter 3, I describe my findings surrounding sexual problems and body image. Specifically, I found that drive for thinness was predictive of sexual problems for both genders, while drive for muscularity was predominantly unrelated to sexual problems. This is in contrast to past research, which has found drive for muscularity to be related to increased sexual performance and enjoyment for men (Swami et al., 2014), but supports research which has found no link between men’s drive for muscularity and their sexual satisfaction (Daniel & Bridges, 2013). The results from my study indicate that although drive for thinness has predominantly been associated with women (Anderson & Bulik, 2004), it is clearly also influential in terms of men’s functioning. As drive for thinness and drive for muscularity have been demonstrated to be related to each other (Brunet, Sabiston, Dorsch, & McCreary, 2010; Kelley, Neufeld, & Musher-Eizenman, 2010) it is imperative that further studies examining body image, gender, and/or sexual functioning measure both drives.

Future studies could also investigate if these results would change after body image is manipulated. For example, an intervention to reduce objectification could be implemented, using the objectification-reduction strategies proposed by Tylka and Augustus-Horvath (2011), and participants could report their sexual problems over time. Since sexual objectification has been linked with body shame (Calogero et al., 2013) I would expect that those in the intervention condition would report decreased sexual problems.

Similarly, future research could investigate whether drive for thinness continues to be so predictive of sexual problems if it is reduced. For example, Halliwell and colleagues (2011) improved media literacy in adolescent girls and found that those in the intervention condition were
less influenced by media images. As mentioned in Chapter 1, viewing media portrayals of the thin ideal can increase drive for thinness (Dittmar et al., 2006). Future research could expose participants to a short media literacy intervention and provide participants with the sexual problems measures every few months. It could be expected that after the intervention, participants would be less likely to report sexual problems than those in the control condition.

My findings also have implications for those who seek help for sexual issues. Potentially, body image interventions may have the additional unintended benefit of improving sexual dissatisfaction. Specifically, addressing maladaptive cognitions surrounding decreasing one’s weight and thus reducing one’s drive for thinness may have the unintentional advantage of increasing sexual enjoyment and increasing one’s confidence when performing sexual behaviours. To examine if this could be the case, body image interventions should also measure how sexual attitudes and satisfaction change before, during, and after the conclusion of the intervention.

In Chapter 4, I investigated the relationship between feminism and which bodies we find attractive. I found that men who identified as feminist were more likely to choose a larger female figure as being the most attractive, while feminism did not have a relationship with which figure was considered to be the most attractive for women. Only two other studies have investigated if feminism influences attractiveness ratings of female figures, and they both also found that feminist identification was not related to attractiveness ratings (Swami & Tovée, 2006; Swami et al., 2008). However, in my study male feminists were the only ones to translate their beliefs into action; choosing larger bodies as being the most attractive. This indicates that past research may have missed vital information by excluding men.

Often, it is argued that men are not able to be feminists (Heath, 2013; Tarrant, 2009). The politics of these arguments aside, these findings demonstrate that feminism is meaningful to men (irrespective of whether it is a label they have a right to use). In fact, men have been reporting increased beliefs in feminist attitudes over the last 25 years (Bolzendahl & Myers, 2004). My findings indicate that feminism may help men disengage from cultural ideals regarding attractiveness and broaden what they find attractive. Since weight stigma is so pervasive, it is important to find ways to reduce negative attitudes towards those whose bodies fall outside what is perpetrated by society to be the ‘ideal’. Potentially, education on gender equality and feminism may be a viable path to change cultural attitudes on attractiveness. Recently, it was announced that a course on feminism will be introduced to high schools throughout Victoria, Australia (Jacks, 2015). A longitudinal study could examine whether this class, or other feminist education programs, are able to change cultural attractiveness norms.
Future studies could also manipulate feminist identification experimentally. For example, Roy, Weibust, and Miller (2007) exposed women to positive or negative stereotypes about feminists and found that women who read the positive stereotypes were twice as likely to identify as feminists afterwards. It would be interesting to investigate whether, after manipulating feminist identification, women were more likely to choose larger figures as the most attractive – and whether this would extend to male bodies. Furthermore, it would be interesting to see which figures are picked when men are primed with positive stereotypes about feminism.

The findings from the Chapter 5 study indicate that contact with overweight people is associated with how we feel about overweight people in general. Both negative and positive contact with overweight people was associated with negative body-related behaviours and cognitions for participants who were not overweight. These findings have implications for other derogated groups which may be perceived as permeable, such as those who are elderly, unemployed, or divorced. Potentially, even positive contact with these groups may also be associated with negative consequences.

Furthermore, in Chapter 5 I speculated that due to the negative consequences that were found after ‘normal’-weight participants experienced contact with overweight people, weight bias interventions aiming to reduce anti-fat attitudes by increasing contact between overweight and average-weight participants may not be successful. Since the publication of my study, the first weight bias intervention utilising the contact hypothesis was published. Koball and Carels (2015) randomly assigned 156 participants to one of four conditions: 1) they either experienced direct contact with an obese confederate posing as another participant (direct contact condition), 2) they were provided with a photo of the confederate and told to imagine contact (imagined contact condition), 3) they watched a video displaying interaction between an average-weight confederate and the obese confederate (vicarious contact condition), or they completed all measures online and did not engage in any interaction tasks (control condition). Following the manipulation, all participants completed measures of weight bias, intentions to engage with obese people, and intergroup anxiety.

Supporting our findings, the authors found that participants who experienced direct, positive contact with the obese confederate reported reduced negative stereotypes about and dislike towards obese people in general, as well as increased intentions to interact with obese people in the future. Indirect contact, in comparison, did not influence weight bias or future intentions to interact with obese people. Furthermore, participants in these conditions reported that their interactions were less realistic, positive, and friendly, compared to the direct contact condition. The authors speculate that these findings may be due to the ubiquitous and widespread social acceptability of weight bias;
potentially, participants found it difficult to imagine a positive interaction with an obese person, or that an average-weight and overweight person could be close friends.

Their results extend our own and lend weight to our findings. However, our work adds nuance by demonstrating that even positive contact may have unintended negative effects, at least for people who are not overweight. Although this study investigates how contact influences weight bias, it did not investigate how this contact influenced body-related behaviours and cognitions, such as fat talk, drive for thinness, or body checking. It could be that while contact may be effective in reducing prejudice when measuring explicit attitudes, the influence of weight bias is so strong that it may still be manifesting implicitly. Future studies could include implicit measures of weight bias to examine if contact also reduces implicit bias against overweight people, and investigate whether contact would influence these variables, as per my findings in Chapter 5. Furthermore, future studies could experimentally measure some of these variables, such as measuring drive for thinness by providing participants with sugary treats placed surreptitiously on a scale, and viewing how many treats participants ate during or after watching the videos. Our findings also differ from those of Koball and Carels (2015) with the inclusion of BMI as a moderator. This is crucial, as our work demonstrates that one’s own weight has important implications for how contact with overweight people is related to our feelings about them. Lastly, future research could also measure indirect contact, as per Koball and Carels (2015).

Finally, I found that for participants who were overweight, positive contact was associated with decreased in-group prejudice, and reduced vigilance around their weight (through drive for thinness and body checking). These findings indicate that overweight people may experience benefits from engaging with their group, and that experiencing positive contact with overweight others may be protective against body concerns and, potentially, against the effects of weight bias. Similarly, in Chapter 4 I found a positive relationship between body size and finding a larger body attractive (for both men and women), as well as dating larger bodies. Taken together, these results indicate that potentially we are seeing less stigma as weight increases. Although this contradicts research indicating that overweight people hold the same level of weight bias as non-overweight people (Crandall, 1994; Gumble & Carels, 2012) it does support the finding that even though overweight people do display weight bias it is a weaker relationship than that found in non-overweight people (Marini et al., 2013; Schwartz et al., 2008). Further examination of this finding is crucial, due to the negative influence of weight bias (as detailed in Chapter 2). Future studies could involve a longitudinal examination of positive contact and its influence on the negative psychological and physical effects of weight bias. Furthermore, this finding is important due to the recent emergence of the Fat Acceptance movement (also detailed in Chapter 2). As stated earlier,
feeling connected to a group has been associated with improved self-esteem, health, and well-being (Lee & Robbins, 1998; Walton & Cohen, 2011). Qualitative data suggests that for overweight women, feeling connected to others who are overweight can result in them feeling empowered, connected, self-accepting, and in reduced levels of fat phobia (Dickins et al., 2016; Dickins et al., 2011; Robinson et al., 1993). My findings add to this emerging field of research, providing quantitative data that demonstrates the positive influence of overweight people experiencing positive contact with others who are also overweight.

Limitations

In two of my studies (as per Chapters 3 and 5) I used the same dataset. Both these studies utilised BMI as their primary measure of body fat. However, there is extensive research demonstrating how using BMI as a measure of adiposity may be misleading and inaccurate. For example, BMI does not distinguish between those who are heavy due to weight or due to muscle (Snijder, van Dam, Visser, & Seidell, 2006). Furthermore, there is evidence indicating that the relationship between BMI and body fat appears to be different in non-Caucasian populations (Chang et al., 2003; Deurenberg-Yap, Chew, & Deurenberg, 2002; Gurrici, Hartriyanti, Hautvast, & Deurenberg, 1998) and in elderly populations, where older people’s BMI is often underestimated due to changes in height, lean body mass, and bone density over time (Jackson et al., 2002; Miller, Schmatz, & Schultz, 1998; Noppa, Andersson, Bengtsson, Bruce, & Isaksson, 1980; Roubenoff & Hughes, 2000). There are numerous other ways to measure body fat, such as multi-compartmental models, which include underwater weighing, dilution techniques, and dual-energy X-ray absorptiometry; all methods which have been demonstrated to be accurate and reliable. However, they are also considered to be impractical, due to costs involved in both time and money (Snijder et al., 2006). Other methods that are often used to assess body fat include taking skinfold measurements, measuring waist circumference, waist-to-hip circumference ratio, sagittal abdominal diameter, or with the use of imaging techniques such as magnetic resonance imaging or computed tomography (Snijder et al., 2006). However, these techniques all involve interacting with the participant in person. This was not feasible due to the online recruitment of this dataset. However, I recommend that future research investigate feasible alternative methods of assessing body weight, shape and muscularity of participants.

As a second core limitation, all three of my studies involve evaluating cross-sectional data, which cannot be assumed to provide causal information. In these studies, I present directional models in which 1) body image is assumed to influence sexual functioning 2) feminism is assumed to influence what we find attractive, and 3) contact is assumed to influence prejudice. However, it is plausible that sexual encounters could motivate one to change one’s body, or that existing prejudice
against overweight people influences how contact with them is interpreted (i.e. positive or neutral contact could be interpreted as negative). Indeed, there is research that indicates that the relationship between contact and prejudice appears to be bidirectional and cyclical (Barlow et al., 2009; Binder et al., 2009). It is also likely that this is the case for the relationship between body image and sexual functioning. As of yet, most research examining the relationships between these two constructs are also cross-sectional (Ackard et al., 2000; Cash et al., 2004; Daniel & Bridges, 2003; Pujols et al., 2009; Seal et al., 2009; Swami et al., 2014). Longitudinal data should be conducted to further assess the long-term relationships between body image, drive for muscularity, drive for thinness, and various measures of sexual functioning. However, it is unclear how this reverse causal argument would extend to some of my results. For example, it is unlikely that finding a larger female body attractive would increase one’s identification as a feminist.

Another limitation can be found in the use of the figure scales to rate attractiveness (see Chapter 4). Figure drawings have been criticised as unrealistic representations of the human body, for example being disproportionate, or having poorly defined features (Thompson & Gray, 1995). The figures used in my study in Chapter 4 were created using Photoshop to ensure that the figures were all proportionate and realistic. Figure scales have also been criticised for their restriction of choices, resulting in a ‘coarse’ response (Gardner, Friedman, & Jackson, 1998). Although most figure scales have between seven and nine figures, studies have demonstrated that an average of three are chosen (Gardner, Friedman, & Jackson, 1999; Brodie, Bagley, & Slade, 1994). Upon examination of my data, this does initially appear to be the case. When asked which female figure was considered to be the most attractive, both men and women chose the figures between 3 and 6. However, I also asked participants which were the largest and smallest figures that they considered to be attractive. Participant answers ranged from 3 to 9 for the largest figures and 1 to 5 for the smallest; therefore, the whole range of figures was utilised in this study.

Figure scales have also been criticised for being age-specific (Yanover & Thompson, 2009). Since my figures were created based on adult bodies and utilised on adults, I do not perceive this to be an issue. These figures often include features that are clearly of a Caucasian ethnicity (Altabe, 1996; Thompson, 1996). To overcome this, my figures were created from the neck down. Finally, most of the criticism aimed at figure drawings focuses on its use as a measure of body dissatisfaction or distortion (Gardner & Brown, 2010). Since my figures were not created or utilised for this purpose, I believe that these criticisms do not apply.

As discussed in Chapter 3, I utilised the Drive for Muscularity Scale to evaluate body image dissatisfaction in both men and women. Contrary to hypotheses, drive for muscularity was primarily not associated with sexual problems. However, emerging research has revealed that drive for
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Muscularity is distinct from muscle dissatisfaction (Dakanalis et al., 2015; Stratton, Donovan, Bramwell, & Loxton, 2015). That is, one can perform behaviours to increase muscle without being dissatisfied with one’s appearance. This may explain why we did not find the expected relationships between body image (measured via drive for muscularity) and sexual problems. Future research should consider utilising the Male Body Dissatisfaction scale or the Somatomorphic Matrix in order to better assess body image disturbance in men (Gruber, Pope, Borowiecki, & Cohane, 2000; Hallsworth, Wade, & Tiggemann, 2005), although it must be noted that both of these measures are designed to assess muscle dissatisfaction in men and thus exclude women in examinations of muscle dissatisfaction. These new findings also call into question whether the same pattern can be found regarding drive for thinness and whether or not it is distinct from weight dissatisfaction, although intuitively this seems less plausible.

Lastly, in Chapter 4 the figures utilised were not validated. Validated figure scales include the Contour Drawing Rating Scale (Thompson & Gray, 1995), the Stunkard Body Figure Scale (Stunkard, Sorenson, & Schulsinger, 1983), and others. For example, Novella, Gosselin, and Danowski (2015) created the Presentation of Images on a Continuum Scale; highly detailed, colour images with a variety of images and response options including both the images and the in-between images. Future research could replicate the findings presented in Chapter 4 using these validated scales. Furthermore, the figures from Chapter 4 should be validated. For example, correlations between the figures and weight-related measures could be calculated to test construct validity, as was done by Novella and colleagues (2015).

Furthermore, the scale used to measure feminist identification was a measure commonly used in social identity research (e.g., Hornsey, Blackwood, & O’Brien, 2005). That is, the general measure has been validated, and used repeatedly to measure group-based identification. In fact, similar social identity scales have been used in relation to feminist identification in the past (Reid & Purcell, 2004). However, the particular scale used in this study was not designed to specifically measure feminist identification. Other, validated scales that specifically examine feminist identity may be more sensitive in detecting changes. For example, Zucker (2004) developed a three-item scale of cardinal beliefs of feminism and a behavioural measure to measure the acceptance of the feminist label. Other scales that are commonly used include the Feminist Identity Scale (Rickard, 1989) and the Feminist Identity Development Scale (Bargad & Hyde, 1991). Together, these measures may more fully encompass feminist identification relative to the brief scale used in our research. Future studies could replicate the study presented in Chapter 4 with more focused scales.
Conclusions

In this thesis I evaluated body image research and presented three new studies that filled existing gaps in the literature. In these studies, I investigated the consequences of having a negative body image, evaluated how gender and feminist identification are related to body image and attraction to various body types, and how contact with overweight people is related to prejudice against them.
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