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Body image and affect: a self-discrepancy interaction framework

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**Body Image and Affect: A Self-Discrepancy Interaction
Framework**

**by
Rebecca Steer**

**Thesis submitted to Bangor University in fulfilment of the requirements
for the degree of Doctor of Philosophy in the School of Sport, Health and
Exercise Sciences, Bangor University, Wales.**

August 2012



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Overview of the Thesis

Research interest in body image has accelerated in recent decades. As such, there exists a substantial body of literature examining affective and behavioural correlates of body dissatisfaction. Although this literature has consistently demonstrated positive relationships between body dissatisfaction and depression, social physique anxiety, disordered eating and physical inactivity, the underlying mechanisms of the relationships between one's body image and affect remain poorly understood. Furthermore, although body image researchers have commonly examined *discrepancies* between one's current (or actual) self and one's ideal self, they have not commonly done so within an established theoretical framework.

Higgins' (1987) self-discrepancy theory proposes that individuals possess three selves: an actual self, an ideal self, and an ought self; and that discrepancies between these selves result in distinct emotional consequences. Furthermore, it has been proposed that individuals possess a feared self, which may act as a moderator of the relationships between ideal and ought selves, and affect. Although this proposal has begun to receive research attention within the global self-discrepancy literature, it has yet to be examined within the context of body image. As such, utilising a self-discrepancy theory framework, this thesis presents a detailed examination of ideal, ought and feared body image self-discrepancies and their interactions as predictors of social physique anxiety, body dissatisfaction and disordered eating attitudes.

The first study extends the work of Carver et al. (1999) and Woodman and Hemmings (2008) by examining the moderating role of the feared self in the relationship between women's ought body fat discrepancies and social physique anxiety. Specifically, we examined the hypothesis that the positive relationship between ought body fat discrepancies and social physique anxiety will be stronger when women are farther from their feared self. Results were in line with that hypothesised and provide initial support for such an interaction framework in examining body self-discrepancies; highlighting the importance of considering the role of the feared self in the relationship between body self-discrepancies and social physique anxiety.

Study 2 was an examination of the interaction between ought and feared body fat discrepancies in predicting social physique anxiety and disordered eating attitudes. Study 2 extended the findings of Study 1 by examining a model of mediated moderation such that ought and feared discrepancies interact to significantly predict disordered eating attitudes,

and that this relationship is mediated by social physique anxiety. Results demonstrated that the ought \times feared interaction on disordered eating attitudes was fully mediated by social physique anxiety. However, the form of the ought \times feared interaction was in contrast to that hypothesised (cf. Study 1). Specifically, the positive relationship between ought body fat discrepancies and disordered eating attitudes was significant only when women were *close* to their feared self.

Study 3 addressed the growing body of correlational and experimental literature examining the effects of acute exposure to media ideals on body image and associated affect (e.g., Halliwell & Dittmar, 2004, 2005). We extended this by examining the moderating role of exposure to media ideals on the relationship between body discrepancy magnitude and affect. Specifically, we examined whether the positive relationships between ideal discrepancies and body dissatisfaction; and ought body discrepancies and social physique anxiety, are attenuated by exposure to media ideals. Results provided support for these hypotheses such that the positive relationship between ideal body discrepancies & body satisfaction, and ought body discrepancies & social physique anxiety, were weaker following exposure to media ideals compared to a control condition.

Utilising a hierarchical linear modelling approach, Study 4 examined within-person variability in the specific shape of interactions between self-guides in predicting social physique anxiety. Specifically, we examined whether the moderating role of the feared self differs as a function of mean levels of social physique anxiety. Results demonstrated a three-way cross-level interaction such that when mean social physique anxiety was high, the positive relationship between ideal discrepancies and social physique anxiety was significant only when participants were relatively far from their feared self. In contrast, when mean social physique anxiety was low, the positive relationship between ideal discrepancies and social physique anxiety was significant only when participants were relatively close to their feared self.

The final chapter presents a discussion of the central findings of the thesis and the advances made in understanding the interplay between body self-discrepancies in predicting affect. Furthermore, we discuss the implications and propose future directions for body image, social physique anxiety and self-discrepancy research.

Chapter 1

Introduction

Research interest in body image has dramatically increased in recent decades, accelerating since the 1950s (Grogan, 2008). In order to examine body image, it must first be established what the term ‘body image’ refers to. Such is the increase in research interest, Thompson, Heinberg, Altabe, and Tantleff-Dunn (1999) noted 16 different definitions highlighting perceptual (e.g., size perception accuracy); attitudinal (e.g., subjective satisfaction, negative affect); and cognitive (e.g., beliefs about the body, investment in appearance) elements of one’s body image. Similarly, there are over 50 measures available for assessing one or more of these elements (Thompson, 2004). It is widely accepted that a combination of these elements constitutes one’s body image and that each has important influences on other aspects of one’s self such as self-esteem, affect and behaviour such as eating and exercise. For the purpose of this thesis, body image is defined as “a person’s perceptions, thoughts and feelings about his or her body” (Grogan, 2008, p. 3). Specifically, the primary focus here is the perceptual element of one’s body image, and the role that these perceptions play in predicting body-related affect and behaviour.

Body image is, to a large extent, culturally and socially determined as evidenced in the changing shape and size of a cultural ‘ideal body’ that can be traced back several centuries. As these body ‘ideals’ vary as a function of different cultures (Soh, Touyz, & Surgenor, 2006), here and throughout the thesis, the focus is on the ideal body in Western societies. Between 1600 and the late 1800’s, the Western ideal body for women was full and rounded, which was a body that was considered to be associated with fertility and good health (Grogan, 2008). However, in the 1920’s this cultural ideal began to shift to one of

thinness, a shift attributed to increased marketing by the fashion industry. The hand-drawn figures represented in fashion images, and the style of fashion at the time, commanded a tall, slender, shapeless physique (Grogan, 2008). Between 1930 and 1950, the ideal moved towards a shapelier, hourglass physique, before turning again towards an increasingly thin ideal. This thinness ideal has continued, becoming gradually more extreme, to the present day (Grogan, 2008). In an assessment of Playboy magazine centrefolds between 1959 and 1978, Garner, Garfinkel, Schwartz, and Thompson (1980) demonstrated this increasingly thin ideal, reporting a significant decrease in the average BMI of models. Follow-up studies suggested that between 1978 and 1998 this trend continued and eventually plateaued at 13-19% below expected weight based on height and age (Katzmarzyk & Davis, 2001; Wiseman, Gray, Mosimann, & Ahrens, 1992). Specifically, between 1978 and 1998, 77.5% of models were more than 15% below their physiological ideal mass based on the Metropolitan Height and Weight tables (1983; Katzmarzyk & Davis, 2001) and thus would have met at least one primary criterion for the diagnosis of an eating disorder (American Psychiatric Association, 2000). This thinness “ideal” is portrayed by the media as representing beauty, happiness, and success, which are in turn portrayed as personal characteristics that are desirable, expected, achievable and normal (Dittmar, 2008). In contrast, overweight individuals are perceived as less intelligent, less attractive, less self-confident, less successful, less hard-working and less popular; lacking in self control, self-indulgent, lazy, and in poor health (Cash, 1990; Tiggemann, & Rothblum, 1988). It is widely acknowledged that the cultural thinness ideal that is presented by the media is often so extreme that it is physically unachievable for the majority (Dittmar, 2008). Nonetheless, epidemiological surveys suggest that an ideal of thinness is one that women continue to strive to achieve regardless of how unrealistic or unhealthy the pursuit of these ideals might be (Dittmar, 2008; Wykes & Gunter, 2008).

The role of men's body image has relatively recently begun to receive research attention due to an increasing visibility of a cultural ideal body for men (Pope, Olivardia, Borowiecki, & Cohane, 2001). However, this ideal body is not focussed on thinness but primarily on muscularity and leanness (i.e., low body fat) and depicts a tall, broad, muscular, toned, and 'V-shaped' physique (Grogan, 2008). As with the thinness ideal for women, in an examination of Playgirl magazines, Leit, Pope and Gray (2001) reported a significant increase in the muscularity of male models between 1973 and 1997. Furthermore, such thinness and muscularity ideals are communicated to young children through popular toys such as Barbie and GI Joe. The physical proportions of such toys reflect a waist that is significantly smaller than that of anorexic patients (Dittmar, Halliwell, & Ive, 2006), and muscularity that exceeds that of body builders (Pope, Olivardia, Gruber, & Borowiecki, 1999). As such, the cultural ideal for men is becoming as unrealistic and unachievable for men as the thinness ideal is for women (Pope et al., 1999).

Perhaps paradoxically, as the societal emphasis on thinness has increased the prevalence of overweight and obese individuals has also increased. In 2007, 61% of the UK's population were overweight or obese (OECD, 2009). The 2009 Health Survey for England report (NHS, 2010) stated that 66% of men and 57% of women were overweight or obese with 22% of men and 24% of women in the obese category. These levels are predicted to continue to increase at such a rate that by 2025 it is estimated that 47% of men and 36% of women will be obese (Government Office for Science, 2007). As such, the discrepancy between the cultural thinness ideal for women and the actual weight status of women in the general population is widening. Given this, it is unsurprising that for women, body dissatisfaction is so prevalent that it is described as "normative discontent" (Mazzeo, 1999; Rodin, Silberstein, & Striegel-Moore, 1985). In other words, to be dissatisfied with one's body is considered the norm rather than the exception.

In contrast, there is a lack of comprehensive available statistics regarding the prevalence of eating disorders among women and men. It is estimated that 0.5% and 1% - 3% of women in Western societies suffer with anorexia nervosa and bulimia nervosa, respectively (American Psychiatric Association, 2000). Overall, it is estimated that men make up around 10% of the incidence of all eating disorders (American Psychiatric Association, 2000). However, these figures may drastically underestimate the problem, given that they represent only those cases for which people receive primary care, and do not include those with disordered eating symptomatology and behaviours that do not meet the criteria for clinical diagnosis. Furthermore, it has been reported that a large proportion of women who do not seek primary care or meet the DSM-IV criteria for diagnosis of an eating disorder, nevertheless hold disordered eating attitudes and engage in a range of behaviours directed towards weight loss such as chronic dieting, fasting, purging, and using diet-pills, diuretics and laxatives (Wykes & Gunter, 2008). Given that body dissatisfaction is a primary risk factor for the development of disordered eating behaviour (Phelps, Johnston, & Augustyniak, 1999; Polivy & Herman, 2002), it is crucial that the mechanisms through which poor body image influences affect and associated behaviour are more thoroughly understood.

Self-Discrepancy Theory

Theories of self-concept and affect have long been of research interest in mainstream psychology (e.g., Freud, 1923/1961; James, 1890/1948, Mead, 1934; Rogers, 1961). In line with the traditional view that inconsistencies or conflicts of the self result in negative emotional consequences, Higgins (1987) proposed his self-discrepancy theory. This theory distinguishes between different self representations (or self-guides) and specific types of affect. Self-discrepancy theory proposes that there are three basic domains of the self: the

actual self, that is, the person or attributes one believes he/she is or possesses at the current time; the ideal self, defined as the person or attributes one would ideally like to be or possess; and the ought self, defined as the person or attributes one believes he/she should or ought to be or possess.

The *ideal self* is defined by one's hopes and aspirations, and is associated with positive outcomes such as praise and reward. According to Higgins (1987) congruence between the actual self and the ideal self results in the presence of positive outcomes (actual or expected) and as such, feelings of happiness, contentment and satisfaction. In contrast, discrepancy between the actual self and the ideal self results in the absence of positive outcomes and consequently, dejection-related affect such as disappointment, sadness and dissatisfaction.

The *ought self* is defined by one's sense of duty, responsibility and obligation, and is associated with negative outcomes such as punishment. Congruence between the actual self and ought self results in the absence of negative outcomes and feelings of calm and relaxation. However, discrepancy between the actual self and ought self results in the presence (actual or expected) of negative outcomes and results in agitation-related affect such as anxiety, fear and threat.

According to self-discrepancy theory, individuals are motivated to reach a state whereby their actual self matches their ideal and ought selves. Furthermore, although each person may possess both ideal self-discrepancies and ought self-discrepancies, Higgins (1987; 1989; 1996) argued that one may be more strongly orientated towards a particular self-guide depending on the type of learning and reinforcement received as a child. Specifically, if children primarily receive positive reinforcement, that is, the presence or absence of positive outcomes as a result of behaviour, they will become more ideal orientated. In contrast, if children primarily receive negative reinforcement (i.e., the

absence or presence of negative outcomes) they will become orientated towards an ought self-guide. As such, an individual may not be equally motivated by ideal self-discrepancies and ought self-discrepancies, and may be more prone to experiencing the type of affect associated with their most personally relevant self-guide (Higgins, 1987; 1996).

In order to assess self-discrepancies, Higgins, Klein and Strauman (1985) devised the Selves Questionnaire. Participants are asked to list up to 10 traits or attributes associated with each of the self domains (actual, ideal and ought). The list of attributes for the actual self are compared to the lists for the ideal self and the ought self. It is then determined which attributes are *matches*, that is, attributes that appear on both lists (or synonyms that are considered to be the same attribute); and which are *mismatches*, that is, attributes that are listed in one self-domain with their opposite or antonym listed in another self-domain. Finally, a self-discrepancy score for each self-guide (i.e., ideal and ought) is calculated by subtracting the total number of matches from the total number of mismatches. Higher mean scores indicate larger self-discrepancies.

Higgins and his colleagues have conducted a series of correlational and experimental studies examining the specific hypotheses of self-discrepancy theory (e.g., Higgins, 1987, 1997, 1999; Higgins, Bond, Klein & Strauman, 1986; Higgins et al., 1985; Higgins, Shah & Friedman, 1997; Strauman & Higgins, 1987). Typically, utilising the Selves Questionnaire, these studies assess young men's and women's global self-discrepancies, which may or may not include body-related descriptors, in relation to global affect. This body of research has offered substantial empirical evidence for the primary proposals of self-discrepancy theory. That is, ideal discrepancies have been shown to be uniquely predictive of dejection-related affect, whereas ought-discrepancies uniquely predict agitation-related affect. Experimental priming of either the ideal or the ought discrepancy results in increased levels of negative affect associated with that specific

discrepancy (Higgins et al., 1986). This was further moderated by discrepancy magnitude such that participants with large ideal and ought discrepancies experienced an increase in negative affect following priming of self-discrepancies. In contrast, participants with small ideal and ought discrepancies (low number of *mismatches*) reported slight decreases in negative affect following priming.

Despite this support, there is also a substantial amount of literature that has failed to support these proposals. For example, both ideal and ought discrepancies have been shown to predict both anxiety and dejection (McDaniel & Grice, 2008; Ozgul, Huebeck, Ward, & Wilkinson, 2003); both ideal and ought discrepancies predict dejection while neither discrepancy predict anxiety (Tangney, Niedenthal, Covert, & Barlow, 1998); both ideal and ought discrepancies predict anxiety, but not depression (Hart, Field, Garfinkle, & Singer, 1997); and ideal discrepancies predict both anxiety and dejection while ought discrepancies predict neither (Gramzow, Sedikides, Panter, & Insko, 2000). This research has repeatedly found high correlations between ideal and ought self-guides (Hart et al., 1997; Strauman & Higgins, 1997; Ozgul et al., 2003; Tangney et al., 1998). It is proposed (e.g., Ozgul et al., 2003; Tangney et al., 1998) that an empirical lack of distinction between the ideal self and the ought self is one factor that has resulted in the equivocal findings regarding Higgins' proposed unique discrepancy – affect relationships.

Higgins (1999; Higgins et al., 1986) argues that this contrasting evidence is due to the presence of moderating factors of discrepancy – affect relationships. He proposed that unique discrepancy – affect relationships may be moderated such that they will be evoked more strongly under certain circumstances. Specifically, he identified four (closely related) moderators of these relationships: *magnitude*, *accessibility*, *relevance*, and *importance*. The *magnitude* of the discrepancy between one's actual self and ideal self or ought self will

moderate discrepancy – affect relationships such that the larger the magnitude of a discrepancy, the greater the level of negative affect associated with that discrepancy.

The *accessibility* of any particular discrepancy is dependent on the frequency and recency of activation of that discrepancy. Although a large number of discrepancies may be available to an individual, it is likely that there are a smaller number of discrepancies that are central to one's self-identity. Self-discrepancies that are more central to one's global self-concept are likely to be more frequently activated and thus more readily accessible.

The activation of a discrepancy is dependent on the *relevance* of that discrepancy to the situation. For example, discrepancies relating to oneself as a colleague are likely to be activated within work settings. Finally, discrepancies that are considered most *important* by an individual are likely to be more frequently activated and easily accessible. As such, important, relevant and chronically accessible discrepancies will be stronger predictors of one's experience of affect than less personally important or less frequently activated discrepancies.

Body Self-Discrepancies

Given the prevalence of body dissatisfaction (cf. Rodin et al., 1986) and the extent to which body image discrepancies are almost continuously activated (e.g., through different media; Dittmar, 2008), body image is likely to be central to one's global sense of self. As such, body self-discrepancies are likely to be especially strong predictors of negative affect.

Men's and women's body self-discrepancies are commonly assessed in terms of discrepancies between the perceived current (or actual) self and the ideal self. The rapid increase of research into the different components of body image has resulted in an array of measurements to calculate body image discrepancies and body dissatisfaction (Thompson & Van den Berg, 2002). To assess the perceptual component of body image, researchers

have often utilised Figure Rating Scales (e.g., Stunkard, Sorensen, & Schulsinger, 1983). Typically, from a series of figure illustrations (Wardle, Bindra, Fairclough, & Westcombe, 1993) or photographs (Huon, Morris, & Brown, 1990) ranging from very thin to very fat, women are asked to select the figure they feel most accurately depicts their own figure (i.e., perceived actual/current self) and the figure that represents how they wish to look (i.e., ideal self). These studies consistently reveal that, when using these scales, women select an ideal figure that is smaller (i.e., thinner) than their actual. Similar scales have been devised for assessing men's body image. Using different images, these scales have separately assessed dimensions of fat (Stunkard et al., 1983; Mishkind, Rodin, Silberstein, & Striegel-Moore, 1986) and muscularity (Lynch & Zellner, 1999). Attempts to more accurately assess both dimensions led to the development of the Somatomorphic Matrix (Gruber, Pope, Borowiecki, & Cohane, 2000). This computerised version of figure rating scales allows participants to adjust levels of fatness and muscularity, selecting one of 100 figures from a 10 (fatness) x 10 (muscularity) matrix.

A wide selection of questionnaire-based measures including the Body Shape Questionnaire (Cooper, Taylor, Cooper, & Fairburn, 1987); the Body Areas Satisfaction Scale (Cash, 2000); and the Body Dissatisfaction subscale of the Eating Disorder Inventory (Garner, Olmstead, & Polivy, 1983) have been used to assess global (dis)satisfaction with one's appearance as well as concern about specific body sites (waist, hips, buttocks, etc.). In addition to global body dissatisfaction, researchers have examined appearance-related anxiety (Physical Appearance State and Trait Anxiety Scale; Reed, Thompson, Brannick, & Sacco, 1991), social physique anxiety (Social Physique Anxiety Scale; Hart, Leary, & Rejeski, 1989) and behavioural correlates of body image such as eating and exercise (Anton, Perri, & Riley, 2000).

Specific examinations of ideal body self-discrepancies have typically shown them to be positively associated with body dissatisfaction (Anton et al., 2000; Forston & Stanton, 1992; Halliwell & Dittmar, 2006; Harrison, 2001; Snyder, 1997), bulimic symptomatology (Strauman, Vookles, Berenstein, Chaiken, & Higgins, 1991), and lower physical activity (Anton et al., 2000). Anton et al. (2000) concluded that when the ideal body is not achieved, motivation to engage in exercise and healthy eating patterns may in fact decline and that women may “experience increased discomfort when exercising in public places” (p. 159), which reflects elements of social physique anxiety.

Defined as the “anxiety that people experience in response to others’ evaluations of their physiques” (Hart et al., 1989, p. 94), *social physique anxiety* has been examined in relation to a variety of body image cognitions, affects and behaviours. This literature indicates positive relationships with body dissatisfaction, depression, and disordered eating, and a negative relationship with exercise behaviour (Crawford & Eklund, 1994; Crocker et al., 2003; Diehl, Johnson, Rogers, & Petrie, 1998; Eklund & Crawford, 1994; Fredrick & Morrison, 1998; Haase & Prapavessis, 1998, 2001; Haase, Prapavessis, & Owens, 2002; Kowalski, Crocker, & Kowalski, 2001; Krane, Stiles-Shipley, Waldron, & Michalenok, 2001; Reel & Gill, 1996; Spink, 1992). Although specific examinations of the relationship between body discrepancies and social physique anxiety are sparse, they indicate that women’s reported ideal weight and size discrepancies (using figure rating scales) are a significant positive predictor of social physique anxiety (Russell & Cox, 2003; Sabiston, Crocker, & Munroe-Chandler, 2005).

The distinction (or lack thereof) between the ideal self and the ought self remains a central point of contention within the self-discrepancy literature. In the specific context of body image, this uncertainty is further compounded by a paucity of body image literature that has explored body selves beyond the ideal self. Consequently, ideal body self-

discrepancies have been shown to be associated with both dejection- and agitation-related affect (e.g., Harrison, 2001; Russell & Cox, 2003; Sabiston et al., 2005) whilst ought body self-discrepancies (in most cases) have been neither measured nor controlled. A few notable exceptions do exist; however, these are limited in that they have not specifically examined discrepancy – affect hypotheses, but have focussed instead on the relationship between of ideal and ought self-guides with specific types of disordered eating behaviour. In both men and women, Strauman et al. (1991) demonstrated that bulimic symptomatology, associated with depressive characteristics, was more strongly predicted by ideal discrepancies. Conversely, anorexic symptomatology, characterised by fear and anxiety, was more strongly predicted by ought discrepancies. These findings have been partially supported by research indicating that ideal discrepancies are uniquely related to bulimic symptomatology over and above ought discrepancies (Fortson & Stanton; 1992; Snyder, 1997). However, Harrison (2001) demonstrated that following media priming (i.e., experimental exposure to media ideals), both ideal and ought discrepancies were significant predictors of body dissatisfaction, drive for thinness and bulimic symptomatology.

The media are frequently implicated in encouraging an unrealistic thinness ideal and promoting body dissatisfaction in women (Wykes & Gunter, 2008). As such, the influence of media exposure on body image has received significant correlational and experimental research attention. Several meta-analytic reviews of the literature suggest that the media has a small to medium effect on body dissatisfaction, and that this effect is particularly pronounced in younger women and adolescents who may be more susceptible to these media ideals (e.g., Groesz, Levine, & Murnen, 2002). Furthermore, the greatest effects are seen in women with greater levels of attendance to, and internalisation of, media ideals (e.g., Dittmar & Howard, 2004; Halliwell & Dittmar, 2004).

Despite some examination of potential moderators of discrepancy – affect relationships in global self-discrepancy research, such examples within body self-discrepancy research are sparse. According to Higgins’ theorising, personally important, chronically accessible discrepancies that are central to one’s broader self-concept are more likely to be activated even when the context or situation is not directly relevant. Trampe, Stapel and Siero (2007) provide a striking illustration of these moderating factors in the context of body image by demonstrating that women with high levels of body dissatisfaction reported feeling more dissatisfied after viewing a thin vase compared to a fat vase. For women low in body dissatisfaction, exposure to either a thin vase or a fat vase did not significantly influence self-evaluations. In other words, even non-body specific stimuli may activate a body self-discrepancy and its associated affect if that discrepancy is of sufficient magnitude and importance to one’s self-concept.

Despite a wealth of literature establishing significant relationships between body dissatisfaction and associated criterion variables such as media exposure, social physique anxiety, eating and exercise behaviour, research examining body discrepancies has not always been grounded within a clear theoretical framework (i.e., self-discrepancy theory). As such, the mechanisms by which body self-discrepancies impact body-related affect and behaviour remain poorly understood. Specifically, there is a lack of research specifically examining: a) the empirical distinction between ideal and ought body selves; b) Higgins’ (1987) hypothesised unique self-discrepancy – affect relationships in relation to body self-discrepancies; and c) moderators of these relationships. Consequently, the first aim of the present thesis is to explore the ought self in relation to body-specific agitation-related affect; specifically, social physique anxiety.

The Feared Self

Alongside Higgins' (1987) self-discrepancy theory, Markus and Nurius (1986) published their discussion of possible selves. They proposed a similar principle of discrepancies between one's current (i.e., actual) self and other selves such as the 'hoped for' (i.e., ideal) self as predictors of affect. However, their discussion also proposed a feared self; the person or attributes one does not wish to be or fears becoming. Despite a clear overlap, as Carver, Lawrence and Scheier (1999) point out, this is rarely commented on. Higgins' self-discrepancy theory makes no proposals regarding the feared self and its relationship with affect.

Carver et al. (1999) were the first to attempt to incorporate Markus and Nurius' (1986) feared self into Higgins' (1987) self-discrepancy framework. They proposed that the feared self may act as a moderator in the relationship between ought discrepancies and agitation-related affect such as anxiety. Carver et al. questioned whether anxiety arose because one was discrepant from the ought self (as Higgins would suggest) or because one was not discrepant *enough* from the feared self. They proposed that the feared self might pre-empt the role of the ought self such that, when close to one's feared self, the primary motive would be to escape or to create distance from it. As such, the experience of affect would be primarily predicted by feared self-discrepancies. However, they suggested that as distance from the feared self increased, the escape or avoidance motivation would become less salient and instead the individual would begin to focus on the discrepancy from the ought self. Consequently, with sufficient distance from the feared self, ought self-discrepancies should become the salient motivational reference and as such, emerge as the stronger predictor of affect. Their results revealed the hypothesised interaction between ought and feared selves in predicting anxiety. Specifically, the positive relationship between ought self-discrepancies and anxiety was significant only when individuals were

relatively far from their feared self. Carver et al. proposed that this interaction framework may equally apply to the ideal self. Both ideal and feared self-discrepancies were associated with dejection-related affect (i.e., depression, and conversely, happiness); however, feared self-discrepancies did not moderate the relationship between ideal self-discrepancies and depression or happiness.

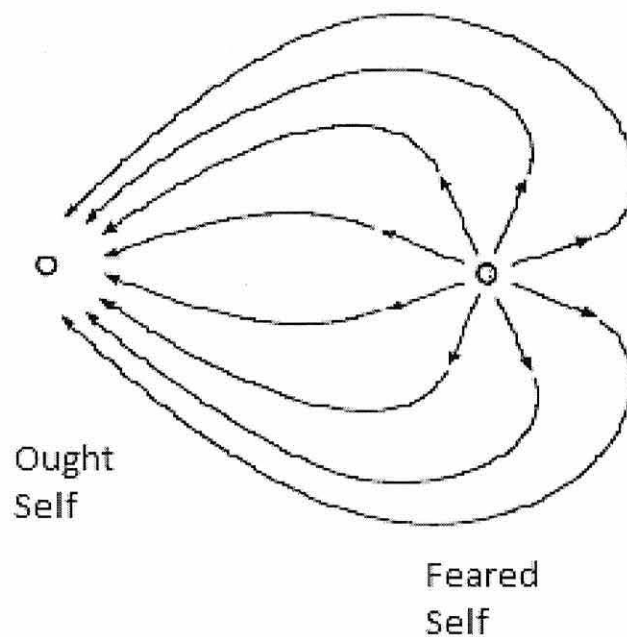


Figure 1.1. The proposed interplay between the ought self and the feared self.

One is motivated to create distance from the feared self. Once sufficient distance from the feared self is achieved, one can begin to work towards the ought self.

Adapted from Carver et al. (1999).

Building on this work, a small number of studies have attempted to examine the role of the feared (or undesired) self. Heppen and Ogilvie (2003) examined the moderating role of ‘undesired’ self-discrepancies in the relationship between ought self-discrepancies and global anxiety. In line with Carver et al. (1999), undesired discrepancies significantly predicted both dejection- and agitation-related affect. Further, undesired discrepancies

significantly moderated the ought discrepancy - affect relationship in the same way as revealed in Carver et al.

Beattie, Hardy and Woodman (2004) examined this interaction framework in relation to self-confidence discrepancies, cognitive anxiety, and performance (canoe slalom time). In contrast to the primary proposals of self-discrepancy theory (Higgins, 1987), ideal discrepancies significantly predicted cognitive anxiety. Furthermore, their results revealed an interaction between ideal and feared discrepancies in predicting cognitive anxiety. In contrast to Carver et al. (1999), this interaction indicated that the positive relationship between ideal discrepancies and cognitive anxiety became stronger as distance from the feared self decreased (i.e., when individuals were *closer* to their feared self).

In the specific context of body self-discrepancies, Woodman and Hemmings (2008) were the first to examine Carver et al.'s (1999) interaction framework. In line with Carver et al.'s framework, their results demonstrated that when close to the feared self, ought body fat discrepancies were unrelated to global anxiety. However, as distance from the feared self increased, ought discrepancies were significantly positively related to anxiety. In addition, they found a significant interaction between ideal and feared body fat discrepancies in predicting happiness such that the negative relationship between ideal discrepancies and happiness was significant only when women were far from their feared self.

In summary, examinations of the feared self remain sparse and fewer still have attempted to build on Carver et al.'s (1999) interaction framework of self-discrepancies. The empirical findings have demonstrated differences in the specific moderating role of the feared self (e.g., Beattie et al., 2004). Furthermore, only one study (Woodman & Hemmings, 2008) has extrapolated this framework to the study of body image self-discrepancies. As such, building on the work of Carver et al. and Woodman and

Hemmings, the second aim of this thesis is to more thoroughly examine the interplay between body self-discrepancies and affect. Specifically, the moderating role of the feared self in predicting body-specific affect and associated criterion variables.

Structure of the Thesis

Chapter Two. Chapter Two presents the first of four studies examining an interaction framework of body-self discrepancies and affect. Study 1 extends the work of Carver et al. (1999) and Woodman and Hemmings (2008) by examining the moderating role of the feared self in the relationship between women's ought body fat discrepancies and social physique anxiety. Specifically, according to the theoretical framework outlined previously, the positive relationship between ought body fat discrepancies and social physique anxiety should be stronger when women are farther from their feared self.

Chapter Three. Study 2 was an examination of the interaction between ought and feared body fat discrepancies in predicting social physique anxiety and disordered eating attitudes. We extended the findings of Study 1 by examining a model of mediated moderation such that ought and feared discrepancies interact to significantly predict disordered eating attitudes, and that this relationship is mediated by social physique anxiety.

Chapter Four. Study 3 addressed the growing body of correlational and experimental literature examining the effects of acute exposure to media ideals on body image and associated affect (e.g., Halliwell & Dittmar, 2004, 2005). We extended this by examining the moderating role of exposure to media ideals on the relationship between body discrepancy magnitude and affect. Specifically, we examined whether the positive relationships between ideal discrepancies and body dissatisfaction; and ought body discrepancies and social physique anxiety, are attenuated by exposure to media ideals.

Chapter Five. Utilising a hierarchical linear modelling approach, study four examined within-person variability in the specific shape of interactions between self-guides in predicting social physique anxiety. Specifically, we examined whether the moderating role of the feared self differs as a function of mean levels of social physique anxiety.

Chapter Six. The final chapter presents a discussion of the central findings of the thesis and the advances made in understanding the interplay between body self-discrepancies in predicting affect. Further, we discuss the implications and propose future directions for body image, social physique anxiety and self-discrepancy research.

Chapter 2

Body self-discrepancies and women's social physique anxiety:

The moderating role of the feared body¹

Abstract

We explored ideal, ought, and feared body image self-discrepancies as predictors of social physique anxiety within Carver, Lawrence and Scheier's (1999) and Woodman and Hemmings' (2008) interaction frameworks. One hundred women completed actual, ideal, ought, and feared body self-discrepancy visual analogue scales, the Social Physique Anxiety Scale and the Beck Depression Inventory-II. Moderated hierarchical regression analyses indicated that the relationship between ought body fat discrepancies and social physique anxiety was moderated by proximity to the feared fat self. Specifically, the positive relationship between ought fat discrepancies and social physique anxiety was stronger when women were far from their feared body self. The results highlight the importance of considering the feared self in order to more fully understand the relationship between body image and social physique anxiety.

¹ Based upon Woodman, T., & Steer, R. (2011). Body self-discrepancies and women's social physique anxiety: The moderating role of the feared body. *British Journal of Psychology*, 102, 147-160.

Introduction

Social physique anxiety – the “anxiety that people experience in response to others’ evaluations of their physiques” (Hart, Leary, & Rejeski, 1989, p. 94) – has been shown to be associated with: less exercise frequency and adherence (Lantz, Hardy, & Ainsworth, 1997; Treasure, Lox, & Lawton, 1998); body dissatisfaction (Krane, Stiles-Shipley, Waldron, & Michalenok, 2001); depression and low self-esteem, (Diehl, Johnson, Rogers, & Petrie, 1998); and anorexic and bulimic eating attitudes and behaviours such as dieting, drive for thinness and perfectionism (Crocker et al., 2003; Diehl et al., 1998; Frederick & Morrison, 1998; Haase & Prapavessis, 1998, 2001; Haase, Prapavessis, & Owens, 2002; Reel & Gill, 1996).

As social physique anxiety appears to play a crucial role in a number of health-related cognitions and behaviours it is important to understand the factors that contribute to its development. Much of the research on social physique anxiety has been conducted with the view that the further one is from one’s ideal body the greater one’s social physique anxiety. This body image research typically asks participants to report their ‘actual’ body self (e.g., actual weight and clothes size) and their ‘ideal’ body self (e.g., weight and clothes size they would choose if they could be any weight and size they wanted; Anton, Perri, & Riley, 2000). The discrepancy between the actual self and the ideal self, referred to as the *ideal discrepancy*, has been shown to be related to a number of body-related difficulties (Anton et al., 2000; Halliwell & Dittmar, 2006; Harrison, 2001; Forston & Stanton, 1992; Landa & Bybee, 2007; Snyder, 1997; Strauman, Vookles, Berenstein, Chaiken, & Higgins, 1991) including social physique anxiety (Russell & Cox, 2003; Sabiston, Crocker, & Munroe-Chandler, 2005).

Higgins’ (1987) self-discrepancy theory provides a fruitful framework for examining the relationship between body image discrepancies and social physique anxiety,

as it provides specific predictions for how different self-discrepancies will result in distinct types of affect. For example, Higgins proposed that the ideal self is defined by one's hopes and aspirations, and that congruence between the actual and the ideal self results in the presence of positive outcomes such as praise and reward. Discrepancy between the actual self and the ideal self (henceforth referred to as *ideal discrepancies*) results in the absence of positive outcomes and dejection-related affect such as depression. In addition to the actual and ideal selves, Higgins (1987) proposed that individuals possess an ought self: the person or qualities that an individual believes he/she should be or should possess.

According to self-discrepancy theory, the ought self is defined by feelings of duty, obligation, and responsibility, and congruence between the actual and the ought self results in the absence of negative outcomes such as punishment. Discrepancy between these selves (henceforth referred to as *ought discrepancies*) results in the presence of negative outcomes and agitation-related affect such as anxiety.

Using global self-discrepancies, Higgins and his colleagues have conducted a number of studies that provide support for these affect-specific proposals (e.g., Higgins, 1987, 1997, 1999; Higgins, Klein, & Strauman, 1985). However, there is evidence to indicate that the picture is not quite as clear as Higgins' (1987) theory suggests. For example, both ideal and ought discrepancies have been shown to predict both anxiety and dejection (McDaniel & Grice, 2008; Ozgul, Huebeck, Ward, & Wilkinson, 2003); both ideal and ought discrepancies have been shown to predict dejection with neither discrepancy predicting anxiety (Tangney, Niedenthal, Covert, & Barlow, 1998); and ideal discrepancies have been shown to predict both anxiety and dejection while ought discrepancies predict neither (Gramzow, Sedikides, Panter, & Insko, 2000).

Furthermore, with only a few exceptions (Forston & Stanton, 1992; Snyder, 1997; Strauman et al., 1991), body image research has been focused exclusively on ideal body

discrepancies with some evidence of a positive association between ideal discrepancies and social physique anxiety (Russell & Cox, 2003; Sabiston et al., 2005). However, when one considers the specific predictions of Higgins' self-discrepancy framework, the theoretical position of this research appears somewhat simplistic. Specifically, it is important for body image research to consider references of self that go beyond simply the ideal, and consider the unique contributions of each self-discrepancy (e.g., ideal, ought) to distinct types of affect (i.e., agitation, dejection). For example, if Higgins' theoretical position holds in the specific context of body image, ought discrepancies should be specifically related to social physique anxiety, and this relationship should hold when controlling for ideal discrepancies. Furthermore, given the typically strong association between agitation- and dejection-related affect (e.g., social physique anxiety and depression, cf. Diehl et al, 1998), ought discrepancies should remain a significant predictor of social physique anxiety after accounting for the contribution of depression. As such, controlling for both the other discrepancy and the other measure of affect provides a stringent test of Higgins' discriminant hypotheses.

In addition to the ideal and ought selves specified within Higgins' theory, a number of authors (e.g., Markus & Nurius, 1986; Ogilvie, 1987) have proposed that individuals possess an undesired or *feared self*: the self that one does not wish to become or is afraid of becoming. Although Higgins (1987) acknowledged the likelihood of a feared self, self-discrepancy theory makes no proposals with regard to its potential influence on anxiety, or any other type of affect. Ogilvie (1987) postulated that the feared self is more likely to be derived from personal experience, is less abstract, and may thus represent a stronger, more stable reference of self. However, the feared self has continued to be somewhat neglected in the self-concept literature. A notable exception is Carver, Lawrence, and Scheier's (1999) study, which incorporated the feared self into Higgins' (1987) framework by giving

consideration to the motivational qualities of the different selves. Higgins (1997) contended that the ideal and ought selves are approach motivational; that is, one is motivated to approach these selves (e.g., “I want to be thinner”). Carver et al. (1999) proposed that the feared self is avoidance motivational; individuals are motivated to avoid becoming close to the feared self (e.g., “I don’t want to become fat”). Furthermore, they proposed that the ought and feared selves may interact to predict agitation related-affect. Specifically, they argued that when people are close to their feared self, their primary motivation is to escape or to avoid it and other selves have little motivational impact; all that matters is getting away from the feared self. It is only as individuals gain some distance from their feared self (i.e., when avoidance motivation becomes less salient) that they can focus on approaching the ought self. In support of this prediction, Carver et al. revealed an interaction between ought and feared discrepancies in predicting anxiety. Specifically, when individuals were close to their feared selves, ought discrepancies were unrelated to anxiety. However, when individuals were further from their feared selves, ought discrepancies were significant predictors of anxiety.

Although recent self-discrepancy research has clearly demonstrated the importance of considering the interaction between approach and avoidance selves (e.g., Beattie, Hardy, & Woodman, 2004; Carver et al., 1999; Heppen & Ogilvie, 2003), little attention has been paid to this interplay in body image research. A recent study by Woodman and Hemmings (2008) was the first to examine body-specific discrepancies by extending Carver et al.’s framework. Based on this framework, they reported an interaction between ought and feared body fat discrepancies in predicting anxiety for women. Specifically, when women were closer to their feared fat self, ought fat discrepancies were not related to anxiety. It was only when women were far from their feared fat self that proximity to the ought fat self was a strong predictor of anxiety. Further, this interaction held when controlling for ideal

body fat discrepancies. This suggests that body image research that neglects the role of the feared self tells only part of a complex picture. Drawing on previous research that has shown that women's body image concerns revolve almost exclusively around fat (e.g., Groesz, Levine, & Murnen, 2002; Gruber, Pope, Borowiecki, & Cohane, 2000; Wiseman, Gray, Mosimann, & Ahrens, 1992), Woodman and Hemmings also revealed that the feared fat self moderated the ought fat discrepancy – anxiety for women but not for men. Although Woodman and Hemmings' (2008) findings are encouraging in predicting global anxiety, there still exists no evidence that such a framework is useful for predicting social physique anxiety. In fact, to the best of our knowledge, the social physique anxiety literature is devoid of any studies that consider the feared self, let alone the body image interactive framework presented by Woodman and Hemmings.

In summary, there is a paucity of research investigating the interaction between approach and avoidance body selves and their relationship with social physique anxiety and we aim to bridge this gap here. The aim of the present study was to examine ought and feared body fat discrepancies as predictors of social physique anxiety in women within Woodman and Hemmings' (2008) framework. We hypothesised a two-way interaction between ought and feared discrepancies in predicting social physique anxiety, such that the relationship between ought fat discrepancies and social physique anxiety would be moderated by feared fat discrepancies. Specifically, we expected ought discrepancies to be positively related to social physique anxiety only when women are far from their feared self; when they are close to their feared body, ought discrepancies should be relatively unrelated to social physique anxiety. Finally, in line with Higgins' (1987) proposals, we expected this pattern of results to hold when controlling for the ideal self.

Method

Participants

One hundred women ($M_{\text{age}} = 30.10$ years, $SD = 11.14$) were recruited via opportunistic community-based sampling. The sample was primarily Caucasian, consisting of undergraduate and postgraduate students, and members of the general population. The mean body mass index (BMI; weight (kg) divided by height squared (m^2)) of the sample was 26.17 ($SD = 4.53$). The study was approved by the institutional ethics board and written informed consent was obtained from all participants.

Measures

Demographic questionnaire. Participants completed a brief demographic questionnaire providing information about their age, height and weight. Previous research has indicated that social physique anxiety is positively associated with BMI (e.g., Crawford & Eklund, 1994; Eklund & Crawford, 1994) and negatively associated with age (Treasure et al., 1998). Furthermore, ideal-related body discrepancies and body dissatisfaction have been shown to decline with age (Landa & Bybee, 2007). Thus, height and weight (to calculate BMI) and age data were obtained so that they could be controlled in subsequent analyses.

Body discrepancies. Using four separate 15cm visual analogue scales, we asked participants to indicate (1) *how fat you feel your body actually is* (actual self), (2) *how fat you feel your body ought to be* (ought self), (3) *how fat you ideally would like your body to be* (ideal self), and (4) *how fat you fear your body being* (feared self). The visual analogue scales ranged from 0 (*not at all fat*) to 15 (*extremely fat*). Body discrepancies were calculated by creating an absolute difference score between the actual score and the ought, ideal, and feared scores.

Assumptions underlying discrepancy scores. According to Edwards (1994), discrepancy scores are appropriate to use only when the individual components exert opposite but equal effects on the dependent variable. To examine whether our data met these criteria, we conducted two-step regression analyses for the actual self compared to the ought, and feared selves on social physique anxiety. The magnitude of the effect of the actual self ($\beta_{\text{actual}} = .54, p < .001$) and the ought self ($\beta_{\text{ought}} = -.28, p < .005$) was opposite in sign and not significantly different ($t(100) = 2.51, ns$). However, the effects of the actual self ($\beta_{\text{actual}} = .40, p < .001$) and the feared self ($\beta_{\text{feared}} = .12, ns$) were not in the opposite direction. In purely statistical terms, this suggests that the discrepancy scores for the ought self are sound and the discrepancy scores for the feared self are suspect (see Edwards, 1994). However, we retained the feared and ought discrepancies on conceptual grounds. That is, one would expect the actual self and the ought self to reveal opposite and approximately equal effects on social physique anxiety. Conversely, one would expect the actual self and the feared self to reveal effects on social physique anxiety that are in the same direction (i.e., the fatter I feel, the more anxious I feel; the fatter I fear becoming, the more anxious I feel). This argument notwithstanding, the similarity of the actual and feared effects yields a concern about the actual self pre-empting any feared self effects. Thus, to allay any such concerns, we controlled for the actual self component throughout the analyses. It is worth noting that these difference score assumptions are typically not tested in self-discrepancy theory research, which is rather surprising given that difference scores are a central tenet of the theory and its derivatives².

Social Physique Anxiety. The nine-item Social Physique Anxiety Scale (SPAS; Martin, Rejeski, Leary, McAuley, & Bane, 1997) is a single-factor self-report scale that assesses the degree of anxiety that individuals feel when they perceive others to be

² We are grateful to an anonymous reviewer for pointing this out.

evaluating their physique. It includes items such as “It would make me uncomfortable to know others were evaluating my physique/figure.” Responses are scored on a five-point Likert scale ranging from 1 (*not at all characteristic*) to 5 (*extremely characteristic*). A mean social physique anxiety score is then calculated. The nine-item SPAS has demonstrated good internal consistency in both men ($\alpha = .84$) and women ($\alpha = .87$; Strong, Martin-Ginis, Mack, & Wilson, 2006). In the current sample the Cronbach’s alpha coefficient was .90.

Depression. The Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996) is a single-factor, 21-item measure of depression. Each item contains four statements that are rated on a scale of increasing severity of depression from 0 to 3 (e.g., 0 = *I do not feel sad*; 3 = *I am so sad or unhappy that I can’t stand it*). The measure asks participants to select one statement from each of the 21 items that most closely matches their feelings over the previous two weeks. The scores from the 21 items are summed to give a total depression score between 0 and 63. The BDI-II has good internal consistency in both clinical ($\alpha = .92$) and non-clinical samples ($\alpha = .93$; Beck et al., 1996). In the current sample the Cronbach’s alpha coefficient was .88. This measure was administered with a view to controlling for depression in the analyses (cf. Diehl et al., 1998).

Procedure

We told participants that the study was an investigation of body image. After completing the informed consent form and the demographic questionnaire, participants were provided with definitions of each of the body selves (actual, ought, ideal, and feared) as follows:

Actual self: Your Actual body fatness refers to how fat you feel you actually are at this point in time.

Ought Self: Your Ought body fatness refers to how fat you feel obliged to be, either by personal or outside pressures.

Ideal Self: Your Ideal body fatness refers to how fat you would ideally like to be.

Feared Self: Your Feared body fatness refers to how fat you fear or worry about being.

Participants then completed the measure of body discrepancies, the Social Physique Anxiety Scale, and the Beck Depression Inventory-II. Confidentiality was assured throughout.

Data analysis

Descriptive statistics and zero-order correlations are presented in Table 2.1. Moderated hierarchical regression analyses were conducted to examine the two-way interaction hypotheses. Multicollinearity was checked throughout; Menard (1995) suggests that tolerance statistics of below 0.2 are of concern. Multicollinearity was not of concern in the present data as the lowest tolerance statistic was .28, with the majority above .9.

In line with previous research (Gramzow et al., 2000; Ozgul et al., 2003; Tangney et al., 1998; Woodman & Hemmings, 2008), descriptive statistics indicated a significant relationship between ideal and ought fat discrepancies ($r = .86, p < .001$). Descriptive statistics also indicated a significant relationship between social physique anxiety and depression ($r = .47, p < .001$); and between social physique anxiety and age ($r = -.28, p < .01$). Subsequently, in the analyses we controlled for the ideal and actual body image components, depression, and age. Although descriptive statistics revealed no significant relationship between BMI and social physique anxiety ($r = .14, ns$), we chose to control for BMI also to ensure that any subjective body image effects were significant over and above relatively objective body physique data.

Table 2.1. Zero-order correlations and descriptive statistics ($n = 100$).

	BMI	SPA	Age	BDI	Actual Fat	Ideal Fat	Ought Fat	Feared Fat	Ideal Fat Disc	Ought Fat Disc	Feared Fat Disc
BMI											
SPA	.14										
Age	.11	-.28**									
BDI	.02	.47***	-.05								
Actual Fat	.58***	.46***	.15	.26**							
Ideal Fat	.37***	-.10	.23*	-.05	.45***						
Ought Fat	.31**	-.14	-.04	-.05	.28**	.67***					
Feared Fat	.24*	.31**	-.15	.23*	.46***	.08	.09				
Ideal Fat Disc	.39***	.58***	.02	.32***	.80***	-.19	-.15	.45***			
Ought Fat Disc	.31**	.53***	.15	.29**	.72***	-.09	-.43***	.37***	.86***		
Feared Fat Disc	-.27**	-.23*	-.16	-.09	-.49***	-.33***	-.19	.43***	-.32***	-.31**	
Women Mean (SD)	26.17 (4.53)	3.20 (.94)	30.10 (11.14)	9.27 (7.38)	7.27 (3.05)	2.86 (1.87)	3.34 (2.40)	10.99 (3.19)	4.41 (2.77)	4.14 (3.06)	4.03 (2.85)

* $p < .05$, ** $p < .01$, *** $p < .001$; Women ($n = 100$) BMI = body mass index; SPA = social physique anxiety; BDI = Beck depression inventory; Ideal, Ought and Feared Fat Disc = Fat Discrepancies.

Results

Ought self-discrepancies and social physique anxiety

Based on the work of Carver et al. (1999) and Woodman and Hemmings (2008), we sought to examine the hypothesis that the relationship between ought body discrepancies and social physique anxiety would be moderated by feared discrepancies. We entered the variables for the moderated hierarchical regression analysis in the following order: (1) Control variables: actual self, ideal self, depression, age, and BMI; (2) Ought and feared discrepancy; (3) Ought x feared discrepancy³.

As indicated in Table 2.2, when controlling for the actual body component ($\beta = .37, p < .05$), the ideal body component ($\beta = -.23, p < .05$), depression ($\beta = .29, p < .001$), age ($\beta = -.27, p < .001$), and BMI ($\beta = -.07, ns$), the two-way interaction accounted for a significant proportion of social physique anxiety variance over and above the main effects, $R^2_{cha} = .07, p < .001$; $\beta = .33, p < .001$. The two-way interaction is depicted in Figure 2.1. Simple slopes analyses indicated that the positive relationship between ought fat discrepancies and social physique anxiety was stronger when women were far from their feared self ($\beta = .92, p < .001$) than when they were close to their feared self ($\beta = .31, p < .005$).

³ Given the equally strong zero order correlation between social physique anxiety and ideal discrepancies, we examined the two-way ideal \times feared interaction on social physique anxiety. When controlling for ought fat discrepancies ($\beta = .19, p = .16$), depression ($\beta = .29, p < .001$), age ($\beta = -.26, p < .001$), and BMI ($\beta = -.10, p = .19$), the two-way interaction accounted for a significant proportion of social physique anxiety variance over and above the main effects ($R^2_{cha} = .07, p < .001$; $\beta = .35, p < .001$). Simple slopes analysis indicated that the positive relationship between ideal fat discrepancies and social physique anxiety was stronger when women were far from their feared self ($\beta = 1.01, p < .001$) than when they were close to their feared self ($\beta = .39, p < .001$). *These results were not reported in the published manuscript.*

Table 2.2. Moderated hierarchical regression analysis for Ought body fat self-discrepancies and Feared body fat self-discrepancies on Social Physique Anxiety.

Variables entered	R^2	R^2_{cha}	F_{cha}	df	β	t
<i>Step 1</i>	.50	.50	18.12***	5, 90		
Actual body self					.37	2.19*
Ideal body self					-.23	-2.13*
Depression (BDI)					.29	4.05***
Age					-.27	-3.68***
BMI					-.07	-.87
<i>Step 2</i>	.51	.01	1.51	2, 88		
Ought body self-discrepancy					.30	2.11*
Feared body self-discrepancy					.05	.65
<i>Step 3</i>	.59	.07	16.73***	1, 87		
Ought \times Feared body self-discrepancy					.33	4.09***

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

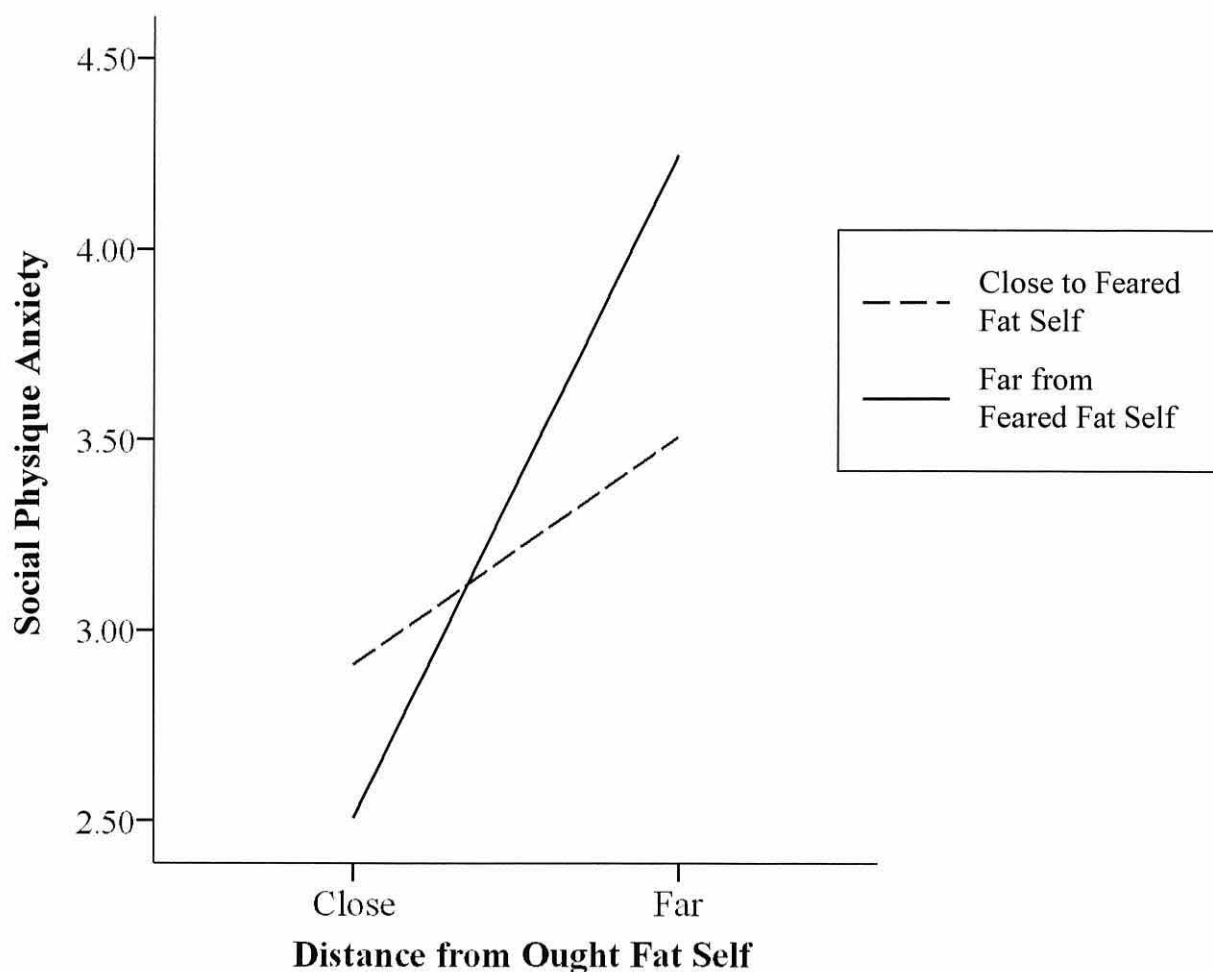


Figure 2.1. The two-way interaction between ought and feared fat discrepancy on social physique anxiety. Regression slopes are derived from regression equations with hypothetical individuals who are one standard deviation below the mean (close to) or one standard deviation above the mean (far from).

Distinction between ought and ideal fat selves.

The similitude of results for ought and ideal fat selves in predicting social physique anxiety (see Table 2.1) calls to question the conceptual distinction between them. Thus, *t*-tests were conducted to examine if individuals' self-report ought and ideal fat selves were meaningfully distinct. Results indicated the ought fat selves were rated significantly higher (fatter) than ideal fat selves ($M_{\text{ought}} = 3.34$, $SD = 2.40$; $M_{\text{ideal}} = 2.86$,

$SD = 1.87$; $t(99) = 2.64$, $p < .01$), which suggests that women hold distinct ought and ideal selves.

Directional discrepancies

A traditional self-discrepancy theory approach to body image discrepancies has been adopted throughout the previous analyses by using absolute discrepancy scores. That is, in line with previous research (e.g., Woodman & Hemmings, 2008), we conceptualised positive and negative discrepancies as non-directional discrepancies. As Woodman and Hemmings (2008) pointed out, in adopting such a stance, one does not allow for the emergence of the potential moderating effect of discrepancy direction on the discrepancy-affect relationship. In the current sample, positive ought discrepancies (i.e., ought to be more fat) were reported by 10 women. Positive ideal discrepancies (i.e., ideally want to be more fat) were reported by one woman. Finally, eight women reported negative feared discrepancies (i.e., fear being less fat). To ensure that these data were not unduly affecting the analyses, we re-ran the regression analyses after their removal. The analysis revealed that after removal of these data and controlling for the actual body component ($\beta = .57$, $p < .005$), the ideal body component ($\beta = -.32$, $p < .01$), depression ($\beta = .33$, $p < .001$), age ($\beta = -.23$, $p < .005$), and BMI ($\beta = -.00$, ns), the two-way interaction continued to significantly predict social physique anxiety over and above the main effects, $R^2_{\text{cha}} = .06$, $p < .001$; $\beta = .29$, $p < .001$. Simple slopes analysis indicated that the positive relationship between the ought self and social physique anxiety was stronger when women were far from their feared self ($\beta = .86$, $p < .001$) than when they were close to their feared self ($\beta = .44$, $p < .001$).

Discussion

The data from the present study confirm and extend Carver et al.'s (1999) and Woodman and Hemmings' (2008) anxiety interaction framework. As hypothesised, the

two-way interaction between ought and feared body fat discrepancies was significant in predicting social physique anxiety. Specifically, ought fat discrepancies were more strongly associated with social physique anxiety when women were far from their feared fat self compared to when they were near their feared self. These findings provide initial evidence that social physique anxiety is better predicted by a combination of approach and avoidance body self-guides than by individual self guides alone.

The similitude of the simple effects of the ideal and ought selves on social physique anxiety is in contrast to Higgins' (1987) contention that ought discrepancies uniquely predict agitation-related affect, and initially appears to call into question the distinction between these two selves in the context of body image. Groesz et al. (2002) suggested that external standards for body shape and size are portrayed so prolifically by the media in Western societies that they may largely have been internalized as one's own ideals. In other words, the distinction between oughts and ideals may have become rather blurred when it comes to body image. As such, women may feel driven to achieve these standards not only to avoid negative consequences such as negative social evaluation and prejudice but also to fulfil their now internalized aspirations of thinness to avoid negative self-evaluations. However, in the present study, women reported significantly distinct ideal and ought selves, suggesting that the similitude of relationships between the self-guides and social physique anxiety cannot be attributed to a lack of distinction between these two approach selves. Thus, as both ideal and ought selves were conceptually and empirically distinct, they deserve to be investigated in an orthogonal manner in future research. This theoretical and empirical distinction between ought and ideal selves is further supported by research on eating disorders, which has found ideal discrepancies to be associated with bulimic-related behaviours and ought discrepancies to be associated with anorexic-related behaviours (Strauman et al., 1991).

The significant interactions between the approach self (i.e., the ought self) and the avoidance self (i.e., the feared self) highlights that body image literature that examines exclusively the approach self (i.e., the ideal or ought self) is neglecting an important element of body image: the relationship between the feared self and social physique anxiety. In line with previous research (Beattie et al., 2004; Carver et al., 1999; Heppen & Ogilvie, 2003; Woodman & Hemmings, 2008), the present findings suggest that approach body self guides are relatively weak predictors of social physique anxiety when close to the feared body fat self. However, as individuals achieve some distance from their feared fat self the focus shifts to approaching a desired self, which subsequently emerges as the stronger predictor of social physique anxiety (see also Russell & Cox, 2003; Sabiston et al., 2005).

In conjunction with previous research (e.g., Woodman & Hemmings, 2008), these results have important implications both for future body image research and for practitioners dealing with social physique anxiety. For example, a practitioner may attempt to help modify unrealistic and often unattainable personal ideals to more realistic, attainable levels. However, the framework outlined and supported in the present study suggests that a one-dimensional focus on such an approach ideal may be relatively fruitless. That is, if the person feels close to the feared self (i.e., “I feel fat”) then the most important focus should be on gaining some distance from this proximal feared self. This is because the proximity to feared self may lead to feelings of helplessness (“whatever the distance from the ideal, I feel relatively anxious”). The focus on first gaining distance from the feared self is especially important in the context of social physique anxiety given its potential subsequent impact on eating and exercise behaviours (e.g., Diehl et al., 1998; Haase et al., 2002). For example, people may be more motivated to eat healthily and to exercise only once they have achieved some

distance from their feared self. This appears a particularly worthy avenue for future research.

The present study has made a number of advances from Woodman & Hemmings' (2008) study. First, whereas Woodman and Hemmings' focus was on global anxiety, we refined this approach to target body-specific anxiety (i.e., social physique anxiety). This ensured that the body discrepancies were indeed related to a theorised body-specific anxiety. Second, to derive body discrepancies, Woodman and Hemmings used the somatomorphic matrix (Gruber et al., 2000), which is an interactive computer program through which individuals are asked to navigate through a 10x10 matrix of 100 images based on reference photographs of individuals at known body fat and muscularity percentages and select the images that most closely resemble their actual and ideal selves. We chose instead to use visual analogue scales to derive body discrepancies. Such scales have the advantage of allowing individuals to imprint their own subjective view onto the scale rather than having unrealistic images of body shapes imposed upon them. Using this more subjective measure the present data revealed similar findings to Woodman and Hemmings, thus strengthening their findings and providing support for the use of their framework to examine body fat discrepancies. However, the use of a single-item scale via either a somatomorphic matrix or a visual analogue rather than via a multi-item measure of body self discrepancies presents its own limitations. Given this limitation and that body image is an inherently subjective experience, we believe future research would do well to utilise a multi-item measure that encourages participants to embrace this subjectivity. For example, a modified version of the Selves questionnaire (Higgins et al., 1985) specifically directed at body image and incorporating the feared self would allow participants subjectively to identify the aspects of body image relevant to them.

Self-discrepancy theory does not make any specific predictions about the direction of discrepancies. In other words, it is the distance that counts regardless of the direction of such distance. In the context of body image, although a large proportion of individuals report discrepancies in the expected direction (i.e., wanting to be less fat), discrepancies may be bi-directional (e.g., one may desire to be fatter). Woodman and Hemmings (2008) contended that using directional discrepancy scores may be problematic, as they imply that negative discrepancies will result in weaker affect than zero discrepancies. The obvious way around this problem is to use absolute discrepancy scores, which we did here. Using absolute discrepancy scores is not without its problems also. This is because the type and intensity of affect experienced by an individual who desires to be less fat may be different to that experienced by an individual who desires to be fatter. However, when we removed those discrepancies that were not in the direction of the majority of participants (i.e., I ought to be fatter), the results of the analyses remained unchanged. Despite these findings, direction should not be abandoned as a potential research avenue. For example, research with samples that espouse different cultural body image ideals may yield meaningful direction effects.

Despite attempts to address methodological limitations from previous research, the present study has limitations of its own. For example, whereas Higgins' (1987) theory proposes that self discrepancies are the cause of affective states, the cross-sectional design of the present study does not allow one to test for such causation. Although the present findings add further correlational support to the growing amount of research examining a self-discrepancy interaction framework (Beattie et al., 2004; Carver et al., 1999; Heppen & Ogilvie, 2003; Woodman & Hemmings, 2008), future research should begin to examine the robustness of this interaction framework in experimental designs (e.g., through manipulation of self-discrepancies via exposure to ideal and/or feared media images).

In summary, the present results support those of previous self-discrepancy research (Carver et al., 1999; Woodman & Hemmings, 2008) and provide evidence for the robustness of this interaction framework in predicting social physique anxiety. This study is the first to demonstrate that the feared body self moderates the relationship between the ought body self and social physique anxiety. The approach body self of the ought body impacted social physique anxiety more strongly when sufficient distance was gained from the feared body self. Body image research would do well to consider this interplay between approach and avoidance selves in future research. Further, we recommend that such research examine in greater detail the distinction between ideal and ought selves in predicting social physique anxiety and any related behaviours including eating and exercise.

Chapter 3

Body self-discrepancies and disordered eating attitudes: The mediating role of social physique anxiety⁴

Abstract

We examined ideal, ought and feared body fat discrepancies as predictors of social physique anxiety and disordered eating attitudes within a mediated moderation framework. One hundred and two women completed actual, ideal, ought, and feared body self-discrepancy visual analogue scales, the Social Physique Anxiety Scale, and the Eating Attitudes Test-26. Moderated hierarchical regression analyses indicated that the relationship between ought body fat discrepancies and eating attitudes was moderated by proximity to the feared fat self. Mediated moderation regression analysis indicated that this ought \times feared fat discrepancies interaction on eating attitudes was fully mediated by social physique anxiety. The results extend and support the use of a self-discrepancy interaction framework to examine body image self discrepancies, social physique anxiety and eating attitudes.

⁴ Based upon Steer, R., J. & Woodman, T. *Body self-discrepancies and disordered eating attitudes: The mediating role of social physique anxiety*. Manuscript under second review.

Introduction

Women's body dissatisfaction is so prevalent that it is considered normative (Mazzeo, 1999; Rodin, Silberstein, & Striegel-Moore, 1985) and is thought to be the strongest predictor of disordered eating (Phelps, Johnston, & Augustyniak, 1999; Polivy & Herman, 2002). The disordered eating literature has increasingly drawn upon self-concept discrepancies in an attempt to understand the psychological mechanisms underlying the development of body dissatisfaction and disordered eating (Mori, Chaiken, & Pliner, 1987; Sawdon, Cooper, & Seabrook, 2007; Strauman, Vookles, Berenstein, Chaiken, & Higgins, 1991). Body image self-discrepancies can take many forms but the most commonly used form of discrepancy is between a woman's actual body shape (e.g., self-reported actual weight and clothes size) and another possible self such as the ideal body self (e.g., the weight and clothes size she would choose if she could be any weight and size she wished; Anton, Perri, & Riley, 2000). Strauman et al., (1991) suggested that continued attempts to reduce such discrepancies may lead to the development of disordered eating. As such, body image self-discrepancies have been implicated in the development of body-related negative affect such as social physique anxiety (Russell & Cox, 2003; Sabiston, Crocker, & Munroe-Chandler, 2005; Woodman & Steer, 2011), body dysmorphic disorder (Veale, Kinderman, Riley, & Lambrou, 2003), and anorexic and bulimic attitudes and behaviours (Snyder, 1997; Strauman et al., 1991). However, attempts to consolidate these findings within an established theoretical framework are sparse (Strauman et al., 1991).

One such framework is Higgins' (1987) self-discrepancy theory, which posits that individuals possess three selves: an actual self - the person one believes one currently is; an ideal self - the person one ideally wants to be; and an ought self - the person one feels one ought to be. These self-guides comprise one's perceived current and desired attributes, arising from one's own personal standards, or the perceived

standards and wishes of a significant other (e.g., parent, partner, friend). For example, the ideal self is defined as one's own or a significant other's hopes and aspirations for oneself and is associated with the presence or absence of *positive* outcomes (e.g., praise and reward). The ought self is defined as one's own or a significant other's beliefs about one's duties and responsibilities and is associated with the presence or absence of *negative* outcomes (e.g., punishment). Discrepancies between the actual self and the ideal or ought self are thus proposed to yield distinct negative affective consequences, with larger discrepancies resulting in greater negative affect. Specifically, Higgins proposed that discrepancies between one's actual self and one's ideal self will result in dejection-related affect (e.g., depression); discrepancies between one's actual self and one's ought self will result in agitation-related affect (e.g., anxiety).

Examinations of self-discrepancy theory have typically asked participants to list personally relevant global attributes (which may or may not include body-related descriptors) and, in assessing these discrepancies, has generated substantial correlational and experimental support for its basic predictions (Higgins, 1987, 1996, 1999; Higgins, Klein, & Strauman, 1985). However, given that both ideal self-discrepancies and ought self-discrepancies have been shown to predict both dejection (e.g., Tangney, Niedenthal, Covert, & Barlow, 1998) and anxiety (e.g., McDaniel & Grice, 2008; Ozgul, Huebeck, Ward, & Wilkinson, 2003), the specific predictions of self-discrepancy theory remain to be elucidated.

Within the specific context of women's body-related affect and eating behaviours, discrepancies have been measured in a variety of forms: figure rating scales (Sabiston et al., 2005), weight and clothes size (Anton et al., 2000), physical features (e.g., height, body hair; Veale et al., 2003) or body fatness and muscularity (Gruber, Pope, Lalonde, & Hudson, 2001; Woodman & Hemmings, 2008; Woodman & Steer, 2011). In line with Higgins' (1987) proposals, examinations of women's ought body

discrepancies indicate significant associations with anxiety (Woodman & Hemmings, 2008; Woodman & Steer, 2011). However, women's ideal body discrepancies have been shown to predict both dejection- and agitation-related affect (Anton et al., 2000; Russell & Cox, 2003; Sabiston et al., 2005).

Beyond the ideal and ought selves, Carver, Lawrence, and Scheier (1999) suggested that the feared self (cf. Markus & Nurius, 1986) be incorporated into Higgins' (1987) self-discrepancy framework. The feared self is the person an individual worries about or fears becoming. According to Carver et al., individuals strive simultaneously to reduce their ought discrepancy and to increase their feared discrepancy. However, they proposed an interaction between the ought and feared discrepancies such that the ought self would become salient only when there is sufficient distance from the feared self. This is because close proximity to the feared self is thought to result in an all-consuming prevention focus; in other words, all that matters is to create distance from the feared self. In support of this proposal, in a global self-discrepancy context, Carver et al. reported an interaction between ought and feared self-discrepancies in predicting anxiety. Specifically, when close to the feared self, ought discrepancies were unrelated to anxiety. However, as individuals gained distance from their feared self, ought discrepancies emerged as the significant predictor of affect.

The self-discrepancy literature has begun to offer support for Carver et al.'s (1999) interaction framework in predicting anxiety, both in a global context (Beattie, Hardy, & Woodman, 2004; Heppen & Ogilvie, 2003) and in a body-specific context (Woodman & Hemmings, 2008). Building on this initial support, in an examination of women's body fat (cf. Groesz, Levine & Murnen, 2002; Gruber et al., 2001), Woodman and Steer (2011) examined the interaction between women's ought and feared body fat discrepancies in relation to their body-specific anxiety – that is, social physique anxiety, the “anxiety that people experience in response to others’ evaluations of their

physiques” (Hart, Leary, & Rejeski, 1989, p. 94). In line with the aforementioned global anxiety findings, Woodman and Steer found that the positive relationship between ought fat discrepancies and social physique anxiety was stronger as a function of distance from the feared fat self. In other words, when far from the feared self, ought discrepancies were a stronger predictor of social physique anxiety than when close to the feared self.

Given the role of women’s body self-discrepancies in relation to negative affect (e.g., social physique anxiety), it is crucial that the specific nature of the relationship between these constructs be more thoroughly understood. However, the specific link between body self-discrepancies and eating behaviour is also poorly understood. In their investigation of eating disorder symptomatology, Strauman et al. (1991) demonstrated that ideal discrepancies were more strongly associated with bulimic attitudes and behaviours (bulimia, food preoccupation & binge eating), whereas ought discrepancies were more strongly associated with anorexic attitudes and behaviours (dieting & oral control; as measured by the Eating Attitudes Test, Garner & Garfinkel, 1979). Furthermore, each of these associations remained significant after partialling out the ‘other’ self-discrepancy and behaviour(s).

Conversely, women’s ideal body discrepancies have been shown to be positively correlated with binge eating and bulimic symptomatology and with dietary restraint and drive for thinness (Anton et al., 2000; Forston & Stanton 1992; Landa & Bybee, 2007; Snyder, 1997). Similarly, ought discrepancies have been shown to be positively correlated with bulimic symptoms and drive for thinness (Harrison, 2001; Szymanski & Cash, 1995). As such, the present study aims to examine the associations between ideal and ought body discrepancies and specific disordered eating attitudes. In line with Strauman et al. (1991), we hypothesise that ideal discrepancies will be more strongly

associated with bulimia and food preoccupation. Conversely, we hypothesise that ought body discrepancies will be more strongly associated with dieting and oral control.

Although the focus in the literature is primarily on women's drive for thinness, there is emerging evidence that dieting and food restriction behaviours are a function of distorted perceptions of fatness and a desire to avoid becoming fat (e.g., Gruber et al., 2001; Heatherton, 1993). Levitt (2003) proposed that the *drive for thinness* and the *fear of fat* may represent two distinct constructs despite their frequently being used interchangeably in the disordered eating literature. Despite this distinction and the increasing support for the moderating role of the feared self across different contexts (Beattie et al., 2004; Carver et al., 1999; Heppen & Ogilvie, 2003; Woodman & Hemmings, 2008; Woodman & Steer, 2011), no study has yet examined the relationship between feared discrepancies and eating behaviour. Thus, a primary aim of the current study was to examine the role of the feared self in predicting eating attitudes and behaviours.

Finally, there exists a plethora of literature that reports a positive relationship between women's body dissatisfaction, social physique anxiety, depression, and disordered eating attitudes and behaviours including bulimia, dieting, and drive for thinness (Crocker et al., 2003; Diehl, Johnson, Rogers, & Petrie, 1998; Evans, Cotter, & Roy, 2005; Fredrick & Morrison, 1998; Haase & Prapavessis, 1998, 2001; Haase, Prapavessis, & Owens, 2002; Krane, Stiles-Shiple, Waldron, & Michalenok, 2001; Reel & Gill, 1996; Thompson & Chad, 2002). These studies typically suggest that women who have high social physique anxiety will be more likely to develop eating disorders. Given that women's body discrepancies result in social physique anxiety and that social physique anxiety leads to problematic eating behaviours (Strauman, 1989; Strauman et al., 1991), one would expect social physique anxiety to mediate the relationship between body discrepancies and disordered eating attitudes. However, no

study to date has collectively examined the links between body discrepancies, body-specific affect, and eating attitudes and behaviours. We aim to bridge this gap in the current study.

In line with recent examinations of self-discrepancy interactions, we examined only discrepancies from participants' own perspective. This is because it is self-perception (or self-misperception) that is likely related to anxiety and eating behaviours. A number of variables need to be controlled in this mediation model. For example, according to Higgins (1987), ought discrepancies should be uniquely associated with agitation-related affect (e.g., social physique anxiety). As such, ideal discrepancies should be controlled. Furthermore, this relationship should hold over and above the relationship between depression and social physique anxiety (cf. Diehl et al, 1998; Woodman & Hemmings, 2008). Research has shown negative relationships between age and body discrepancies and social physique anxiety (e.g., Treasure, Lox, & Lawton, 1998); and both negative and positive relationships with various eating disorder symptomatology (Landa & Bybee, 2007; Wonderlich, Gordon, Mitchell, Crosby, & Engel, 2009). Finally, BMI has been shown to be both positively (Wonderlich et al., 2009) and negatively (Groesz, Levine, & Murnen, 2002) correlated with eating disorder symptomatology and positively related to social physique anxiety (Haase & Prapavessis, 1998). As such, ideal discrepancies, depression, age and BMI were controlled throughout the analyses.

Following procedures outlined by Baron and Kenny (1986), we examined a model of mediated moderation comprising four hypotheses:

- 1) The positive relationship between ought fat discrepancies and disordered eating attitudes and behaviours will be moderated by the proximity to the feared self such that this relationship will emerge only when women are relatively far from the

feared self (Carver et al., 1999; Woodman & Hemmings, 2008; Woodman & Steer, 2011).

- 2) Social physique anxiety will be positively related to disordered eating attitudes and behaviours (e.g., Diehl et al., 1998; Haase et al., 2002; Thompson & Chad, 2002),
- 3) The positive relationship between ought fat discrepancies and social physique anxiety will be moderated by the proximity to the feared self such that this relationship will emerge only when women are relatively far from the feared self (Carver et al., 1999; Woodman & Hemmings, 2008; Woodman & Steer, 2011).
- 4) The two-way ought \times feared interaction on disordered eating attitudes and behaviours (1) will be fully mediated by social physique anxiety.

Method

Participants

One hundred and two women ($M_{age} = 25.94$, $SD = 7.67$) were recruited from a British university via email. Participants were told that the study was an investigation of body image. Participation was voluntary and no specific inclusion or exclusion criteria were enforced. The sample was primarily Caucasian (95%; 2% Asian; 3% undisclosed), consisting of undergraduate (31%) and postgraduate (30%) students and faculty (37%; 2% undisclosed). No significant differences between these groups were observed on any of the criterion variables. The mean body mass index (BMI; mass (kg) divided by height squared (m^2)) of the sample was 23.32 ($SD = 4.28$). The study was approved by the institutional ethics board and written informed consent was obtained from all participants.

Measures

Demographic questionnaire. Participants completed a brief demographic questionnaire providing information about their ethnicity, age, height and mass. Age

and body mass index data were collected with a view to controlling for these variables in subsequent analyses.

Body discrepancies. Using four separate 15cm visual analogue scales (Woodman & Steer, 2011), we asked participants to indicate (1) *how fat you feel your body actually is* (actual self), (2) *how fat you ideally would like your body to be* (ideal self), (3) *how fat you feel your body ought to be* (ought self) and (4) *how fat you fear your body being* (feared self). The visual analogue scales ranged from 0 (not at all fat) to 15 (extremely fat). Participants were asked to place a single mark on each of the scales. Body discrepancies were then calculated by creating an absolute difference score between the actual score and the ideal, ought, and feared scores. Larger discrepancy scores indicate greater perceived distance from each self guide.

Social Physique Anxiety. The nine-item Social Physique Anxiety Scale (SPAS; Martin, Rejeski, Leary, McAuley, & Bane, 1997) is a single-factor self-report scale that assesses the degree of anxiety that individuals feel when they perceive others to be evaluating their physique. It includes items such as “It would make me uncomfortable to know others were evaluating my physique/figure.” Responses are scored on a five-point Likert scale ranging from 1 (*not at all* characteristic) to 5 (*extremely* characteristic). Items 5 and 8 are reverse scored and a mean social physique anxiety score is then calculated. The nine-item SPAS has demonstrated good internal consistency ($\alpha = .89$; Martin et al., 1997). In the present sample the Cronbach’s alpha coefficient was .90.

Depression. In order to be able to control for depression, we administered the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996). The BDI-II comprises 21 items, each of which contains four statements that are rated on a scale of increasing severity of depression from 0 to 3 (e.g., 0 = I do not feel sad; 3 = I am so sad or unhappy that I can’t stand it). Participants select one statement from each of the 21

items that most closely matches their feelings over the previous two weeks, including the day of measurement. The scores from the 21 items are summed to give a total depression score from 0 to 63. Scores ≥ 14 are considered to indicate mild depression, ≥ 20 indicate moderate depression and scores ≥ 29 indicate severe depression. The BDI-II has good internal consistency in both clinical ($\alpha = .92$) and non-clinical samples ($\alpha = .93$; Beck et al., 1996). In the current sample the Cronbach's alpha coefficient was .91.

Eating Attitudes and Behaviours. The 26-Item Eating Attitudes Test (EAT-26; Garner, Olmsted, Bohr, & Garfinkel, 1982) is a three-factor self-report scale that assesses the degree to which individuals display disordered eating attitudes and behaviours. The EAT-26 comprises three subscales: *Dieting*, *Bulimia and Food Preoccupation*, and *Oral Control*. Individuals are asked to rate each item on a Likert scale ranging from 1 (*never*) to 6 (*always*). Responses of *never*, *rarely* and *sometimes* receive a score of 0; responses of *often*, *usually* and *always* receive scores of 1, 2 and 3 respectively, with the exception of item 26 (*enjoy trying rich new foods*), which is reverse scored. Items from the three subscales are then summed to give a total score, ranging from 0 to 78. Higher scores represent greater engagement in disordered eating attitudes and behaviours, with scores ≥ 20 of clinical concern. The EAT-26 has demonstrated good internal consistency ($\alpha = .89$; Tylka, 2004). In the current sample the Cronbach's alpha coefficient was .89.

Procedure

Participants first completed the informed consent form and the demographic questionnaire and read an instruction page containing definitions of each of the body selves (actual, ideal, ought, and feared). The definitions provided were as follows:

Actual Self: Your Actual body fatness refers to how fat you feel you actually are at this point in time.

Ideal Self: Your Ideal body fatness refers to how fat you would ideally like to be.

Ought Self: Your Ought body fatness refers to how fat you feel obliged to be, either by personal or outside pressures.

Feared Self: Your Feared body fatness refers to how fat you fear or worry about being but that is possible in your eyes.

Following these definitions were several pages containing the body discrepancy visual analogue scales, the Social Physique Anxiety Scale, the Beck Depression Inventory-II and the Eating Attitudes Test-26. Once complete, questionnaire packs were returned to the researcher either by email or post. Confidentiality was assured throughout.

Data Analysis

Descriptive statistics and zero-order correlations are presented in Table 3.1. All variables were centred before being subjected to moderated hierarchical regression analyses to examine the model of mediated moderation. According to Baron and Kenny (1986), there are four stages to examining a mediated moderation hypothesis: (1) the two-way interaction (e.g., ought discrepancy \times feared discrepancy) must be related to the dependent variable (i.e., disordered eating attitudes), (2) the mediator (i.e., social physique anxiety) must be related to the dependent variable, and (3) the two-way interaction must be related to the mediator. (4) Full mediated moderation is supported if, when controlling for social physique anxiety, the two-way ought \times feared interaction on disordered eating attitudes and behaviours is rendered non-significant. In addition, Preacher and Hayes (2008) suggest that utilizing a bootstrapping procedure provides a more accurate estimate of the size of the indirect effect than Baron and Kenny's causal steps approach, particularly with small to moderate sample sizes. As such, we employed

Preacher and Hayes' SPSS 'indirect' script, with a bootstrap resample at $n = 5000$ in order to estimate the size of the indirect effect.

Results

In line with previous research (Ozgul et al., 2003; Tangney et al., 1998; Woodman & Hemmings, 2008; Woodman & Steer, 2011), descriptive statistics indicated a significant relationship between ideal and ought fat discrepancies ($r = .82, p < .001$). Despite this relatively strong association, a t -test ($n = 101$; 1 participant with missing ought self data) revealed that the ideal fat selves were rated significantly less fat than the ought fat selves ($M_{ideal} = 2.87, SD = 2.24$; $M_{ought} = 3.37, SD = 2.57$; $t(100) = -2.30, p < .05$), which suggests that women hold distinct ought and ideal selves. As expected, feared fat selves were rated as relatively high ($M = 10.42, SD = 3.63$). The mean values for depression ($M = 11.4, SD = 9.64$) and disordered eating attitudes ($M = 9.39, SD = 10.12$) indicated sub-clinical levels in the current sample. Zero-order correlations also indicated significant relationships between social physique anxiety and both ideal ($r = .59, p < .001$) and ought ($r = .50, p < .001$) discrepancies. The theoretical implications of this will be revisited later.

In addition, we examined the zero-order and partial correlations between body self-discrepancies and the three subscales of the EAT-26. Both ideal and ought body discrepancies were significantly associated with Bulimia & Food Preoccupation ($r_{ideal} = .51, p < .001$; $r_{ought} = .45, p < .001$) and Dieting ($r_{ideal} = .48, p < .001$; $r_{ought} = .37, p < .001$). Only ought discrepancies were significantly associated with Oral Control ($r_{ideal} = .98, p = .33$; $r_{ought} = .19, p = .05$). Feared discrepancies were not significantly associated with any of the three EAT-26 subscales ($r_{Bulimia} = -.61, p = .10$; $r_{Dieting} = -.18, p = .06$; $r_{OralControl} = .09, p = .32$). In contrast to the hypotheses, and the findings of Strauman et al. (1991), partial correlation analyses indicated that after controlling for

ought discrepancies, Dieting and Oral Control, ideal discrepancies were not significantly associated with Bulimia & Food Preoccupation ($r = .06, p = .50$). Similarly, after controlling for ideal discrepancies and Bulimia & Food Preoccupation, ought discrepancies were not significantly associated with Dieting ($r = -.14, p = .15$) or Oral Control ($r = .19, p = .06$).

Mediated Moderation

Hypothesis One. In order to first test the relationship between the moderated independent variable and the dependent variable, we first examined whether the relationship between ought body discrepancies and disordered eating attitudes would be moderated by feared discrepancies. We entered the variables for the moderated hierarchical regression analysis as follows: (Step 1) Control variables: Ideal discrepancy, depression, age and BMI; (Step 2) Ought discrepancy, feared discrepancy; (Step 3) Ought discrepancy \times feared discrepancy.

As hypothesized, when controlling for ideal discrepancies ($\beta = .23, p = .22$), depression ($\beta = .21, p < .05$), age ($\beta = .05, p = .55$), BMI ($\beta = -.14, p = .18$), and controlling for lower-order main effects, the two-way ought \times feared interaction remained a significant predictor of disordered eating attitudes, $R^2_{\text{cha}} = .05, p < .01$; $\beta = -.26, p < .01$. Simple slopes analysis indicated that the positive relationship between ought fat discrepancies and disordered eating attitudes was significant when women were close to their feared self ($\beta = .63, p < .001$) and non-significant when far from their feared self ($\beta = .01, p = .90$; see Table 3.2 & Figure 3.1). The shape of this interaction is in contrast to the specific hypothesis, which stated that the ought discrepancy – eating attitudes relationship would be stronger when women were far from their feared body fat self.

Table 3.1. Zero-order correlations and descriptive statistics ($n = 102$)

	Age	BMI	BDI	SPA	EAT26	Ideal Fat	Ought Fat	Feared Fat
BMI	-.05							
BDI	.17	.01						
SPA	-.04	.44***	.47***					
EAT26	.17	.14	.43***	.59***				
Ideal Fat	.10	.56***	.38***	.59***	.49***			
Ought Fat	.02	.47***	.33***	.50***	.42***	.82***		
Feared Fat	-.26**	-.33***	-.07	-.23*	-.15	-.42***	-.20*	
Mean	25.94	23.32	11.4	3.11	9.39	3.98	4.08	4.20
SD	7.67	4.28	9.64	.96	10.12	3.18	3.51	3.30

* $p < .05$, ** $p < .01$, *** $p < .001$; BMI = Body Mass Index; SPA = Social Physique Anxiety; BDI = Beck Depression Inventory; Ideal, Ought and Feared Fat = Body fat self-discrepancies; EAT-26 = Eating Attitudes Test-26.

Hypothesis Two. To examine the relationship between social physique anxiety and eating attitudes, variables were entered as follows: (Step 1) Control variables: Ideal discrepancy, depression, age and BMI; (Step 2) Social physique anxiety. As hypothesized, when controlling for ideal discrepancies ($\beta = .28, p < .05$), depression ($\beta = .05, p = .57$), age ($\beta = .13, p = .08$), and BMI ($\beta = -.23, p < .05$), social physique anxiety remained a significant positive predictor of disordered eating attitudes ($R^2_{\text{cha}} = .13, p < .001$; $\beta = .51, p < .001$).

Table 3.2. Moderated hierarchical regression analysis for Ought body fat self-discrepancies and Feared body fat self-discrepancies on Eating Attitudes.

Variables entered	r^2	sr^2	r^2_{cha}	F_{cha}	df	β	t
<i>Model 1</i>	.32		.32	11.11***	4, 94		
Ideal body self-discrepancy		.12				.23	1.22
Depression (BDI)		.23				.21	2.28*
Age		.06				.05	.58
BMI		-.13				-.14	-1.33
<i>Model 2</i>	.32		.00	.14	2, 92		
Ought body self-discrepancy		.10				.15	.98
Feared body self-discrepancy		-.03				-.03	-.30
<i>Model 3</i>	.37		.05	7.67**	1, 91		
Ought \times Feared body self-discrepancy		-.27				-.26	-2.77**

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

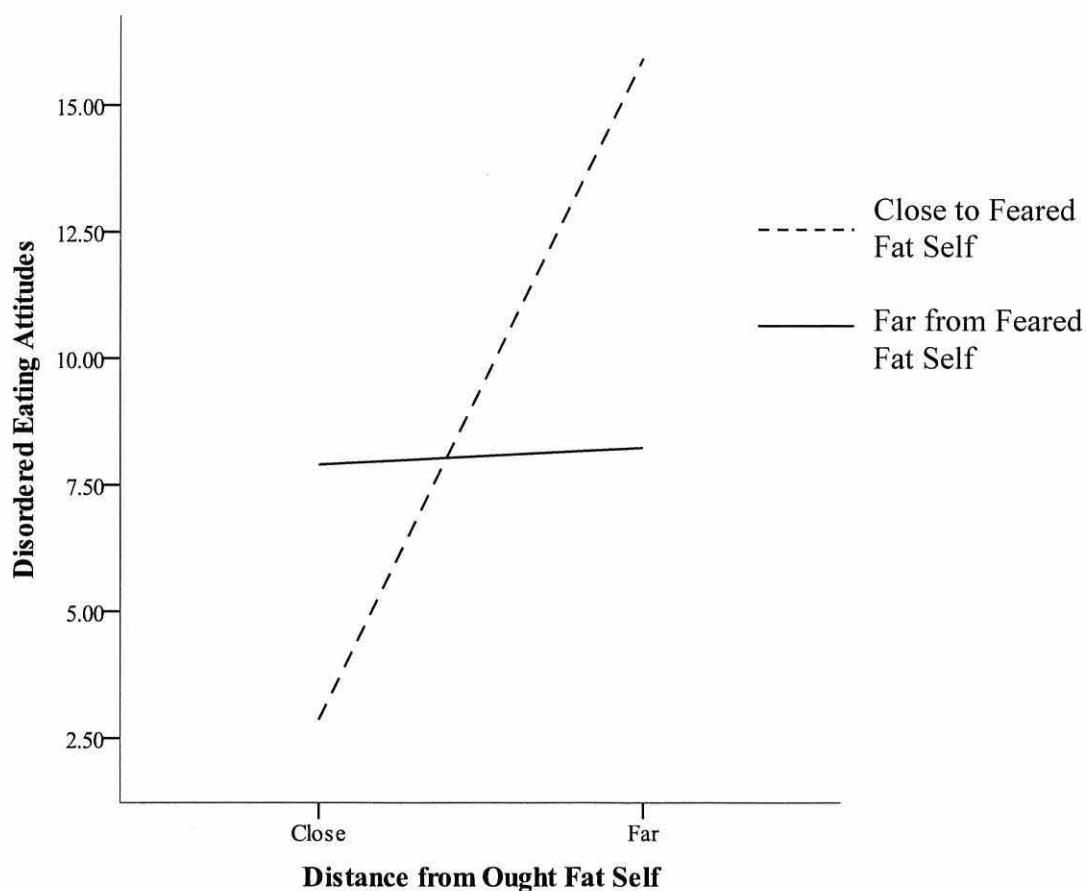


Figure 3.1. The two-way interaction between ought fat discrepancy and feared fat discrepancy on eating attitudes. Regression slopes are derived from regression equations with hypothetical individuals who are one standard deviation below the mean (close to) or one standard deviation above the mean (far from).

Hypothesis Three. To examine the two-way ought \times feared interaction on social physique anxiety (the hypothesized mediator), variables were entered in the following order: (Step 1) Control variables: ideal discrepancy, depression, age and BMI; (Step 2) Ought discrepancy, feared discrepancy; (Step 3) Ought discrepancy \times feared discrepancy.⁵

As hypothesized, when controlling for ideal discrepancies ($\beta = .21, p = .19$), depression ($\beta = .36, p < .001$), age ($\beta = -.19, p < .05$) and BMI ($\beta = .18, p < .05$) the

⁵Given the equally strong zero order correlation between social physique anxiety and ideal discrepancies, we examined the two-way ideal \times feared interaction on social physique anxiety, however this emerged as non-significant ($R^2_{\text{cha}} = .00, p = .28$; $\beta = -.10, p = .28$). As such, ideal discrepancies were included only as a control variable throughout the analyses.

two-way ought \times feared interaction remained a significant predictor of social physique anxiety over and above lower-order main effects ($R^2_{\text{cha}} = .03, p < .05; \beta = -.21, p < .05$). However, in contrast to the specific hypothesis, simple slopes analysis indicated that the positive relationship between ought fat discrepancies and social physique anxiety was significant when women were close to their feared self ($\beta = .70, p < .001$) and non-significant when far from their feared self ($\beta = .08, p = .53$).⁶

Hypothesis Four: Test of Full Mediated Moderation. Mediated moderation is supported if the interaction effect on the dependent variable is substantially reduced when the effect of the mediator is controlled. Variables were entered in the following order: (Step 1) Control variables: ideal discrepancy, depression, age and BMI; (Step 2) Ought discrepancy, feared discrepancy, social physique anxiety; (Step 3) Ought discrepancy \times feared discrepancy. When ideal discrepancies ($\beta = .08, p = .61$), depression ($\beta = .01, p = .85$), age ($\beta = .14, p = .07$), BMI ($\beta = -.23, p < .05$); ought discrepancies ($\beta = .05, p = .70$), feared discrepancies ($\beta = -.13, p = .67$), and social physique anxiety ($\beta = 1.03, p < .001$) were accounted for, the ought \times feared interaction on eating attitudes was rendered non-significant ($\beta = -.16, p = .56$; Table 3.3 & Figure 3.2). Moreover, utilizing Preacher and Hayes' (2008) 'indirect' script, the indirect effect of the ought \times feared interaction on eating attitudes through social physique anxiety was significant (point estimate for indirect effect = $-.09$, 95% CI = $-.22, -.02$) whilst the direct effect was rendered non-significant ($\beta = -.15, p = .07$). This indicates that social physique anxiety fully mediated the relationship between body image discrepancies and eating attitudes when controlling for potential confounds.

⁶We examined whether ought discrepancies could be considered the moderator of the feared discrepancy – social physique anxiety relationship (rather than the other way around). Simple slopes analyses revealed that the negative relationship between feared fat discrepancies and social physique anxiety was significant when women were far from their ought self ($\beta = -.45, p < .001$) and not when close to their ought self ($\beta = .18, p = .17$). The implications of this will be revisited later.

Table 3.3. Mediated Moderation hierarchical regression analysis for Ought body fat self-discrepancies, Feared body fat self-discrepancies and Social Physique Anxiety on Eating Attitudes.

Variables entered	R^2	sr^2	R^2_{cha}	F_{cha}	df	β	t
Model 1	.32		.32	10.95***	4, 93		
Ideal body self-discrepancy		.08				.14	.79
Depression (BDI)		.04				.04	.46
Age		.17				.13	1.62
BMI		-.24				-.23	-2.33**
Model 2	.45		.13	7.59***	3, 90		
Ought body self-discrepancy		.08				.12	.83
Feared body self-discrepancy		-.00				-.00	-.02
Social Physique Anxiety (SPA)		.40				.46	4.16***
Model 3	.47		.02	3.33	1, 89		
Ought body self-discrepancy \times Feared body self-discrepancy		-.19				-.16	-1.82

* $p < .06$, ** $p < .05$, *** $p < .001$

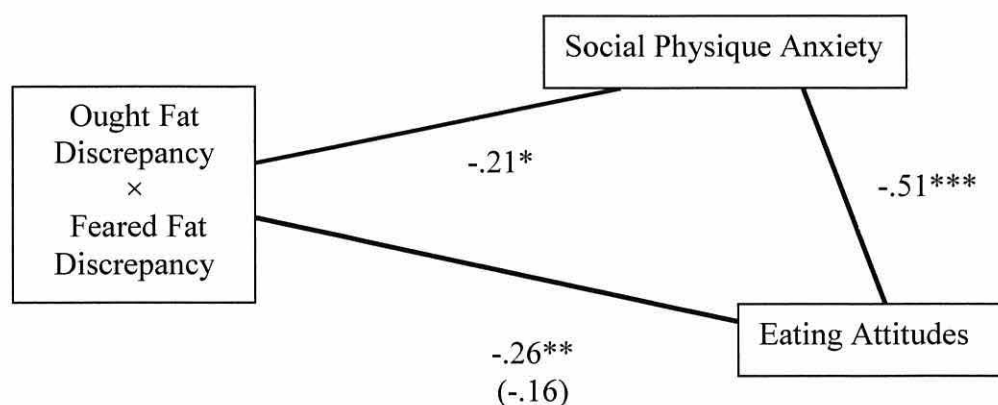


Figure 3.2. The mediated moderation model. The two-way interaction effect of ought fat and feared fat discrepancies on eating attitudes is mediated by social physique anxiety. * $p < .05$, ** $p < .01$, *** $p < .001$.

Discussion

We sought to examine a body fat self-discrepancy interaction framework as a meaningful predictor of disordered eating attitudes and behaviours. Furthermore, we hypothesized a model of mediated moderation, such that social physique anxiety would mediate the relationship between body image and disordered eating attitudes. Results offered strong support for the interaction framework and model of mediated moderation. As hypothesized, the interaction between ought and feared body fat discrepancies significantly predicted eating attitudes via the mediating effect of social physique anxiety.

Although the ought \times feared interaction was consistent across social physique anxiety and eating attitudes, the specific nature of the interaction was in direct contrast to that revealed in previous examinations of this framework (e.g., Carver et al., 1999; Heppen & Ogilvie, 2003; Woodman & Hemmings, 2008; Woodman & Steer, 2011). Specifically, in the present study, it was only when women felt close to the feared self that distance from the ought self was associated with increased social physique anxiety and disordered eating attitudes. When far from the feared self, ought discrepancies were not significantly associated with social physique anxiety or disordered eating attitudes. According to Carver et al., when close to one's feared self, ought discrepancies should play a minimal role in one's affective experience because the primary motive is to escape (create distance) from the feared self. In other words, ought discrepancies should be the primary predictor of affect only when individuals feel sufficiently far from their feared self. The present pattern of results contrasts with Carver et al.'s framework and suggests the ought self is associated with higher social physique anxiety and disordered eating attitudes only when one is close to one's feared self.

Additional simple slopes analysis indicated that the negative relationship between feared self-discrepancies and social physique anxiety was significant only

when women felt far from their ought self. When viewed this way around, the interaction between these body selves suggests that the ought self may serve as a buffer against the detrimental influence of the feared self. That is, the feared self leads to problematic affect and behaviour if one feels relatively far from the ought self. However, the detrimental effect of the feared self disappears when one feels close to the ought self. Given the relative sparseness of research on the interplay between different body selves, such an explanation appears worthy of future research.

Carver et al. (1999) proposed that proximity to the feared self results in actions that will help to escape (create distance) from it. Further, social anxiety may stimulate avoidance, withdrawal and engagement in negative behaviours (Leary and Kowalski, 1995). Thus, social physique anxiety may result in avoidance of situations that present opportunities for one's physique to be evaluated (e.g., exercise settings; Lantz, Hardy & Ainsworth, 1997; Treasure et al., 1998) and instead stimulate engagement in negative behaviours (e.g., binge eating, crash dieting, fasting) to modify one's body (Diehl et al., 1998; Frederick & Morrison, 1998; Hart et al., 1989). As such, individuals may attempt to lessen the psychological impact of self-discrepancies by avoiding situations that stimulate the relevance and accessibility of the feared self (Higgins, 1987). Thus, for practitioners attempting to promote action to improve physique through appropriate diet or exercise and reduce the anxiety associated with displaying one's physique, interventions that address an individuals' feared body self-discrepancy may prove more effective in promoting *positive* behaviour change.

In addition, the specific distinction between the ideal body self and the ought body self remains to be fully elucidated. As external standards for body fatness are frequently reported to be internalized as one's own ideals (Groesz et al., 2002), there is likely to be significant overlap between one's ideal and ought body selves and their relationships with affect and behaviour. This was evident in the present data with

equally strong zero-order correlations for the ideal self and the ought self with both social physique anxiety and eating attitudes. Despite this conceptual and empirical overlap, the present results support previous research that suggests that women perceive and report these selves as distinct selves (Woodman & Steer, 2011). The finding that women would ideally prefer to be less fat than they feel they ought to be may reflect a physiological ideal that is of a very low (and perhaps unhealthy) percentage of body fat with the primary focus on body *image*. Thus, the ideal body *image* for women has less fat than the body they feel they ought to have (perhaps reflecting one's expectations for health and wellness). In other words, women appear to be aware that they should aspire to a body that is fatter than their ideal.

The present results demonstrated that the ideal \times feared interaction was not a significant predictor of social physique anxiety, which, in line with Higgins' proposals, suggests that the ought and ideal selves operate independently with regard to affect. In contrast to the findings of Strauman et al. (1991), the present data did not demonstrate distinct relationships between individual self-guides and specific disordered eating symptomatology. Furthermore, feared discrepancies were not independently associated with any type of disordered eating symptomatology. However, as Strauman et al. point out, even in clinical samples, there is likely to be a significant degree of overlap in observed symptomatology, with very few individuals displaying purely anorexic or bulimic attitudes and behaviours. As such, future research should continue to explore the conceptual distinction as well as the independent and interaction effects of the ideal, ought and feared selves on body-related affect and behaviour.

The growing body of literature examining body self-discrepancy interactions on affect and the initial support offered here for a model of mediated moderation highlights the somewhat simplistic nature of previous research which has largely focused on the direct affective and behavioural effects of the ideal self. Examination of more complex

models such as the one presented here offer additional insight into the mechanisms underlying the development of disordered eating attitudes and behaviours. Such research has important implications for practitioners attempting to alter the attitudes and behaviour of individuals with significant body image discrepancies and social physique anxiety, and highlights the importance of modifying self-discrepancies beyond the ideal (e.g., creating more realistic body shapes) as well as targeting the reduction of social physique anxiety. For example, interventions that address both one's drive for thinness and one's fear of fat (cf. Levitt, 2003) may prove more effective in promoting attitude and behaviour change.

Although it makes a number of advancements on previous body image self-discrepancy research, the present study is not without its own limitations. As in previous examinations of this framework (e.g., Woodman & Hemmings, 2008; Woodman & Steer, 2011), one-item measures of discrepancies were employed. Future research would do well to utilize multi-item measures of discrepancies in order to enhance the reliability and validity of such an approach (cf. Tisak & Smith, 1994).

Higgins' (1987) self-discrepancy theory explicitly purports that discrepancies between self-guides are the cause of affective states, which in turn are the cause of behaviour (Strauman, 1989). Although the data reported here are encouraging in this respect, their cross-sectional nature does not allow us to infer causation. Despite some evidence for causal relationships with global discrepancies (e.g., Higgins, 1987; Higgins et al., 1985, 1986), experimental examinations of body self-discrepancies beyond simple tests of the ideal, are largely absent from the literature (Groesz et al., 2002). As advocated by Marsh (1999), discrepancy research would do well to examine discrepancies over multiple time points to empirically test causal relationships.

In summary, this study is the first to examine body fat self-discrepancy interactions and their associations with eating attitudes and behaviours. In addition, we

present initial support for the mediating role of social physique anxiety via a model of mediated moderation. Body image research would do well to consider the specific form of these body image self-discrepancy interactions and their associations with social physique anxiety and eating behaviour; and the robustness of this mediated moderation framework across samples. Further, we recommend that future research examine the conceptual and empirical distinction between ideal and ought body selves and their associations with social physique anxiety and eating attitudes and behaviour.

Chapter 4

The impact of media ideals on the relationship between body self-discrepancies and body-related affect

Abstract

We examined ideal and ought body discrepancies as predictors of body dissatisfaction and social physique anxiety following exposure to media body ideals or non-body-related media. Thirty-nine women and 47 men completed pre- and post- exposure measures of body self-discrepancy visual analogue scales, the Body Shape Questionnaire and the Social Physique Anxiety Scale. 2×2 mixed-model ANOVA's revealed no significant main or interaction effects for time or group on each of the body self-discrepancies, body dissatisfaction or social physique anxiety. However, within a moderated hierarchical regression framework, ideal discrepancies significantly predicted body dissatisfaction and this relationship was moderated by exposure to media ideals. The ought discrepancy - social physique anxiety relationship was also moderated by exposure to media ideals. Specifically, the positive ideal discrepancy – body dissatisfaction relationship, and the ought discrepancy – social physique anxiety relationship were weaker when exposed to media ideals compared to a control condition. The results suggest that exposure to media ideals externalises the source of affect such that it attenuates the effect of one's body self-discrepancies on body-related affect.

Introduction

It is widely acknowledged that the media play a significant role in shaping body-image ideals and that exposure to unrealistic and unachievable ideals can increase body dissatisfaction (Grogan, 2008). The media representation of an ‘ideal’ body for women has become increasingly thin, often portraying unhealthy extremes (Wiseman, Gray, Mosimann, & Ahrens, 1992). In contrast, the media ideal for men has become increasingly broad and muscular, with a toned ‘V-shaped’ physique (Leit, Pope, & Gray, 2001). Although the majority of research has typically focused on adolescent or college age women, examinations of media effects in men are now increasing, and several meta-analytic reviews have demonstrated small to moderate effects in women (Grabe, Ward, & Hyde, 2008; Groesz, Levine, & Murnen, 2002) and in men (Bartlett, Vowels, & Saucier, 2008).

Body image perceptions are often examined in terms of discrepancies between one’s perceived self and one’s ideal self, typically referred to as “ideal body discrepancies.” Such body image discrepancies have been positively associated with negative affect such as dissatisfaction and social physique anxiety (Russell & Cox, 2003; Sabiston, Crocker, & Munroe-Chandler, 2005). Examinations of media effects on ideal body discrepancies have demonstrated an increase in ideal discrepancy magnitude and associated negative affect in both men and women following exposure to media ideals (e.g., Leit, Gray, & Pope, 2002; Ogden & Munday, 1996; Sabiston & Munroe-Chandler, 2010).

Self-discrepancy theory (Higgins, 1987, 1997, 1999; Higgins, Bond, Klein, & Strauman, 1986) predicts that discrepancies between various self-guides have distinct emotional consequences. Specifically, according to Higgins, the ideal self is defined by one’s hopes and aspirations and is uniquely associated with dejection-related affect (e.g., depression). Congruence or discrepancy between the actual self and the ideal self

results in the presence or absence of positive outcomes (e.g., praise and reward), respectively. The ought self, defined by the traits and attributes that fulfil one's sense of duty and responsibility, is uniquely associated with agitation-related affect (e.g., anxiety). Congruence or discrepancy between the actual self and the ought self results in the absence or presence of negative outcomes (e.g., punishment), respectively. In addition, although not part of Higgins' theory, the feared self, or the traits and attributes one fears or worries about being (Markus & Nurius, 1986), has received growing support as a distinct self-guide and a significant predictor of both agitation- and dejection-related affect (Carver, Lawrence & Scheier, 1999; Heppen & Ogilvie, 2003; Woodman & Hemmings, 2008). Recent body image literature that has moved beyond simple examinations of the ideal self has shown that the interplay between ideal, ought and feared discrepancies significantly predicts social physique anxiety and disordered eating attitudes (Steer & Woodman, under second review; Woodman & Steer, 2011). Despite these advances, research examining cultural and media 'ideals' has yet to consider in any detail the references of self beyond the ideal self.

Woodman and Steer (2011) highlighted that the distinction between ideal and ought self-guides and the ability of the ideal and ought discrepancies to predict unique types of affect is not always as clear as predicted by self-discrepancy theory (cf. also Ozgul, Huebeck, Ward, & Wilkinson, 2003; Tangen, Niedenthal, Covert, & Barlow, 1998) and drew attention to this distinction being particularly unclear in the context of body image research. There is substantial evidence that media 'ideals' are internalised as one's own ideal standard, and that the greater the degree of internalisation the greater one's ideal discrepancy and level of body dissatisfaction (e.g., Halliwell & Dittmar, 2004; Tiggemann & McGill, 2004). However, although commonly referred to as an 'ideal' (e.g., Groesz et al., 2002), this media representation also fits the definition of an ought self-guide (cf. Higgins, 1987). That is, media 'ideals' reflect a societal standard

that individuals feel obligated to achieve in order to fulfil external standards of beauty. Failure to meet these standards may have direct negative consequences for employment, healthcare and educational equalities as well as social prejudice and media stigmatisation (Puhl & Brownell, 2001; Puhl & Heuer, 2009). In other words, media ‘ideals’ reflect a personal aspiration for thinness or muscularity (for women and men, respectively) but also a standard that must be achieved in order to prevent the presence of negative consequences (cf. Higgins, 1987). Similarly, Bessenoff and Snow (2006) suggested that negative affect may result from discrepancies from a ‘societal ought’ or from one’s own ideal discrepancies that may in fact represent an internalised media ought. In fact, Bessenoff and Snow (2006) found that ideal discrepancies mediated the relationship between societal ought discrepancies and body shame in women. Further, Harrison (2001) demonstrated that exposure to media in which the thin ideal was rewarded activated ideal discrepancies. In contrast, exposure to media in which fatness (i.e., not meeting the thinness ideal) was punished activated ought discrepancies, with both discrepancies associated with increased negative affect following media exposure.

Despite the conceptual and empirical overlap between the ideal body self and the ought body self, recent examinations (Steer & Woodman, under second review; Woodman & Steer, 2011) have demonstrated that women’s self-reported ideal and ought body selves are empirically distinct. Furthermore, in line with Higgins’ (1987) proposals, these studies revealed that ought discrepancies predicted social physique anxiety over and above ideal discrepancies.

Social physique anxiety is defined as the “anxiety that people experience in response to others’ evaluations of their physiques” (Hart, Leary & Rejeski, 1989, p. 94), and has been examined in relation to a variety of body image cognitions, affects and behaviours including body dissatisfaction, depression, disordered eating and exercise motives and behaviours (e.g., Crawford & Eklund, 1994; Crocker et al., 2003; Diehl,

Johnson, Rogers, & Petrie, 1998; Fredrick & Morrison, 1998; Haase & Prapavessis, 1998; Krane, Stiles-ShIPLEY, Waldron, & Michalenok, 2001). However, specific examinations of the influence of media exposure on social physique anxiety are sparse and suggest that the effect of exposure to media ideals is not always consistent. For example, Martin-Ginis, Prapavessis and Haase (2008) found that greater body discrepancies were associated with greater body dissatisfaction and social physique anxiety; however, they found no main or interaction effects for exposure to media ideals on body dissatisfaction, social physique anxiety or exercise motivation.

Despite a wealth of literature on the influence of media ideals, the effects on self-discrepancies beyond the ideal discrepancy, body dissatisfaction and social physique anxiety remain unclear. Thus, the first aim of the present study is to examine the acute impact of exposure to media ideals on ideal and ought body discrepancies, body dissatisfaction, and social physique anxiety. Although a small effect, exposure to media ideals has been shown to exert a negative impact on ideal body discrepancy magnitude, body dissatisfaction, and social physique anxiety (Leit, et al., 2002; Ogden & Munday, 1996; Sabiston & Munroe-Chandler, 2010). As such, we hypothesised that:

- Ideal and ought body discrepancy magnitude will be increased following exposure to media ideals.
- Body dissatisfaction and social physique anxiety will be increased following exposure to media ideals.

In contrast, negative and null effects of exposure to media ideals on body image and associated criterion variables (e.g., social physique anxiety; Martin-Ginis et al., 2008) suggest that one or more moderating variables may be exerting an as yet unexamined effect on these relationships. Discrepancy magnitude is a strong moderator candidate in this body image context. Indeed, discrepancy magnitude is a significant moderator of discrepancy - affect relationships in both global and body-specific

contexts such that the greater the discrepancy (i.e., the farther one feels from one's ideal/ought) the greater the body dissatisfaction and social physique anxiety (Anton, Perri & Riley, 2000; Steer & Woodman, under second review; Woodman & Steer, 2011). As such, discrepancy magnitude should be considered in examinations of the relationship between body image and affect in media settings. This is the second aim of the present study.

When exposed to the media, ideal (and ought) discrepancies and their associated affect are likely activated (Harrison, 2001) such that body discrepancy magnitude is less salient to the experience of affect. In other words, exposure to media ideals will result in greater negative affect regardless of proximity to the ideal self, or ought self. As such, we hypothesise that when exposed to media ideals, the positive relationship between ideal discrepancy magnitude and body dissatisfaction should be weaker than when not exposed to the media ideal body.

Similarly, the positive relationship between ought body discrepancies and social physique anxiety should be moderated by media exposure such that when exposed to media ideals, proximity to the ought self will have minimal impact on social physique anxiety; social physique anxiety will be high regardless of distance from the ought self. Conversely, when not exposed to body-specific media, ought discrepancies should remain positively associated with social physique anxiety.

Method

Participants

Eighty-six participants (47 men, $M_{\text{age}} = 20.79$, $SD = 2.96$; 39 women, $M_{\text{age}} = 20.21$, $SD = 1.78$) were recruited via an undergraduate psychology programme, and received course credit for their participation. The sample was primarily Caucasian and had a

mean body mass index score of 24.65 kg/m² and 24.23 kg/m² for men and women, respectively.

Measures

Demographic questionnaire. Participants completed a brief demographic questionnaire providing information about their age, height and weight. Previous research has indicated that social physique anxiety is positively associated with BMI (e.g., Crawford & Eklund, 1994) and negatively associated with age (Treasure, Lox, & Lawton, 1998). Thus, height and weight (to calculate BMI) and age data were obtained so that they could be controlled in subsequent analyses.

Body discrepancies. Using four separate 150mm visual analogue scales, we asked participants to indicate (1) *how fat you feel your body actually is* (actual self), (2) *how fat you feel your body ought to be* (ought self), (3) *how fat you ideally would like your body to be* (ideal self), and (4) *how fat you fear your body being* (feared self). The visual analogue scales ranged from 0 (*not at all fat*) to 15 (*extremely fat*). Body discrepancies were calculated by creating an absolute difference score between the actual score and each of the ought, ideal, and feared scores.

Body Dissatisfaction. The 14-item version of the Body Shape Questionnaire (BSQ; Dowson & Henderson, 2001) was utilised to assess body dissatisfaction and includes items such as *Have you felt excessively large and rounded?* Responses are recorded on a Likert scale ranging from 1 (*Never*) to 6 (*Always*) and a mean score is then calculated. Higher scores represent greater body dissatisfaction. The 14-item version of the BSQ has demonstrated good internal consistency ($\alpha = .96$, Warren et al., 2008). In the current sample, Cronbachs' $\alpha = .96$.

Social Physique Anxiety. The nine-item Social Physique Anxiety Scale (SPAS; Martin, Rejeski, Leary, McAuley, & Bane, 1997) is a single-factor self-report scale that assesses the degree of anxiety that individuals feel when they perceive others to be

evaluating their physique. It includes items such as *It would make me uncomfortable to know others were evaluating my physique/figure*. Responses are recorded on a five-point Likert scale ranging from 1 (*not at all characteristic*) to 5 (*extremely characteristic*). A mean social physique anxiety score is then calculated. The nine-item SPAS has demonstrated good internal consistency in both men ($\alpha = .84$) and women ($\alpha = .87$; Strong, Martin-Ginis, Mack, & Wilson, 2006). In the present study, Cronbachs' $\alpha = .75$ and $\alpha = .72$ for men and women, respectively.

Procedure

We told participants that the study was an investigation of the influence of music on mood. After completing an initial demographic questionnaire participants were provided with definitions of each of the body selves (actual, ought, ideal, and feared) as follows:

Actual self: Your Actual body fatness refers to how fat you feel you actually are at this point in time.

Ought Self: Your Ought body fatness refers to how fat you feel obliged to be, either by personal or outside pressures.

Ideal Self: Your Ideal body fatness refers to how fat you would ideally like to be.

Feared Self: Your Feared body fatness refers to how fat you fear or worry about being but that is possible in your eyes.

Participants then completed the measure of body discrepancies, the Social Physique Anxiety Scale, and the Body Shape Questionnaire. To minimise pre-test recall effects, one week later participants were exposed to either an experimental (ideal media) or a control condition. In the experimental condition participants were asked to watch three music videos, which featured prominent female and male artists (Britney Spears, The Saturdays; Red Hot Chilli Peppers, Chris Brown) who met the media ideals for women and men and were presented in videos in which their physiques were

emphasised. In the control condition, participants were asked to watch three music videos of similarly prominent artists (Gorillaz, Blur) but whose videos included cartoon images which did not present any body ideal. Each video lasted 10 minutes. Immediately after watching the videos participants again completed the questionnaires before being fully de-briefed and informed of the true nature of the study.

Results

Pre-test descriptive statistics and zero-order correlations are presented in Table 4.1. As expected, ideal and ought discrepancies were significantly associated with both body dissatisfaction and social physique anxiety. Post-test descriptive statistics and zero-order correlations are presented in Table 4.2. All data were standardised within sexes before being subjected to 2×2 mixed-model ANOVA's to examine time (pre/post manipulation) \times group (experimental/control) main effects and interactions on body self-discrepancies, body dissatisfaction and social physique anxiety. In contrast to the hypotheses, no main or interaction effects were observed, indicating that exposure to media ideals did not significantly increase body discrepancy magnitude, nor the level of body dissatisfaction or social physique anxiety compared to the control condition.

Ideal discrepancies. Neither the main effects for time, $F(1, 84) = .15, p = .69$, group, $F(1, 84) = .08, p = .77$, nor the interaction term, $F(1, 84) = 2.37, p = .12$ were significant.

Ought discrepancies. Neither the main effects for time, $F(1, 84) = .06, p = .79$, group, $F(1, 84) = .26, p = .61$, nor the interaction term, $F(1, 84) = 1.03, p = .31$ were significant.

Feared discrepancies. Neither the main effects for time, $F(1, 84) = .02, p = .87$, group, $F(1, 84) = .78, p = .37$, nor the interaction term, $F(1, 84) = .39, p = .53$ were significant.

Body Dissatisfaction. Neither the main effects for time, $F(1, 84) = .01, p = .91$, group, $F(1, 84) = .16, p = .68$, nor the interaction term, $F(1, 84) = .18, p = .66$ were significant.

Social Physique Anxiety. Neither the main effects for time, $F(1, 84) = .16, p = .68$, group, $F(1, 84) = .30, p = .58$, nor the interaction term, $F(1, 84) = 2.55, p = .11$ were significant.

Table 4.1. Zero-order correlations and descriptive statistics at pre-test, standardised within sexes ($n = 86$).

	Age	BMI	Ideal Discrepancy	Ought Discrepancy	Feared Discrepancy	SPA	BSQ	Mean Men ($n = 47$)	<i>SD</i>
Age								20.79	2.96
BMI	.10							24.65	4.07
Ideal Discrepancy	.06	.41***						3.53	3.11
Ought Discrepancy	.01	.30**	.88***					3.21	2.88
Feared Discrepancy	-.11	-.23*	-.09	-.13				2.92	2.81
SPA	-.13	.18	.46***	.44***	.02			2.47	.71
BSQ	.02	.34**	.67***	.63***	-.05	.73***		2.33	1.09
Mean Women ($n = 39$)	20.21	24.23	4.75	4.42	3.5	2.98	3.42		
<i>SD</i>	1.78	3.33	2.66	2.84	2.59	.65	1.19		

* $p < .05$ ** $p < .01$ *** $p < .001$; BMI = Body Mass Index; SPA = Social Physique Anxiety; BSQ = Body Shape Questionnaire

Table 4.2. Zero-order correlations and descriptive statistics at post-test, standardised within sexes (Media bottom diagonal, Control top diagonal).

	Age	BMI	Ideal Discrepancy	Ought Discrepancy	Feared Discrepancy	SPA	BSQ	Mean Men Media (SD) (<i>n</i> = 29)	Mean Men Control (SD) (<i>n</i> = 18)
Age		.12	-.02	-.01	-.30	-.30	-.15	20.62 (1.54)	21.06 (4.43)
BMI	.11		.45**	.49**	-.45**	.48**	.50**	25.06 (4.43)	24.01 (3.44)
Ideal Discrepancy	-.16	.29*		.90***	-.26	.63***	.81***	3.47 (2.30)	2.82 (2.65)
Ought Discrepancy	-.13	.19	.69***		-.25	.58***	.66***	3.41 (2.67)	2.60 (2.41)
Feared Discrepancy	-.16	-.15	-.25	-.17		-.25	-.24	2.81 (3.23)	4.26 (3.13)
SPA	.08	-.03	.28*	.28*	-.09		.85***	2.30 (.67)	2.52 (.69)
BSQ	.11	.22	.54***	.48***	-.19	.75***		2.06 (.95)	2.29 (1.38)
Mean Women media (SD) (<i>n</i> = 25)	20.08 (.70)	23.65 (3.32)	4.97 (3.13)	4.80 (2.95)	3.26 (2.95)	2.95 (.46)	3.48 (1.21)		
Mean Women control (SD) (<i>n</i> = 14)	20.43 (2.87)	25.19 (3.24)	4.71 (3.32)	4.63 (3.54)	3.22 (2.39)	3.00 (.90)	3.48 (1.32)		

* $p < .05$ ** $p < .01$ *** $p < .001$; BMI = Body Mass Index; SPA = Social Physique Anxiety; BSQ = Body Shape Questionnaire

Data were subjected to moderated hierarchical regression analyses to examine body self discrepancy \times group interactions on social physique anxiety and body dissatisfaction. As feared discrepancies were not significantly associated with either body dissatisfaction or social physique anxiety and thus, were excluded from further analyses. In line with previous work (e.g. Woodman & Hemmings, 2008; Woodman & Steer, 2011; Steer & Woodman, under second review) descriptive statistics indicated a significant relationship between ideal and ought fat discrepancies ($r = .88, p < .001$). Thus, in order to examine the unique contributions of self-discrepancies to the variance in affect, when examining the relationship between ideal discrepancies and body dissatisfaction, ought discrepancies were controlled. Similarly, when examining the relationship between ought discrepancies and social physique anxiety, ideal discrepancies were controlled. In addition, descriptive statistics indicated a significant relationship between BMI and body dissatisfaction ($r = .34, p < .01$). Thus, when examining body dissatisfaction, BMI was controlled.

Ideal body discrepancies and Body Dissatisfaction

To examine the hypothesis that the relationship between ideal body discrepancies and body dissatisfaction would be moderated by exposure to media ideals, we entered the variables for the moderated hierarchical regression analysis in the following order: (1) Ought discrepancy, BMI; (2) Ideal discrepancy, group; (3) Ideal discrepancy \times group.

When controlling for ought discrepancies ($\beta = .07, p = .56$) and BMI ($\beta = .10, p = .25$), ideal discrepancies remained a significant predictor of body dissatisfaction ($\beta = .56, p < .001$). The two-way interaction accounted for a significant proportion of body dissatisfaction variance over and above the main effects, $R^2_{\text{cha}} = .03, p < .05$; $\beta = .08, p < .05$. The two-way interaction is depicted in Figure 4.1. Simple slopes analyses indicated that the positive relationship between ideal discrepancies and body

dissatisfaction was significant in both conditions but was weaker in the experimental condition ($\beta = .51, p < .005$) than in the control condition ($\beta = .88, p < .001$).

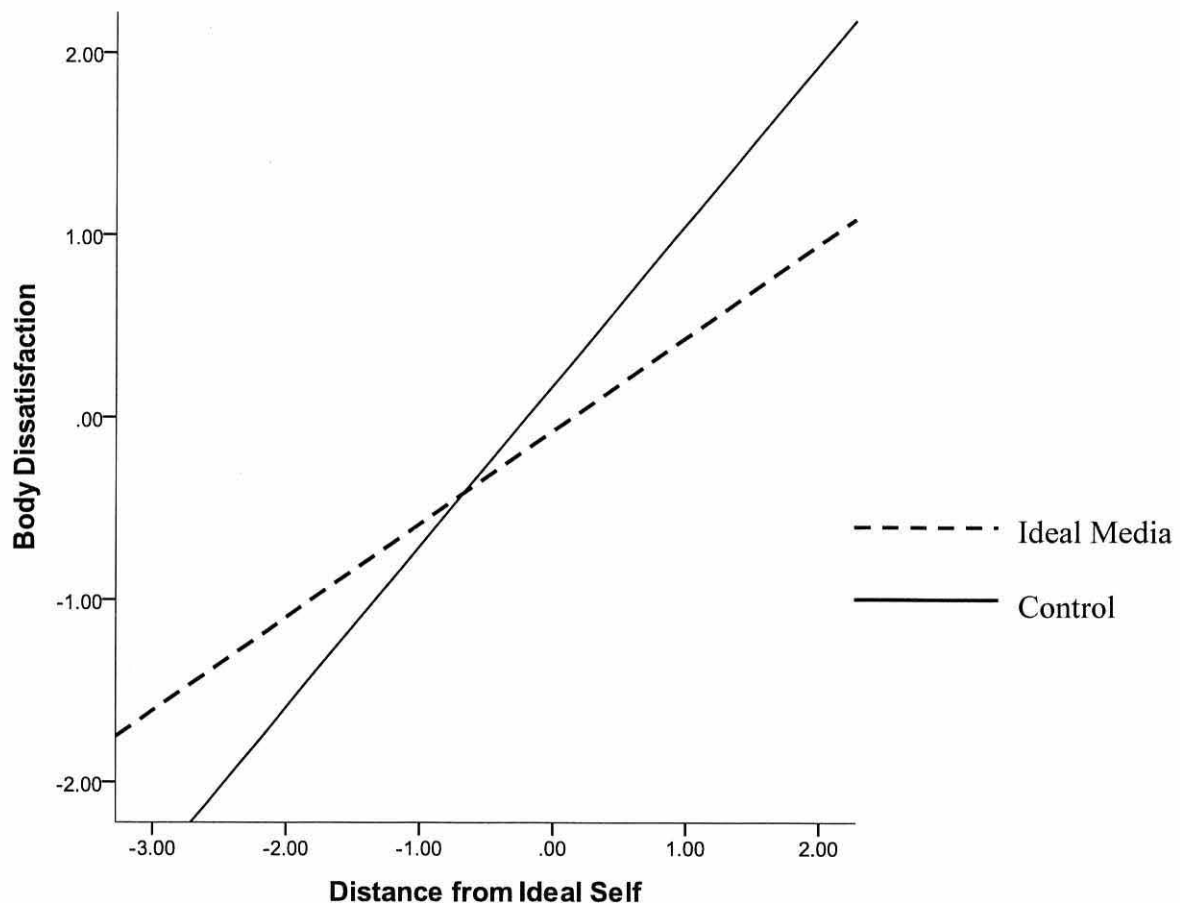


Figure 4.1. The two-way interaction between ideal discrepancies and media exposure condition on body dissatisfaction.

Ought self-discrepancies and social physique anxiety

To examine the hypothesis that the relationship between ought body discrepancies and social physique anxiety would be moderated by exposure to media ideals, we entered the variables for the moderated hierarchical regression analysis in the following order: (1) Ideal discrepancy, (2) Ought discrepancy, group; (3) Ought discrepancy \times group.

When controlling for ideal discrepancies ($\beta = .25, p = .11$), ought discrepancies did not significantly predict social physique anxiety ($\beta = .21, p = .17$). The two-way interaction accounted for a near-significant proportion of social physique anxiety

variance over and above the main effects, $R^2_{cha} = .03, p = .07$; $\beta = .17, p = .07$. The two-way interaction is depicted in Figure 4.2. Simple slopes analyses indicated that the positive relationship between ought fat discrepancies and social physique anxiety was significant in both conditions but was weaker in the experimental condition ($\beta = .25, p < .001$) than in the control condition ($\beta = .68, p < .05$).

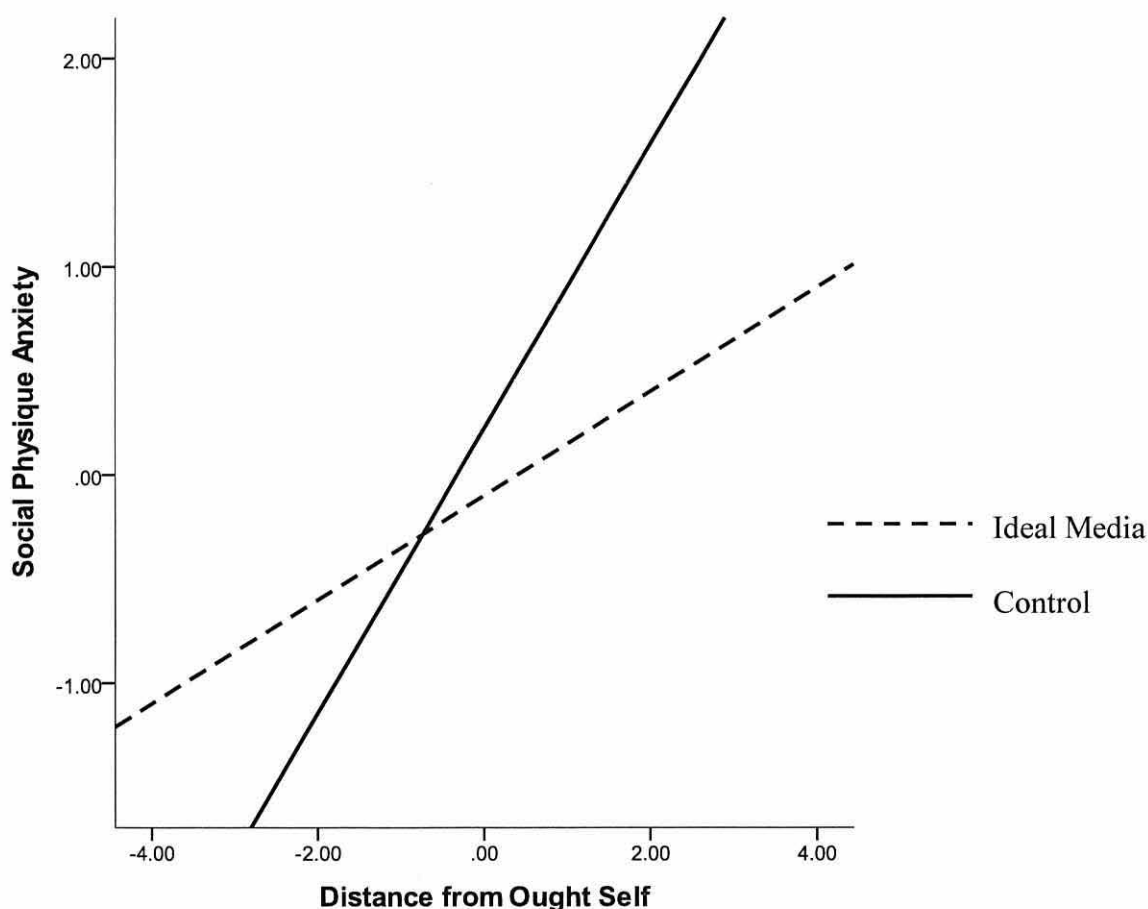


Figure 4.2. The two-way interaction between ought discrepancies and media exposure condition on social physique anxiety.

Discussion

Firstly, the present study examined whether exposure to media ideals exerts a significant acute negative impact on body discrepancy magnitude, body dissatisfaction and social physique anxiety. In contrast to the hypotheses, exposure to media ideals did not result in significant changes in body discrepancy magnitude, or levels of body

dissatisfaction or social physique anxiety. However, this is in line with those studies that have failed to demonstrate a negative impact of media exposure on body discrepancies and associated criterion variables (e.g., Grabe et al., 2008; Martin-Ginis et al., 2008; Mills, Polivy, Herman, & Tiggemann, 2002), and, as hypothesised, may be accounted for in part by the magnitude of one's body discrepancies.

As such, the second aim of the study was to examine whether exposure to media ideals moderated the relationships between ideal discrepancies and body dissatisfaction, and ought discrepancies and social physique anxiety. Exposure to media ideals moderated the relationship between ideal discrepancies and body satisfaction such that media exposure weakened this relationship. Specifically, compared to the control condition, ideal discrepancies were a weaker predictor of body dissatisfaction in the media ideal condition. This pattern of findings was consistent with the ought discrepancy – social physique anxiety relationship: compared to the control condition, ought discrepancies were a weaker predictor of social physique anxiety in the media ideal condition.

The fact that the moderating role of discrepancy magnitude was weakened following exposure to media ideals suggests that media ideals exert a powerful negative impact on body-related affect. However, that discrepancy magnitude remained a significant predictor of affect (i.e., larger discrepancies result in greater negative affect) following media exposure suggests that being close to one's ideal self or ought self (i.e., reporting smaller discrepancies) continues to offer some limited protection against the negative impact of media ideals. For example, under normal circumstances, an individual's ideal or ought self-representation provides a relative scale of self-reference that significantly predicts one's level of body dissatisfaction and social physique anxiety. These self-referenced standards are likely to represent a more realistic ideal and ought, based on an individual's expectations of what he/she could realistically achieve.

However, when exposed to media ideals, individuals' self-referenced standard (ideal or ought) pales in significance when compared to the omnipotent media standard that is presented. As such, the self-referenced standard loses its predictive capacity vis-à-vis body-related affect. Thus, although smaller body discrepancies are associated with less body dissatisfaction and lower social physique anxiety (Russell & Cox, 2003; Sabiston et al., 2005; Woodman & Steer, 2011); this does not fully protect against the negative impact of exposure to media ideals.

In line with previous literature (e.g., Mills, Polivy, Herman, & Tiggemann, 2002; Martin-Ginis et al., 2008), initial repeated measures analysis indicated no significant immediate effects of exposure to media ideals on body discrepancy magnitude, body dissatisfaction or social physique anxiety. Substantial research suggests that internalisation of the media ideal is a significant moderator of the effect of acute exposure to media ideals (e.g., Brown & Dittmar, 2005; Halliwell & Dittmar, 2004, 2005). For example, provided that they have internalised the media thin ideal, women remain susceptible to the negative impact of acute exposure to media ideals on affect even under conditions of low attention (Brown & Dittmar, 2005). As such, the current sample may not have fully internalised the media-ideal of thinness and muscularity (women and men, respectively). Future research would do well to control for internalisation to establish the degree to which this is an additional mediator or moderator of the relationship between body discrepancy magnitude and affect. Nonetheless, the finding that exposure to media ideals weakens the relationship between body discrepancy magnitude and affect suggests that minimising one's own discrepancies, as well as reducing internalisation of media ideals (Halliwell & Dittmar, 2004), is likely to offer additional protection from such exposure.

In the current sample, feared discrepancies were not significantly associated with body dissatisfaction or social physique anxiety. Perhaps this is not surprising given

the young and healthy (in terms of BMI) nature of the sample. For these individuals, the feared self representation (and associated discrepancy) is likely to be more abstract and, as such, less salient to their experience of body dissatisfaction and social physique anxiety. In addition, this offers further support to the contention that ideal and feared selves are empirically distinct as opposed to opposite ends of one continuum; and that a drive for thinness and a fear of fat represent distinct attitudinal and behavioural constructs (Levitt, 2003; Steer & Woodman, under second review). Investigations of media effects have focused almost exclusively on the presentation of the thin-ideal. Presentation of ‘average’ or plus-size models has indicated that exposure to these models may evoke a ‘relief’ effect, and lower body-focused negative affect compared to a no-model control (e.g., Dittmar & Howard, 2004). Despite null findings here, future research that examines the impact of ideal and feared media exposure is likely to add further insight to the relationships between body self-discrepancies, body-specific affect and behaviour.

Although the results of the present study largely support the hypotheses presented, there are limitations to address. We told participants that the study was an investigation of different types of music on mood and did not give instructions to attend to any particular aspect of the media presented. However, neither the media nor the questionnaires contained any ‘fillers’ or additional items/measures that would have obscured the true nature of the study. As such, without a sufficient ‘cover story’, participants may have become aware of the true nature of the study. However, the emergence of body discrepancy \times condition interactions suggests that exposure to media ideals exerts a significant impact on body-related affect. Further, for women, ideal media literature contains both studies in which the interest in body image has been obscured (e.g., Halliwell & Dittmar, 2004, 2005) and explicitly highlighted (e.g., Tiggemann & McGill, 2004; Tiggemann & Slater, 2004). These studies demonstrate

similar negative exposure effects, exacerbated by high body dissatisfaction, thin-ideal internalisation and explicit instructions to make direct self-comparisons with the ideal media. It may be that the present sample, especially if low in internalisation, did not make spontaneous direct comparisons with the images presented. As such, these elements require careful consideration in future research. For example, if explicit instructions to make self-comparisons with the media presented are not given, the extent to which these comparisons are made spontaneously should be examined.

The present study offers support for the contention that exposure to media ideals impact both ideal and ought body discrepancy – affect relationships (Bessenoff & Snow, 2006; Harrison, 2001); offering initial evidence that exposure to media ideals impacts the moderating role of discrepancy magnitude on affect. Null findings here and in previous literature may appear to suggest that exposure to media ideals exerts no acute impact on body image and associated affect; however, the finding that exposure to media ideals weakens the relationship between one's own body discrepancies and affect suggests that it remains an important contributor to body image concerns. For example, repeated exposure and attendance to media ideals is likely to promote normalisation and greater internalisation of the thin (and muscular) ideal (Stice, Schupack-Neuberg, Shaw & Stein, 1994). As such, one's own self-referenced standards of what is realistically achievable may no longer exert significant power over body-related affect and thus, no protection from unrealistic media ideals. This appears to be a worthy avenue for future research. In addition, future research should continue to examine references of self beyond the ideal, and potential differential effects of ideal media and feared media that may further moderate the relationship between body self-discrepancies and body-related affect.

Chapter 5

Between-persons social physique anxiety moderates the interaction between body self-discrepancies and within-persons social physique anxiety: A multilevel analysis

Abstract

We examined ideal, ought and feared body discrepancies as predictors of social physique anxiety. Utilising hierarchical linear modelling we examined within- and between-person differences in the interplay between self-discrepancies and social physique anxiety. Results revealed that between-person differences in social physique anxiety moderated the form of within-person self-discrepancy interactions. However, in contrast to the hypotheses, the three-way interaction emerged with regard to ideal discrepancies, and not ought discrepancies. Specifically, when mean social physique anxiety was low, the positive relationship between ideal discrepancies and social physique anxiety was significant only when close to the feared self. Conversely, when mean social physique anxiety was high, the positive relationship between ideal discrepancies and social physique anxiety was significant only when far from the feared self. The results extend the findings of previous examinations of body self-discrepancies and support the use of a multilevel approach to examine a body self-discrepancy interaction framework.

Introduction

Self-discrepancy theory (Higgins, 1987) proposes that individuals hold a number of self-guides, and that discrepancies from these guides yield distinct emotional consequences. Specifically, according to the theory, discrepancies from one's 'ideal' self result in dejection-related affect such as depression; discrepancies from one's ought self result in agitation-related affect such as anxiety. A great deal of correlational and experimental research has offered support for the basic predictions of the theory (e.g., Higgins, 1987, 1997, 1999; Higgins, Bond, Klein & Strauman, 1986; Higgins, Klein, & Strauman, 1985; Higgins, Shah, & Friedman, 1997; Strauman & Higgins, 1987). However, there is evidence that these relationships are not as straightforward as predicted (e.g., McDaniel & Grice, 2008; Ozgul, Huebeck, Ward, & Wilkinson, 2003; Tangney, Niedenthal, Covert, & Barlow, 1998). In response to Tangney et al.'s (1998) critique, Higgins (1999) suggested that self-discrepancy research needs to address 'second generation' questions of *when* these relationships arise, by exploring moderators of discrepancy – affect relationships.

In an attempt to develop the self-discrepancy framework, Carver, Lawrence and Scheier (1999) incorporated the previously neglected 'feared self' into self-discrepancy theory. Specifically, Carver et al. (1999) considered the motivational component of self-guides in greater detail. In line with self-discrepancy theory, the ideal and ought self-guides were conceptualised as approach motivational; that is, individuals are motivated to reach a state in which their actual self matches their ideal and ought selves (Higgins, 1987). In contrast, Carver et al. framed feared self as avoidance motivational; that is, one is motivated to avoid becoming close to the feared self. They suggested that the gravitational pull of the approach self-guides (i.e., ideal and ought) may only be significant when one feels relatively far from one's feared self. In other words, when one feels close to one's feared self, the primary motivation is to escape or create

distance from it. As such, feared discrepancies emerge as a stronger predictor of affect and ought discrepancies have little predictive power in relation to affect. However, as distance from the feared self increases, one can begin to look towards approaching the ideal or ought self. As such, ought discrepancies emerge as the stronger predictor of affect only when one has created some distance from the feared self. The interaction between ought discrepancies and feared discrepancies in predicting anxiety and guilt provided initial support for Carver et al.'s model. Further, these findings offered some potential explanation for the equivocal results provided by previous research that had not considered the avoidance self (e.g., Tangney et al, 1998).

Following the work of Carver et al. (1999), research examining more complex interactional models began to emerge. Collectively, this research has demonstrated that ideal and ought discrepancies interact with feared discrepancies to predict guilt, shame, anxiety, and performance (Beattie, Hardy & Woodman, 2004; Carver et al.; Heppen & Ogilvie, 2003). Further, this interaction framework has been applied to examining body self-discrepancies in predicting global anxiety (Woodman & Hemmings, 2008), social physique anxiety (Woodman & Steer, 2011) and disordered eating attitudes (Steer & Woodman, under second review). The form of these interactions has largely been consistent with Carver et al.'s framework such that the relationship between the approach (ideal or ought) self-guide and affect is significant only when one feels far from their feared self.

There have been some notable exceptions, however. For example, in predicting cognitive anxiety, Beattie et al. (2004) found that the positive relationship between ideal discrepancies and cognitive anxiety became stronger as distance from the feared self decreased (i.e., becoming closer to the feared self). Steer and Woodman (under second review) examined the interaction between ought and feared body self-discrepancies on social physique anxiety and disordered eating attitudes. In contrast to their previous

study (Woodman & Steer, 2011), the results indicated that ought discrepancies were positively associated with social physique anxiety and disordered eating attitudes only when participants were relatively *close* to their feared self. In attempting to explain the shape of this interaction, Steer and Woodman suggested that the ought self may serve as a buffer against the detrimental impact of the feared self. That is, the negative relationship between feared self-discrepancies and social physique anxiety may be significant only when women feel far from their ought self. Further, Steer and Woodman proposed that additional moderating variables such as age and BMI, and the relative importance and accessibility of approach and avoidance self-guides across different samples may influence the nature of self-discrepancy interactions. Specifically, they suggested that in older or overweight samples, the feared self may be less abstract and more easily accessible, and thus predict affect more strongly than in younger, healthier samples.

Self-discrepancy theory and the interactional framework proposed by Carver et al. (1999) have provided a sound basis upon which to examine more complicated models of the relationships between self-discrepancies and related affect and behaviours. Empirical support for this framework is growing, although it is important to examine how these interactions may differ within individuals. Thus far, examinations of interactions between self-guides have been solely conducted at the between-persons level of analysis (Carver et al., 1999; Heppen & Ogilvie, 2003; Steer & Woodman, under second review; Woodman & Steer, 2011). However, experimental literature has demonstrated that discrepancies can be activated and increased in the short-term following, for example, exposure to media ideals (see Groesz, Levine, & Murnen, 2002, for a review). Further, between-person differences in body dissatisfaction have been shown to moderate the within-person impact of exposure to media ideals. Specifically,

women with greater levels of body dissatisfaction are more susceptible to the negative impact of media ideals (Groesz et al., 2002).

According to Higgins (1987), individuals may be more strongly orientated towards a particular self-guide, resulting in an increased tendency to experience the type of affect associated with discrepancies from that self-guide. Further, Higgins proposed that self-discrepancy – affect relationships emerge only when the discrepancy assessed is personally relevant and important to the individual. Thus, if particular self-guides and their associated discrepancies vary in their personal individualised relevance and importance, they may influence affect in different ways. This suggests that there may be significant within-person variations in the way self-guides influence individuals' affect. Thus, the first aim of the present study is to examine between- and within-person variability in the relationships between body discrepancies and affect.

Steer and Woodman (under second review) suggested that between-person differences may moderate the specific form of interactions between self-guides in predicting social physique anxiety. For example, they proposed that the feared self will be a stronger predictor of social physique anxiety within samples to which it is less abstract, and as such, more personally relevant (cf. Higgins, 1987). Furthermore, the experimental literature has demonstrated that between-person levels of body dissatisfaction moderate the within-person relationship between media exposure and body dissatisfaction (Groesz et al., 2002). As such, it is reasonable to suggest that the relevance (and thus predictive power) of different body self-guides (ought, ideal or feared) may vary as a function of between-person differences in levels of social physique anxiety, resulting in variations in the specific form of interactions between self-guides. We hypothesise a three-way, cross level interaction such that the specific form of the two-way within-person interaction between ought discrepancies and feared discrepancies is moderated by between-person level of social physique anxiety.

Specifically, when one's mean level of social physique anxiety is high, proximity to the ought self will exert relatively little predictive power over the experience of affect unless one feels far from the feared self (cf. Study 1). When close to the feared self, social physique anxiety will be high regardless of proximity to the ought self. However, once sufficient distance from the feared self is achieved, the ought self will be positively associated with social physique anxiety. That is, increasing proximity to the ought self offers additional reductions in social physique anxiety.

Conversely, we hypothesise that when one's mean level of social physique anxiety is low, the interplay between ought and feared body discrepancies will be such that the relationship between ought body discrepancies and social physique anxiety will be significant only when individuals are close to their feared self (cf. Study 2). In other words, it is only when in close proximity to the feared self that either feared or ought body discrepancies become relevant to one's experience of affect; as long as there is sufficient distance from the feared self, ought discrepancies have little affective power because anxiety is already low. As such, increasing proximity to one's ought self offers no further reductions in the experience of social physique anxiety.

Addressing a number of methodological limitations in the literature may also help to clarify the nature of these relationships. Specifically, the measurement of self-discrepancies has received substantial criticism (e.g., McDaniel & Grice, 2008; Tangney et al., 1998). Higgins' original, idiographic measure of self-discrepancies – the selves questionnaire – requires participants to self-generate 10 adjectives to describe each self-domain (i.e., actual, ideal, and ought). It has been criticised for being too difficult for participants to complete (Tangney et al., 1998), and may also result in participants listing attributes that are not of particular importance to their self-concept. However, Higgins (1999) maintains that only idiographic measures allow participants to list personally relevant self-discrepancies. Within the body image literature, a wide range of

instruments have been used to measure self-discrepancies and body-related affect (see Thompson & Van den Berg, 2002, for a review). Typically, nomothetic measures such as the Figure Rating Scale (Stunkard, Sorensen, & Schulsinger, 1983) or the Somatomorphic Matrix (Gruber, Pope, Borowiecki, & Cohane, 2000) have been used to assess body self-discrepancies. However, they have received criticism for imposing somewhat unrealistic body image references onto participants (Woodman & Steer, 2011), making it difficult to accurately assess discrepancies. For example, for women, these scales contain no image of a thin but large-chested figure, which is one element of the perceived idealised image in Western media (Wykes & Gunter, 2008). Thus, nomothetic approaches may not offer attributes or images that are of particular relevance or importance to individuals' self-concept.

Recent studies (Steer & Woodman, under second review; Woodman & Steer, 2011) have attempted to address this issue by utilizing visual analogue scales which do not impose images upon participants. However, they failed to address the issue of scales of this type containing only one item to assess each body self-guide. Furthermore, the studies were cross-sectional in nature, thus offering no evidence of test-retest validity of these measures. Woodman and Steer (2011) also highlighted problems concerning the process by which discrepancies are calculated. Citing Edwards (1994), they emphasised that the calculation of discrepancy scores from their component parts may result in the loss of valuable information. They encouraged future researchers to test thoroughly the assumptions underlying discrepancy scores, or alternatively to utilise a measure that eliminates the need to calculate discrepancy scores.

Consequently, it has been suggested that neither idiographic nor nomothetic measures of captivating self-discrepancies are adequate on their own (Hardin & Lakin, 2009; McDaniel & Grice, 2008). Thus, the present study aimed to address a number of limitations of previous work including the methods used to assess and calculate

discrepancies by measuring body self-discrepancies over multiple time points, utilising a measure that is multi-item, combines idiographic and nomothetic methods, and negates the need for discrepancies to be calculated (Hardin & Lakin, 2009).

According to self-discrepancy theory (Higgins, 1987), ought discrepancies, and not ideal discrepancies, should significantly predict agitation-related affect (i.e., social physique anxiety). Thus, in line with previous examinations of self-discrepancy interaction frameworks, we hypothesised an interaction between ought and feared self-guides in predicting social physique anxiety. However, in view of the evidence demonstrating that ideal discrepancies are a significant predictor of social physique anxiety (cf. Study 1, p. 29; Russell & Cox, 2003; Sabiston, Crocker & Munroe-Chandler, 2005), we also examined the hypothesised two- and three-way interactions between ideal and feared discrepancies in predicting social physique anxiety.

Method

Participants

Forty-eight men ($M_{\text{age}} = 20.22$ years, $SD = 1.43$) and 37 women ($M_{\text{age}} = 19.97$ years, $SD = 1.01$) were recruited via an undergraduate psychology module and received course credit for their participation. The sample was primarily Caucasian. The mean body mass index (BMI; mass (kg) divided by height squared (m^2)) of the sample was 24.39 ($SD = 3.12$) and 23.91 ($SD = 3.27$) for men and women, respectively. The study was approved by the institutional ethics board and written informed consent was obtained from all participants.

Measures

Demographic questionnaire. Participants completed a brief demographic questionnaire providing information about their age, height and weight. Previous research has indicated that social physique anxiety is positively associated with BMI

(e.g., Crawford & Eklund, 1994; Eklund & Crawford, 1994) and negatively associated with age (Treasure et al., 1998). Furthermore, ideal-related body discrepancies and body dissatisfaction have been shown to decline with age (Landa & Bybee, 2007). Thus, height and mass (to calculate BMI) and age data were obtained so that they could be controlled in subsequent analyses.

Body Discrepancies. A modified version of the Integrated Self-Discrepancy Index (ISDI, Hardin & Lakin, 2009) was utilised to assess self-discrepancies. The ISDI provides participants with definitions of each of the selves (ought, ideal, and feared) as follows:

- Your “**OUGHT** self:” Traits that you think you ought to possess; the type of person you have a **duty, obligation, or responsibility** to be; the traits you are **morally obligated** to possess;
- Your “**IDEAL** self:” Traits that you would **IDEALLY** like to possess; the type of person you **wish, desire, or hope** to be;
- Your “**FEARED** self:” Traits that, in general, you do **NOT** want to possess, traits that are **UNDESIRED**.

The ISDI then asks participants to self-generate five traits for each of the self-guide domains (Ideal, Ought, and Feared)⁷. After idiographically attempting to generate attributes, participants are provided with a list of 100 adjectives that they may then use to modify/complete their lists. Finally, participants indicate how much they think each of the qualities listed actually describes their ideal (or ought or feared) self at that time. Ratings are scored on a 5-point Likert scale ranging from 1 = *completely applies to me*, to 5 = *doesn't apply to me at all*. The ISDI has demonstrated adequate internal consistency with Cronbach's alpha coefficients of .71 and .65 for ideal and ought scales, respectively (Hardin & Lakin, 2009). For the purposes of the present study, participants

⁷ The ISDI allows participants to generate self-discrepancies for each of the self domains from their own and a significant other's perspective (e.g., parent, partner, friend). For the purposes of the present study, only discrepancies from one's own perspective were generated.

were asked to generate a total of 15 attributes representing 5 traits for each of their ideal, ought and feared selves, specifically related to their body. In line with the procedures of Hardin and Lakin (2009), participants were then provided with a body-specific, 84-item word list from which they could modify their idiographically generated lists before completing the ratings for each attribute listed. In the current sample, Cronbach's alphas were .69, .76 and .69 for ideal, ought and feared scales, respectively.

Social Physique Anxiety. The nine-item Social Physique Anxiety Scale (SPAS; Martin, Rejeski, Leary, McAuley, & Bane, 1997) is a single-factor self-report scale that assesses the degree of anxiety that individuals feel when they perceive others to be evaluating their physique. It includes items such as 'It would make me uncomfortable to know others were evaluating my physique/figure.' Responses are scored on a five-point Likert scale ranging from 1 (*not at all characteristic*) to 5 (*extremely characteristic*). A mean social physique anxiety score is then calculated. The nine-item SPAS has demonstrated good internal consistency in both men ($\alpha = .84$) and women ($\alpha = .87$; Strong, Martin-Ginis, Mack, & Wilson, 2006). In the current sample the Cronbach's alpha coefficient was .90.

Depression. The Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996) is a single-factor, 21-item measure of depression. Each item contains four statements that are rated on a scale of increasing severity of depression from 0 to 3 (e.g., 0 = *I do not feel sad*; 3 = *I am so sad or unhappy that I can't stand it*). The measure asks participants to select one statement from each of the 21 items that most closely matches their feelings over the previous two weeks. The scores from the 21 items are summed to give a total depression score between 0 and 63. The BDI-II has good internal consistency in both clinical ($\alpha = .92$) and non-clinical samples ($\alpha = .93$; Beck et al., 1996). In the current sample the Cronbach's alpha coefficient was .91. This measure

was administered with a view to controlling for depression in the analyses (cf. Diehl et al., 1998).

Procedure

We told participants that the study was an investigation of body image. After completing the informed consent form and the demographic questionnaire, participants completed the ISDI, Social Physique Anxiety Scale and the Beck Depression Inventory-II. This procedure was repeated once a week for five weeks. Questionnaires were counterbalanced such that they were presented in a different order each week of data collection. Confidentiality was assured throughout.

Data analysis

Data were analysed in a multi-level fashion using HLM version 6.08 (Raudenbush & Bryk, 2004). The present data comprise two hierarchical levels: within-person repeated measures (Level 1), and the individual (Level 2). Enders and Tofighi (2007) recommend using group mean centring when the hypothesis involves interactions among variables (within- or cross-level interactions). All variables were thus standardised within sex and data were centred about the group (individual). In other words, within-person scores were centred on their group mean.

Before proceeding with multilevel analysis, the unconditional model was run for each dependent variable in order to calculate intraclass correlation coefficients. This allows one to confirm (or otherwise) that sufficient between group variance exists to model. The intraclass correlation for social physique anxiety was .7459, indicating that 74.59% of the total model variance in social physique anxiety was accounted for by individuals (group level 2) and 25.41% was accounted for by the within-persons level (time level 1). Thus, a substantial proportion of variance is accounted for by within-persons factors, suggesting that a hierarchical model is appropriate.

We tested whether level 1 predictors should be fixed or random at level 2 (Kreft & Leeuw, 1998). If variables are fixed, it assumes that the effect of the predictor on the outcome does not vary across level 2 units (individuals in this case) whereas a random effect implies the opposite. If the variance terms at level 2 were non-significant, the predictors were treated as fixed factors.

Results

Level 2 (i.e., between-persons) descriptive statistics and zero-order correlations are displayed in Table 5.1. In line with previous examinations of body discrepancies (Steer & Woodman, under second review; Woodman & Steer, 2011), ideal and ought discrepancies were significantly correlated ($r = .62, p < .001$). However a t -test indicated ideal and ought discrepancies to be empirically distinct ($M_{ideal} = 3.06, SD = .62; M_{ought} = 2.63, SD = .69; t(84) = 7.21, p < .001$). Both ideal and ought discrepancies were correlated with social physique anxiety ($r = .43, p < .001; r = .32, p < .001$, respectively) but neither was significantly associated with depression ($r = .17, p = .12; r = .15, p = .16$, respectively).

Ought \times Feared. As the level 2 variance associated with feared discrepancies was not significant ($\sigma^2_u = .07, \chi^2 = 85.84, df = 69, p = .08$), feared discrepancies were treated as a fixed factor. After controlling for the main effects of time ($\beta_1 = -.03, SE = .02, p = .25$), ought discrepancies ($\beta_2 = .04, SE = .06, p = .53$), and feared discrepancies ($\beta_3 = -.16, SE = .05, p < .01$), the ought \times feared interaction term was non-significant ($\beta_4 = .01, SE = .05, p = .82$).

Within-person variability. We sought to examine the hypothesis that the interaction between ought discrepancies and feared discrepancies on social physique anxiety at level 1 might be moderated by differences at level 2. This analysis indicated a

Table 5.1. Descriptive statistics and Zero-order correlations at level 2 ($n = 85$).

	Age	BMI	Ideal Discrepancy	Ought Discrepancy	Feared Discrepancy	SPA	BDI	Mean Men ($n = 48$)	<i>SD</i>
Age								20.22	1.43
BMI	.01							24.39	3.12
Ideal Discrepancy	-.07	.09						2.93	.60
Ought Discrepancy	.11	.10	.62**					2.48	.67
Feared Discrepancy	.03	-.12	-.32*	-.35**				4.16	.55
SPA	.05	.16	.43**	.32*	-.37**			2.51	.69
BDI	.03	.00	.17	.15	-.15	.42**		6.38	5.62
Mean Women ($n = 37$)	19.97	23.91	3.24	2.82	4.10	3.37	10.02		
<i>SD</i>	1.01	3.27	.60	.67	.58	.75	8.00		

* $p < .01$, ** $p < .001$; BMI = Body Mass Index; SPA = Social Physique Anxiety; BDI = Beck Depression Inventory

two-way cross-level interaction such that the slope of the relationship between feared discrepancies and social physique anxiety ($\beta_2 = -.22$, $SE = .06$, $p < .001$) was moderated by group (i.e., individual) level of social physique anxiety ($\beta_{21} = .16$, $SE = .06$, $p < .05$). Specifically, the negative relationship between feared discrepancies and social physique anxiety became weaker as mean social physique anxiety increased. The three-way interaction such that group (level 2 – individual) mean level of social physique anxiety would moderate the two-way interaction between ought and feared discrepancies on social physique anxiety was not significant (level 1; $\beta_{41} = .15$, $SE = .05$, $p = .73$).

Simple slopes for the two-way cross level interaction between feared discrepancies and mean (level 2) social physique anxiety were explored using Shacham's (2009) utility software for exploring HLM interactions. This analysis revealed a significant negative relationship between feared discrepancies and social physique anxiety when participants have relatively low mean social physique anxiety (1 SD below the mean; $\beta = -.36$, $p < .001$) but not when participants have relatively high social physique anxiety (1 SD above the mean; $\beta_2 = -.04$, $p = .57$).

Ideal \times Feared. The level 2 variances associated with time ($\sigma^2_u = .02$, $\chi^2 = 62.95$, $df = 68$, $p = > .50$) and feared discrepancies ($\sigma^2_u = .04$, $\chi^2 = 77.38$, $df = 68$, $p = .20$) were non-significant. Thus, they were treated as fixed factors. After controlling for the main effects of time ($\beta_1 = -.02$, $SE = .02$, $p = .32$), ideal discrepancies ($\beta_2 = .16$, $SE = .07$, $p < .05$) and feared discrepancies ($\beta_3 = -.19$, $SE = .06$, $p < .01$), the ideal \times feared interaction term was non-significant ($\beta_4 = .03$, $SE = .05$, $p = .46$).

Within-person variability. We sought to examine the hypothesis that the interaction between ideal discrepancies and feared discrepancies on social physique anxiety at level 1 might be further moderated by individuals' mean social physique anxiety at level 2. Thus, we examined whether group (level 2 – individual) mean social physique anxiety moderated the slopes of the relationship between ideal and feared

discrepancies on social physique anxiety (level 1). This analysis revealed a three-way cross-level interaction such that the ideal \times feared interaction was moderated by individuals' mean social physique anxiety ($\beta_{41} = .16, SE = .04, p < .001$; Figure 5.1).

Simple slopes analysis indicated that when mean social physique anxiety was low, the positive relationship between ideal discrepancies and social physique anxiety was significant only when participants were relatively close to their feared self ($\beta = .42, p < .01$), compared to when relatively far from their feared self ($\beta = .03, p = .73$). In contrast, when mean social physique anxiety was high, the relationship between ideal discrepancies and social physique anxiety was significant only when participants were relatively far from their feared self ($\beta = .32, p < .06$), compared to when close to their feared self ($\beta = .06, p = .58$).

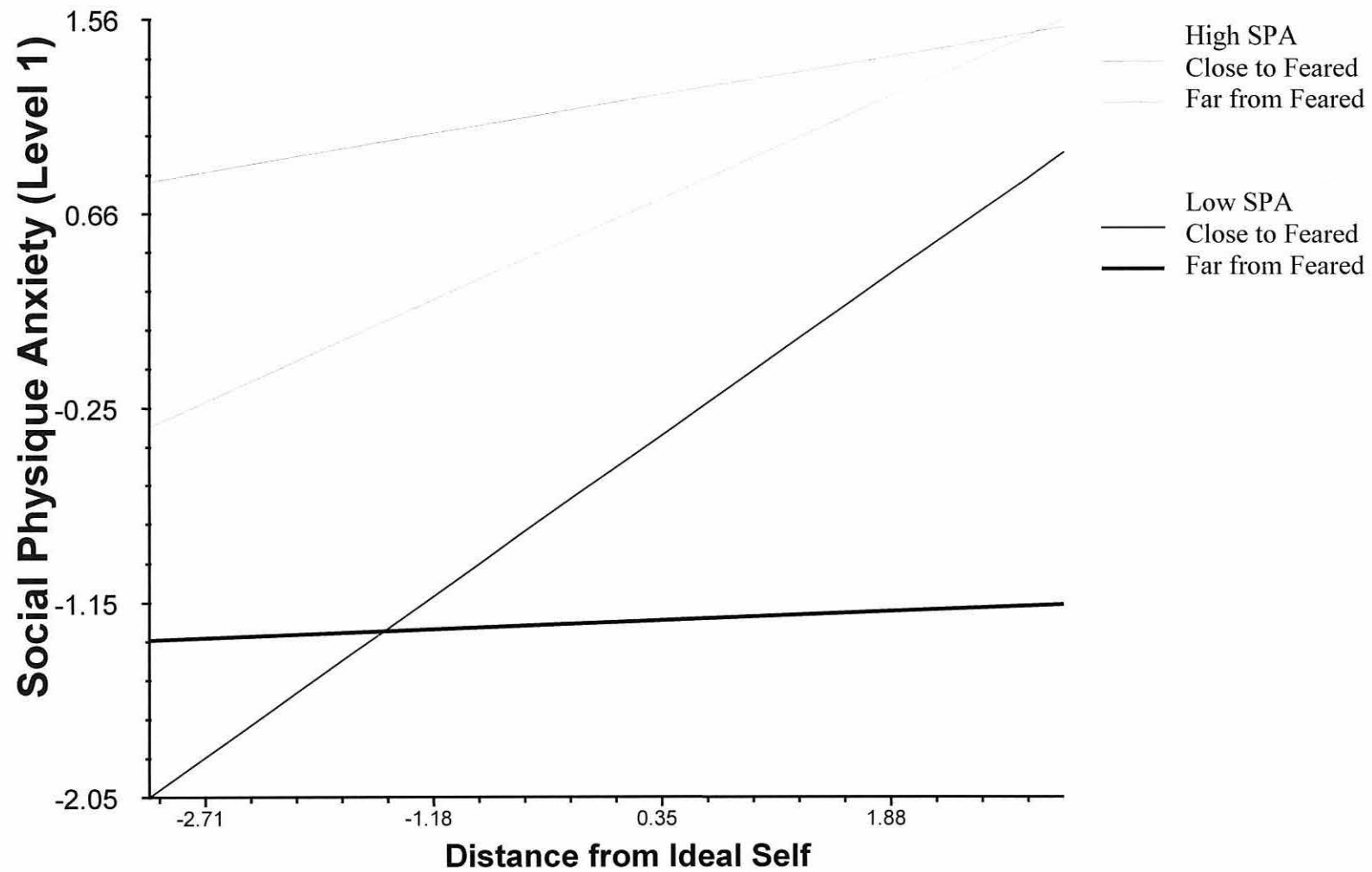


Figure 5.1. The three-way interaction between ideal discrepancies, feared discrepancies and mean (level 2) social physique anxiety on within-persons (level 1) social physique anxiety.

Discussion

The present study aimed to examine within- and between-person variability in the relationships between body self-discrepancies, social physique anxiety and depression. In contrast to the proposals of self-discrepancy theory (Higgins, 1987) and the specific hypotheses presented here, ought discrepancies were not a significant predictor of social physique anxiety at either the main effects, two- or three-way interactions. The results revealed a significant three-way cross-level interaction in predicting social physique anxiety such that the within-persons two-way interaction between ideal and feared discrepancies was moderated by between-persons level of social physique anxiety. Specifically, when mean social physique anxiety was low, the positive relationship between ideal discrepancies and social physique anxiety was significant only when relatively *close* to the feared self. Conversely, when mean social physique anxiety was high, the positive relationship between ideal discrepancies and social physique anxiety was significant only when participants were relatively *far* from their feared self.

The present interaction effects on social physique anxiety emerged only for ideal discrepancies, not for ought discrepancies. However, previous between-persons examinations of body self-discrepancy interactions have also shown ideal (as well as ought) discrepancies to be significant predictors of social physique anxiety (cf. Study 1 p. 29). The present findings continue to offer empirical support for the robustness of the moderating role of the feared self in discrepancy – affect relationships. Furthermore, the nature of the three-way cross-level interaction offers a clear illustration of how the specific *form* of within-person discrepancy interactions in predicting social physique anxiety may vary as a function of between-person factors.

The three-way cross level interaction suggests that at lower levels of social physique anxiety, the specific shape of the interplay between ideal discrepancies and feared discrepancies is consistent with that shown in Study 2 (albeit with regard to ideal,

rather than ought, discrepancies; Steer & Woodman, under second review). Specifically, proximity to the ideal self is not a significant predictor of social physique anxiety providing one maintains sufficient distance from the feared self. It may be that, when mean social physique anxiety is low, the primary focus is to maintain distance from one's feared self. Providing this distance is maintained, increasing proximity to the ideal self (i.e., smaller discrepancies) offers little additional protection from the experience of social physique anxiety. In contrast, as proximity to the feared self increases (i.e., as one approaches one's feared self), ideal discrepancies emerge as a salient reference of self which offers some protection from the negative impact of the feared self (cf. Steer & Woodman).

As mean social physique anxiety increases, the nature of the relationship between ideal and feared discrepancies changes. Specifically, the positive relationship between ideal discrepancies and social physique anxiety is significant only when relatively far from the feared self. The form of this interaction is consistent with that proposed by Carver et al. (1999) and that demonstrated in Study 1 (p. 29). This suggests that when one feels close to one's feared self, social physique anxiety is high regardless of proximity to the ideal self. As such, the primary motivation is to create distance from the feared self. As distance from the feared self increases, one can begin to work towards approaching the ideal self, whereby increasing proximity will further reduce the level of social physique anxiety experienced.

In line with previous research (Gramzow, Sedikides, Panter, & Insko, 2000; McDaniel & Grice, 2008; Ozgul et al., 2003; Steer & Woodman, under second review; Tangney et al., 1998; Woodman & Hemmings, 2008; Woodman & Steer, 2011), there was a significant association between ideal and ought discrepancies. However, the strength of the association here ($r = .62$) was notably lower than previously reported (e.g., $r = .81$; Steer & Woodman) and, in line with previous literature, ideal and ought

selves were empirically distinct in the present sample. The reduced association may be a function of the measurement of body discrepancies used here. According to Higgins (1999), only personally relevant self-guides (i.e., ideal or ought) and their associated discrepancies will be significant predictors of affect. Furthermore, Higgins maintains that only idiographic measures allow participants to list personally relevant attributes. As detailed, previous examinations of body discrepancies have typically utilised one-item, nomothetic measures such as the somatomorphic matrix or visual analogue scales. The integrated self-discrepancy index (ISDI; Hardin & Lakin, 2009) provides participants first with an opportunity to idiographically generate relevant attributes before providing an adjective list from which participants may or may not modify their lists. As such, the ISDI does not impose non-relevant attributes or images onto participants, and simultaneously offers suggestions for those who may struggle to self-generate a sufficient number of attributes (Tangney, et al. 1998) Thus, it appears unlikely that the null findings in regard to ought discrepancies can be attributed to the measure itself. In contrast, it may have exposed the non-relevance of the ought self to the present sample. Nonetheless, the present findings suggest that the ISDI, combining idiographic and nomothetic techniques, over multiple items, is a viable alternative to traditional methods of assessing body-self discrepancies.

Despite advances in the measurement, calculation and assessment of body discrepancies, the conceptual and empirical distinction between ideal and ought selves and their specific roles in predicting agitation and dejection-related affect remains unclear. In line with Higgins' (1987) original proposals, it may be that ideal and ought self-domains (and their associated discrepancies) vary in their personal importance and accessibility, and thus their predictive power over affect within different individuals/samples. Future research would do well to continue to attempt to delineate the individual roles of the ideal and ought body selves as a function of further

moderating factors (e.g., importance), at both within- and between-person levels in predicting social physique anxiety.

Although the three-way interaction effects emerged with regard to ideal discrepancies rather than ought discrepancies, the finding that between-person level of social physique anxiety moderates the form of the within-person two-way interaction between ideal discrepancies and feared discrepancies in predicting social physique anxiety offers some resolution to the equivocal findings of previous, between-persons only, examinations of discrepancy – affect relationships. Hierarchical linear modelling is increasingly being used to examine more complex models of data, and assess factors that traditional regression based analyses cannot account for. The present study is the first to employ such analyses to examine a self-discrepancy interaction framework and has provided initial evidence for its efficacy to do so. As such, the present study is a significant step forward for body discrepancy research. Future research would do well to consider utilising hierarchical data to examine and clarify the relationships demonstrated here.

Chapter 6

Summary, General Discussion and Conclusions

The primary aims of the current thesis were to more fully examine the roles of ought and feared body self-discrepancies in relation to body related-affect, specifically, social physique anxiety. Over four studies, this thesis provides substantial evidence for the importance of considering the feared self in addition to the ideal and ought selves. Moreover, these studies extend Higgins' (1987) self-discrepancy theory and support the use of an interaction framework (Carver, Lawrence, & Scheier, 1999) in the context of body image in predicting social physique anxiety, body dissatisfaction and disordered eating attitudes. The purpose of this final chapter is to assimilate the findings of the thesis as a whole, consider its main strengths and limitations and, in light of the findings presented here, discuss theoretical and applied implications, and propose directions for future research.

Summary of Main Findings

Utilising Carver et al.'s (1999) interaction framework, Study 1 extended the work of Woodman and Hemmings (2008) by examining body self-discrepancy interactions in predicting body-specific (rather than global) anxiety. Specifically, the results demonstrated an interaction between ought and feared body fat discrepancies in predicting social physique anxiety such that ought discrepancies were a stronger predictor of social physique anxiety when women were farther from their feared self.

Study 2 further extended this interaction framework to a more complex model of mediated moderation. As hypothesised, the two-way interaction between ought and feared body fat discrepancies significantly predicted disordered eating attitudes and this relationship was fully mediated by social physique anxiety. In contrast to the specific interaction hypothesis, the form of the two-way interaction was different to that in

Study 1. Specifically, the positive relationship between ought discrepancies and social physique anxiety was significant only when women were *close* to their feared self. The same pattern of results emerged in predicting disordered eating attitudes. As such, this study continued to offer support for the feared self as a moderator of discrepancy – affect relationships.

Following a wealth of literature examining the impact of exposure to media ideals on ideal discrepancies and body dissatisfaction, Study 3 examined the impact of such exposure on ought discrepancies and social physique anxiety, which had previously been excluded from such experimental manipulation. The results indicated that exposure to media ideals significantly moderated the relationships between ideal discrepancies and body dissatisfaction, and between ought discrepancies and social physique anxiety. Specifically, when exposed to media ideals, the positive discrepancy – affect relationships were weaker than when exposed to a neutral media control condition. These findings suggested that exposure to media ideals externalises the source of affect such that it weakens the effect of one's body self-discrepancies on body dissatisfaction and social physique anxiety.

Finally, Study 4 examined within-person variability in the specific form of the interaction between ought and feared discrepancies in predicting social physique anxiety as demonstrated in Study 1 and Study 2. Utilising a hierarchical linear modelling approach, the results demonstrated that the form of the within-persons interaction between ideal discrepancies and feared discrepancies on social physique anxiety was moderated by between-persons level of social physique anxiety. Specifically, when mean social physique anxiety was high, the positive relationship between ideal discrepancies and social physique anxiety was significant only when *far* from the feared self. Conversely, when mean social physique anxiety was low, the form of the interaction between ideal discrepancies and feared discrepancies was such that the

positive relationship between ideal discrepancies and social physique anxiety was significant only when *close* to the feared self. Although this pattern of results is consistent with Study 1 and Study 2, respectively, this interaction emerged only in relation to ideal discrepancies, not in relation to ought discrepancies. Nonetheless, these findings provide initial evidence that between-person variability in mean levels of social physique anxiety moderates the specific form of within-person discrepancy interactions between ideal discrepancies and feared discrepancies. As such, hierarchical linear modelling appears to be a fruitful framework for the examination of body self-discrepancy interactions in predicting affect.

Strengths

Collectively, previous self-discrepancy literature raised three primary concerns regarding self-discrepancy theory (e.g., McDaniel & Grice, 2008; Ozgul, Huebeck, Ward, & Wilkinson, 2003; Tangney, Niedenthal, Covert, & Barlow, 1998): the proposed unique relationships between individual self-guides and specific types of affect; the empirical distinction between ideal and ought self-guides; and the measurement of self-discrepancies. Throughout the thesis, the present studies addressed some of these concerns. In addition, two central limitations of the body image literature are that it has frequently examined ideal discrepancies as a predictor of affect, but has largely neglected the ought and feared selves, and has not considered interactions between self-guides. We addressed these limitations here. In doing so, the findings demonstrate the complexity of discrepancy – affect relationships and highlight the relatively simplistic nature of previous body discrepancy research. Thus, within the specific context of body image, the current findings extend self-discrepancy theory (Higgins, 1987) and provide substantial support for a self-discrepancy interaction

framework to examine discrepancy - affect relationships. The development of such a framework achieves significant steps forward for body discrepancy literature.

Limitations

Despite substantial support for utilising a body self-discrepancy interaction framework to predict affect, the central findings of this thesis are not without limitations and require replication to support and clarify the robustness of the relationships described here. Some of the existing limitations of self-discrepancy research, such as the conceptual distinction between ideal and ought selves; the unique relationships of self-discrepancies to affect; and the methods by which self-discrepancies are assessed and calculated, remain unresolved to some degree. In addition, variability in the specific form of self-discrepancy interactions in predicting body-related affect requires further examination. Further, methodological limitations of cross-sectional designs and the potential impact of these on the results presented here warrant discussion. Finally, examining a body-discrepancy interaction framework has highlighted important theoretical and applied implications for dealing with body image difficulties and associated affect and behaviour. As such, in light of the findings presented here, there are a number of new questions to be addressed in future research.

Distinctions Between Self-Guides

The ideal self versus the ought self. Reports of moderate to strong correlations between ideal discrepancies and ought discrepancies in the self-discrepancy literature (e.g., Gramzow, Sedikides, Panter, & Insko, 2000; McDaniel & Grice, 2008; Ozgul et al., 2003; Phillips & Sylvia, 2005; Tangney et al., 1998; Woodman & Hemmings, 2008) has called into question the conceptual and empirical distinction between the ideal self and the ought self. In line with this research, ideal and ought body discrepancies were significantly correlated throughout the four studies presented here ($r = .62 - .88$).

Despite these associations, examinations in Study 1 and Study 2 utilising visual analogue scales suggested that ideal and ought fat selves were empirically distinct, such that ideal selves were rated as less fat than ought selves. In other words, women reported ideally wanting to be less fat than they felt they ought to be. The association between ideal and ought discrepancies was further reduced when using a combined idiographic and nomothetic measure ($r = .62$; Study 4). Collectively, this suggests that although closely related, ideal and ought selves are both conceptually and empirically distinct. As such, the body image literature, which has largely focussed exclusively on the ideal self, has neglected an important domain of self when examining body-related affect and associated behaviour.

As previously detailed, there has been ongoing discussion within the self-discrepancy literature as to whether ideal discrepancies and ought discrepancies uniquely predict dejection-related affect and agitation-related affect, respectively (e.g., Gramzow et al., 2000; Higgins, 1999; Ozgul et al., 2003; Tangney et al., 1998). As such, throughout each study, we controlled for the influence of the self-discrepancy that was not of central interest to each analysis. In other words, when examining the relationship between ought discrepancies and social physique anxiety, we controlled for ideal discrepancies. When examining the relationship between ideal discrepancies and body dissatisfaction, we controlled for ought discrepancies. Throughout, despite significant relationships between ideal discrepancies and social physique anxiety, the findings demonstrated that ought discrepancies continued to predict a significant proportion of social physique anxiety variance over and above the contribution of ideal discrepancies. Furthermore, ideal discrepancies remained a significant predictor of variance in body dissatisfaction over and above the contribution of ought discrepancies (cf. Study 3).

It is important that future body image research attempt to identify how the ideal and ought selves conceptually and empirically differ in this context. It may be that the distinction lies in the underlying focus and *content* of ideal and ought selves. For example, ideal discrepancies may be health focused (e.g., I ideally would like to be less fat to reduce my risk of weight related illness), whereas ought selves may be appearance focused (e.g., I ought to be less fat to improve my outward physical appearance). As such, one might expect the distinction between ideal and ought selves to become more apparent when considering behavioural responses to discrepancies (such as eating and exercise) rather than discrepancy - affect relationships *per se*. That is, ideal discrepancies may be associated with a promotion strategy such that one will try to approach an ideal goal through diet and exercise, and thus achieve positive outcomes. Conversely, ought discrepancies may be associated with a prevention strategy such that one will try to minimise the presence of negatives outcomes by engaging in behaviour that is perceived to prevent one from moving away from the ought self (e.g., restricted eating/fasting).

In addition, Higgins (1996) proposed that as ideals are associated with hopes and aspirations they may be more strongly associated with characteristics of bulimia nervosa such as feelings of a lack of control over achieving one's goals and failure to meet one's own potential. Further, he proposed that ought discrepancies may be more strongly associated with feelings of fear and anxiety that one is failing to meet others' standards and expectations; symptoms that are characteristic of anorexia nervosa. However, a small number of studies have demonstrated mixed findings with regards to eating behaviour. Strauman Vookles, Berenstein, Chaiken, and Higgins (1991) showed ideal discrepancies to be more strongly associated with bulimic symptomatology whereas ought discrepancies were associated more with anorexic symptomatology. In contrast, both ideal and ought discrepancies have been shown to be related to bulimic

symptomatology (e.g., binge eating), dietary restraint and drive for thinness (Anton, Perri & Riley, 2000; Forston & Stanton 1992; Harrison, 2001; Landa & Bybee, 2007; Snyder, 1997; Szymanski & Cash, 1995). Future research should aim to elucidate this distinction in order to further clarify body discrepancy – affect relationships and their resultant influence on related behaviours such as eating and exercise.

The ideal self versus the feared self. In line with Markus and Nurius' (1986) discussion, the present thesis demonstrates that the feared self is distinct from the ideal self and, furthermore, that it plays a significant moderating role in the relationships between approach (i.e., ideal and ought) self-discrepancies and affect (cf. Carver et al., 1999). The distinction between the ideal self and the feared self appears clearer than that between the ideal self and the ought self. However, the body image literature has largely neglected the feared self and has implicitly conceptualised ideal and feared selves as two ends of the same continuum, rather than distinct self-representations. This confound is particularly apparent in relation to eating behaviour. As Levitt (2003) points out, although a *drive for thinness* and a *fear of fat* are used interchangeably in the eating disorder literature, assessment and practice, they may represent distinct elements of body image disturbance and manifest differentially with regard to behavioural strategies. For example, a drive for thinness may be associated with behaviours directed towards approaching a self-reference goal (e.g., restricted eating, excessive exercise).

Conversely, a fear of fat may be more strongly associated with behaviours directed towards prevention of weight gain, such as bingeing and purging cycles. As such, attempts to reduce one's drive for thinness, or modifying extreme thinness ideals, may be relatively fruitless if the feared self-discrepancy is more proximal and a stronger predictor of affect and behaviour. Creating or maintaining distance from the feared self may be of higher primary importance than working towards the ideal self. In other

words, the fear of fat is likely a stronger predictor of behaviour than the drive for thinness. Thus, in practice, modifying one's ideal (to a healthy, more realistic one) will do little to reduce negative affect unless the perception that one is in close proximity to the feared self is first addressed. Such a proposal has received no attention with clinical or sub-clinical populations. However, given the growing empirical support for the role of the feared self, examining such questions appears to be an avenue worthy of further research.

Measurement of Self-Discrepancies

Component scores verses discrepancy scores. One element of measurement that is central to self-discrepancy theory is the use of difference scores. Considerable research has debated the relative merits of using discrepancy scores with arguments both for (e.g., Tisak & Smith, 1994) and against their use (e.g., Edwards, 1994). Measures of self-discrepancies such as the Figure Rating Scale (Stunkard, Sorensen, & Schulsinger, 1983) and visual analogue scales (cf. Studies 1 – 3), require participants to provide separate (i.e., component) ratings for each of the domains of self (actual, ideal, ought and feared). Discrepancy scores are then calculated from their components by subtracting the actual self score from each of the other domains. However, in the context of body image, the information derived from component scores may well provide useful information in addition to discrepancy scores. It may be of interest to compare component ratings if the research question is interested in how the specific body self-representations vary as a function of factors such as sex, culture, or clinical and sub-clinical samples. For example, as well as reporting less body dissatisfaction and less desire to lose weight, African-American women report *larger* ideal figure ratings than do Caucasian women (e.g., Jones, Fries, & Danish, 2007; Padgett & Biro, 2003).

Measures such as the Figure Rating Scale (Stunkard et al., 1983) allow such comparisons to be made. However, as pointed out in Study 1, when using visual analogue scales, which impose no images onto participants, there is no standardised assessment of what any particular point on the scale represents. For example, one individual's perception of the ideal (e.g., 2 on a scale of body fat as very underweight/unhealthy) may differ greatly from another's (e.g., 2 on a scale of body fat as a healthy weight). In other words, scores on each of the self scales (actual, ideal, ought and feared) are not directly comparable across individuals; they only become meaningful when considered in relation to the actual self (i.e., the magnitude of the discrepancy between one's actual self and one's ideal/ought or feared self).

Furthermore, in order to reduce body dissatisfaction, unhealthy and unrealistic thinness ideals are likely to require modification to a more realistic (i.e., achievable) goal. Thus, it is important to understand not just the magnitude of one's discrepancies (i.e., distance from one's ideal body), but also the reference point of one's thinness ideal (i.e., *how* extreme/realistic one's ideal self is). As such, body discrepancy research must carefully identify whether component scores, discrepancy scores, or both, are most appropriate for the specific research question, and select a measure of self-discrepancies accordingly.

Absolute scores versus directional scores. Studies one to three utilised visual analogue scales to assess body self-discrepancies, thus allowing participants to report bi-directional discrepancy scores. These studies adopted a traditional self-discrepancy standpoint by examining discrepancy scores as non-directional, that is, absolute discrepancy scores were used throughout. As pointed out in Study 1, it is unlikely that a linear relationship between bi-directional discrepancies and affect exists. For example, an individual who holds a negative ideal fat discrepancy (i.e., ideally wants to be less

fat) is unlikely to experience less body dissatisfaction than an individual with zero discrepancy. Furthermore, there is likely to be some variation in the type and/or intensity of affect experienced by individuals who hold negative ideal and ought discrepancies (e.g., ideally/ought to be less fat) and positive feared discrepancies (e.g., fear becoming fatter) compared to individuals who hold positive ideal and ought discrepancies (e.g., ideally/ought to be fatter) and negative feared discrepancies (e.g., fear becoming less fat). Individuals who hold discrepancies in the ‘opposite’ direction to that expected are less numerable. For example, in Study 1 ($n = 100$); one woman reported a positive ideal fat discrepancy (i.e., ideally want to be more fat); 10 women reported positive ought fat discrepancies (i.e., ought to be more fat) and eight women reported negative feared discrepancies (i.e., fear being less fat). These numbers were slightly higher in Study 2 ($n = 102$) such that 14, 18 and seven women reported positive ideal and ought discrepancies, and negative feared discrepancies, respectively. In Study 3 ($n = 39$); two, three and five women reported positive ideal and ought discrepancies, and negative feared discrepancies, respectively. As such, we were unable to examine discrepancy direction as a moderator of discrepancy affect relationships.

In addition, discrepancy direction may be more relevant in men compared to women. For example, women consistently report an ideal that is smaller than their actual self and are primarily concerned with reducing fat mass (Grogan, 2008; Gruber, Pope, Lalonde, & Hudson, 2001). However, men may be equally as likely to want to increase weight and size (through increased muscle mass) as they are to report a desire to lose weight (via a reduction of fat mass; Leit, Pope & Gray, 2001; Oliviardia, Pope, Borowiecki, & Cohane, 2004; Pope, Oliviardia, Gruber, & Borowiecki, 1999; Silberstein, Striegel-Moore, Timko, & Rodin, 1988). This proposal was partially supported by Study 3 such that a larger proportion of men (compared to women) reported discrepancies in the ‘opposite’ direction to that expected. Specifically, out of

47 men, 11, 13 and 15 reported positive ideal and ought discrepancies and negative feared discrepancies, respectively. As such, men's body image might be better predicted by considering a combination of fat and muscularity concerns, allowing for bi-directional discrepancies.

Nomothetic measures versus idiographic measures. Self-discrepancy research has questioned the efficacy of Higgins' original selves questionnaire as a measure of self-discrepancies. Consequently, researchers have devised and used a variety of measurements (e.g., the body-image ideals questionnaire, Cash & Symanski, 1995, Symanski & Cash, 1995; the self-lines questionnaire, Francis, Boldero, & Sambell, 2006; the somatomorphic matrix, Woodman & Hemmings, 2008; figure rating scales, Bessenoff & Snow, 2006; and Likert scales, McDaniel & Grice, 2008). Typically, there has been debate over whether nomothetic or idiographic measures are superior for measuring self-discrepancies. It has been suggested that some of the equivocal findings regarding hypotheses of unique relationships and distinction between the ideal self and ought self may be attributable to the measurement selected (e.g., Francis et al., 2006; McDaniel & Grice, 2008).

As discussed in Study 4, Higgins (1999) contends that in order to evoke only personally relevant and important self-discrepancies, only idiographic measures such as the Selves Questionnaire should be used. Also according to Higgins (1999), nomothetic fixed-item measures may be weaker predictors of negative affect as they assess available but not necessarily accessible or personally important self-discrepancies. In other words, nomothetic measures may assess attributes that would not necessarily be reported spontaneously by the participant if using a idiographic measure, and are thus deemed to be less personally important. This proposal has been substantiated, such that nomothetic measures have provided less support for the primary proposals of self-

discrepancy theory (e.g., Halliwell & Dittmar, 2006; McDaniel & Grice, 2005; Moretti & Higgins, 1990; Symanski & Cash, 1995).

In line with previous literature using idiographic measures such as the selves questionnaire (Gramzow et al., 2000), the integrated self-discrepancy index (Hardin & Lakin, 2009; Study 4) revealed a lower association between ideal and ought discrepancies than did visual analogue scales (studies one to three), suggesting that the idiographic measure elicited a wider and more distinct set of body-related attributes. This is unsurprising given that the visual analogue scales were nomothetic, single-item, and assessed only one dimension of body image (body fat). As discussed, Higgins (1999) maintains that nomothetic measures do not allow participants to report personally relevant attributes. However, the fact that strong, significant results emerged using a nomothetic measure here is likely due to the fact that the specific attribute examined (i.e., body fat) is a highly salient aspect of women's body image (cf. Woodman & Hemmings, 2008), and would likely be an accessible and personally important discrepancy for the majority of women.

Interactions Between Self-guides in Predicting Affect

The demonstration of significant discrepancy interactions across four studies is a significant step forward for self-discrepancy theory as the results highlight the complexity of discrepancy – affect relationships beyond that described by Higgins (1987, 1997, 1999). The differing forms of the ought \times feared interactions across studies one and two suggested that between-person differences may further moderate these relationships. Study 4 demonstrated that between-persons level of social physique anxiety moderates the form of the within-persons ideal \times feared interaction in predicting social physique anxiety. The fact that this interaction emerged with regards to ideal (and not ought) discrepancies is in contrast to the central hypotheses of self-discrepancy

theory. Thus, replication of this framework is needed to clarify and substantiate the findings within a self-discrepancy theory framework.

In addition to examining within-person moderators of discrepancy - affect relationships, hierarchical linear modelling allows researchers to examine more complex models of data which can examine both within- and between-persons differences simultaneously. These types of models are increasing in popularity in social and psychological research and it appears that future self-discrepancy and body image research would benefit from adopting such an approach.

Methodological Limitations

As discussed, there is cause for concern in the validity of using single-item visual analogue scales (or similar) to measure body discrepancies (cf. Study 1 & 2). These specific limitations in the measurement and assessment of self-discrepancies are a potential source of common method variance. Defined as ‘variance that is attributable to the measurement method rather than to the constructs the measures represent’ (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003, pg. 879)., common method variance is a potential threat to all cross-sectional designs and may result in spurious correlations and erroneous reporting of relationships between variables. Specifically, it may both inflate and deflate the strength of observed relationships, leading to Type 1 or Type 2 errors. A number of (statistical) remedies to account for such variance in data analysis have been proposed, (e.g., Harman’s single-factor test, partial correlation, see Podsakoff et al, 2003, for a review). However, research examining the impact of common method variance has itself been inconsistent in exactly what it has defined as ‘method’. This is because sources of method variance emerge from within different levels of a study. For example, specific problems *within* measures (e.g., poor item validity & reliability); *between* measures: using common response methods (e.g., all 5-point Likert scales) to assess both independent and dependent variables; and global design factors such as

single source and time bias in cross-sectional designs, self-report measures, and social desirability, may all increase the risk of data being contaminated by common method variance. Thus, statistical strategies have received criticism for being unable to fully account for all sources of common method variance and only being appropriate in certain circumstances (Podsakoff et al. 2003; Siemsen, Roth & Oliveria, 2010).

When examining discrepancy – affect relationships, a primary concern is that cross-sectional studies result in discrepancies being reported at the same time as affect; which may be problematic for method variance. For example, if participants are first required to attend to and report body discrepancies, levels of negative affect may be temporarily increased, resulting in inflation of the strength of the relationships between body discrepancies and affect. As were employed here, methodological and procedural strategies such as utilising measures with varying response methods and counterbalancing, serve to minimise the risk of common method variance. Other strategies include using filler or distracter items and creating a lag or sufficient time break between collecting independent and dependent variable data (Podsakoff et al., 2003).

However, when significant interactions emerge, these cannot be attributed to spurious results as a function of common method variance (Siemsen et al., 2010). If common method variance as a result of priming effects were present, it would be unlikely to influence relationships for only a portion of the sample, or for the relationships between particular self-guides (rather than all) and affect. As such, common method variance only serves to deflate interactions, making them more difficult to detect (Siemsen et al.). In other words, despite the (expected) degree of covariance between self-guides, and some risk of priming effects, the consistent finding that individual self-guides operate independently with regards to affect; that these effects hold when controlling for other self-guides; and the emergence of significant

interactions between self-guides in both cross-sectional and repeated measures designs (study 1-2, and 4, respectively), suggests that common method variance is not a serious cause for concern. Indeed, as Siemsen et al. state, ‘finding significant interaction effects despite the influence of CMV in the data set should be taken as strong evidence that an interaction effect exists’ (pg. 470). Nevertheless, common method variance remains an important potential threat to validity in cross-sectional designs and should be routinely considered in study design. Research that attempts to control the risk through measurement (i.e., scale selection) and study design (e.g., cross-sectional/longitudinal), is likely to be less at risk, and thus report more accurate results, than studies that attempt to statistically control such variance in a post-hoc manner.

Finally, as discussed in studies 1 and 2, a central limitation of the cross-sectional designs utilised there is that they do not allow one to infer causation. Given that self-discrepancy theory proposes that discrepancies are the cause of affective states, future research examining a body self-discrepancy interaction framework should do so within the context of longitudinal designs. Such a study would allow empirical examination of this hypothesis and further testing of the robustness of the findings presented here, whilst overcoming some of the common method limitations of cross-sectional designs.

Efficacy of Self-discrepancy Theory for Body Image

Although the findings of this thesis present substantial evidence for examining self-discrepancy interactions, it is important to consider the efficacy of self-discrepancy theory in specific relation to body image. That is, throughout this thesis, the emergence of simple and interaction effects for both ideal and ought self-discrepancies in predicting social physique anxiety suggests that there is significant overlap between these body selves. The measure of self-discrepancies selected in studies 1 to 3 is likely to have encouraged this overlap. However, utilising a idiographic measure in study four

only partially reduced the strength of the association between ideal discrepancies and ought discrepancies. Further, in contrast to the previous studies, the findings of Study 4 suggested that ought body discrepancies are not a significant predictor of social physique anxiety.

Given the centrality of body image to one's global self-concept and the extent to which external standards for body image are internalised as one's own ideals, (Dittmar, 2008, Groesz, Levine, & Murnen, 2002), it is reasonable to expect that ideal and ought selves and their relationships with affect will be closely related. As such, the specific proposal of self-discrepancy theory that ideal and ought selves will result in distinct emotional consequences may be less applicable when examining body-specific self-discrepancies. However, this does not mean that future body image research should abandon examinations of either the ideal self or ought self, as it may be that ideal and ought body self-discrepancies exert differential effects on related behaviour such as eating and exercise.

Further, the findings with regard to feared discrepancies suggest that the moderating role of this self-representation is a crucial factor in predicting social physique anxiety. As such, the results presented here open up a number of potential research questions for future body image and social physique anxiety literature that has largely failed to examine references of self beyond the ideal.

Despite substantial evidence for the efficacy of self-discrepancy theory provided here, it is important to consider alternative theories of self-concept and anxiety that might offer additional insight to the relationships between body image, affect and associated behaviour. For example, a self-presentation, or impression management approach to social physique anxiety suggests that anxiety arises because an individual is motivated to create a particular impression on others (whether conscious or

subconscious) but that they doubt their ability to do so, and consequently, are concerned that they will be subject to negative evaluation (Schlenker & Leary, 1982).

According to self-presentation, for social anxiety to arise, one must be motivated to create a desired impression to others, over and above the desire to meet one's own personal standards. If no such motivation exists, then contexts in which there is a risk of evaluation from others should exert little impact on the level of anxiety. With regard to body image impressions, such self-presentational motives will likely result in avoidance of situations (e.g., exercise environments) that pose the greatest risk for failure to present the desired image. This suggests that the perception of others' expectations for oneself may exert a stronger predictive power over body-related affect and behaviour. As such, although discrepancies from one's own ideal, ought and feared selves were shown to exert a strong predictive power over social physique anxiety here; it may be equally important to consider one's self-presentational motives, and the degree to which an individual perceives they are discrepant from significant others' standards or expectations for them.

Standpoints on the Self

Throughout this thesis, the focus has been exclusively on discrepancies from one's own perspective. However, self-discrepancy theory (Higgins, 1987) states that discrepancies arising from a significant other's perspective can also be a significant predictor of affect. The ideal:other standpoint is a representation of a significant other's hopes, wishes or aspirations for oneself. Ideal:other discrepancies, that is, failing to meet someone's hopes or aspirations for oneself, are proposed to be associated with specific dejection-related affect such as shame and embarrassment. The ought:other standpoint is a representation of a significant other's sense of one's duty, obligations or responsibilities. Discrepancies from the ought:other standpoint are proposed to be

associated with specific agitation-related emotions such as fear, threat or resentment. This element of self-discrepancy theory has received far less research attention within global self-discrepancy literature, and has provided equivocal findings. For example, Tangney et al. (1998) examined the specific hypothesis that ought:own discrepancies would be related to guilt whereas ideal:other discrepancies would be related to shame. However, their findings indicated that shame, but not guilt, was associated with both ideal and ought discrepancies from one's own and a significant other's standpoint.

In the context of body image, Halliwell and Dittmar (2006) examined ideal appearance-related discrepancies from one's own and a romantic partner's standpoint. Their findings suggested that appearance-related discrepancies from a partner's standpoint were a significant predictor of body-focused affect and emotional eating for women only, suggesting that a significant other's perspective may be more relevant in predicting women's experiences of affect.

Halliwell and Dittmar (2006) neglected to examine ought discrepancies on the basis of the null findings of previous literature regarding ought discrepancies and anxiety. However, the ought:other standpoint may be salient when considering external standards for body image such as media ideals. There is a lack of clarity within the body image literature that has examined media 'ideals' without an underlying theoretical framework such as self-discrepancy theory. The media thinness 'ideal' for women may in fact more accurately represent an ought:other, that is, an external standard for how one's body should appear. Further, it is likely that within a body image context, the self-discrepancies from one's own and societal perspectives are less empirically distinct. Indeed, there is substantial evidence to suggest that exposure to media 'ideals' results in increased body dissatisfaction to a greater degree in women who have internalised this ideal as their own. As such, media exposure may reduce the distinction between ideal and ought discrepancies by priming both one's own ideals and internalised oughts. In

support of this proposal, Bessenoff and Snow (2006) demonstrated that one's own ideal discrepancies mediated the relationship between societal ought discrepancies and body shame in women.

As with discrepancies from one's own standpoint, self-discrepancy theory makes no proposals regarding the role of the feared self from the 'other' standpoint. However, it is likely that in the same way as ideal and oughts, feared self-representations from a significant others' perspective will be very similar to and closely related to one's own. Thus, it is reasonable to suggest that feared:other discrepancies will also be related to both dejection- and agitation-related affect. It is important to highlight that all self-representations from the 'other' perspective still reflect one's *own perception* of a significant others' expectations or standards for oneself. As such, the degree of misperception (e.g., setting extreme standards) is likely to be closely related to the extremity of one's own standards, particularly if external ideals (e.g., media/societal) have been internalised as one's own.

For example, in examinations of body ideals and expectations for the opposite sex, studies have demonstrated that both men and women incorrectly assess the perceived preferences of the opposite sex (e.g., Fallon & Rozin, 1985; Lamb, Jackson, Cassiday, & Priest, 1993). That is, women select an ideal figure that is thinner than the one men report as most desirable. Similarly, men select an ideal figure that is larger than women report as most desirable. It may be that, the greater the degree of internalisation and extent to which an individual considers others' standards as important, the greater the error in making assessments of others' expectations for oneself. Further research is warranted to unpick how ideal, ought and feared discrepancies from one's own and other's perspectives (personal, e.g., partner and/or societal) exert different effects on body-related affect.

Media effects

Despite an extensive body of literature and several meta-analytic reviews (Grabe, Ward, & Hyde, 2008; Groesz et al., 2002), the impact of exposure to media ideals on body image, affect and behaviour and the mechanisms by which this influence is exerted is not fully understood. Overall, there appears to be a small to moderate negative effect of exposure to media ideals on body dissatisfaction. Examinations of media influence frequently draw upon social comparison theory (Festinger, 1954), which states that individuals evaluate themselves by making upward and downward comparisons with others. Upward comparisons, or comparing oneself with perceived superior individuals is proposed to lead to depressed affect and less positive self-evaluations. In contrast, downward comparisons, or comparing oneself to a perceived inferior or less fortunate individual is proposed to lead to increased positive affect and more positive self-evaluations. In a similar proposal to self-discrepancy theory, social comparison theory maintains that comparisons will be made only when the stimulus is perceived as personally relevant and meaningful to the individual (Major, Testa, & Bylsma, 1991).

Self-discrepancy theory proposes that the greater the magnitude of one's discrepancies, the greater the experience of negative affect associated with that discrepancy. Thus, holding small ideal and ought discrepancies (i.e., being close to one's ideal or ought self) should offer protection from the negative influence of media ideals. However, Study 3 provides initial evidence that following exposure to media ideals, the relationship between discrepancy magnitude and affect is weakened, suggesting that this protection may be limited. Further, as previously discussed, there is substantial evidence to suggest that greater internalisation of media ideals is associated with greater negative affect following exposure (Brown & Dittmar, 2005; Dittmar & Howard, 2004; Halliwell & Dittmar, 2004, 2005). Taken together, this literature

suggests that exposure to media ideals may result in increased negative affect, regardless of proximity to one's ideal and ought selves. In addition, women who have internalised the media ideal are more sensitive to body-focussed stimuli and thus, are more likely to make upward comparisons. Consequently, they are likely to be particularly susceptible to increased negative affect following exposure to media ideals.

In a highly body conscious culture, coupled with an exponential rise in levels of obesity, there is increasing media attention on overweight and obese individuals, as well as behavioural strategies used to modify one's body. Thus, in addition to the frequently portrayed thinness and muscularity ideals (women and men, respectively) exposure to a cultural and media 'feared' body is increasing. However, the impact of exposure to a media feared body on one's body image and affect has received almost no research attention. Although their study didn't examine a cultural 'feared' body, Dittmar and Howard (2004) examined the influence of exposure to adverts depicting thin or normal size (UK average woman's dress size) models on women's body dissatisfaction. Their findings suggested that exposure to normal size models evokes a 'relief effect' in women who have internalised the thin ideal such that they report feeling less dissatisfied with their bodies.

Whilst the present thesis has offered strong support for the presence and importance of the feared self to body-related affect, the role of the feared self in relation to the media remains unclear. It is reasonable to suggest that in some cases, null findings with regards to exposure to ideal media (Grabe et al., 2008; Groesz et al., 2002) may be a function of a moderating role of the feared self. That is, when close to the feared self, the thinness or muscularity media ideals may be so abstract that they exert little meaningful influence over the experience of affect. When farther from the feared self, ideal thinness and muscularity ideals become a salient point of reference and self comparison and as such, emerge as a significant predictor of affect. Thus, examining the

role of the feared self in relation to ideal media, and the influence of exposure to feared media appear to be worthy avenues for future research.

Motivation and Exercise Behaviour

The present thesis has addressed in detail the specific relationships between body discrepancies and primarily, social physique anxiety. Study 2 extended this model by examining these relationships in relation to disordered eating attitudes. However, there remains a number of possible research questions regarding the wider impact of self-discrepancy – affect relationships on motivation, eating and exercise behaviour. Self-discrepancy theory (Higgins, 1987) proposes that individuals are motivated to engage in behaviour that decreases discrepancies from one's ideal and ought selves. Moving on from the primary affect-related hypotheses of self-discrepancy theory, Higgins (1997, 1998) examined the motivational component of self-discrepancies in greater detail and developed regulatory focus theory. Specifically, Higgins (1997) proposed that individuals may adopt two distinct behavioural strategies for pursuing goals; a promotion focus, or a prevention focus. A promotion focus is hypothesised to be more strongly associated with ideal discrepancies (i.e., behaviour directed towards achieving positive outcomes) whereas a prevention focus is more strongly associated with ought discrepancies (i.e., behaviour directed towards avoiding the presence of negatives outcomes).

Previous literature has shown social physique anxiety to be a significant determinant of exercise behaviour such that women high in social physique anxiety prefer to exercise in private rather than in public, and in clothes and settings in which physique is not overly emphasised (Crawford & Eklund, 1994; Eklund & Crawford, 1994; Spink, 1992). However, behavioural responses to self-discrepancies may manifest in different ways. For example, social physique anxiety and body dissatisfaction may

promote engagement in exercise behaviour to change one's body and thus improve body image and reduce the associated dissatisfaction and anxiety, or it may result in avoidance of exercise settings.

According to regulatory focus theory, the particular behavioural response will be moderated by the preferred regulatory focus of the individual. That is, as one may possess both ideal and ought discrepancies (cf. Higgins, 1987), one may also possess both a promotion and a prevention regulatory focus, but may be more strongly orientated to one in particular. A promotion regulatory focus, associated with ideal discrepancies and dejection-related affect, (e.g., body dissatisfaction) may be more strongly associated with positive action to achieve one's goals and improve body image through engagement in exercise, and as such, experience the presence of positive outcomes and reduce the experience of negative affect. Conversely, an ought, or prevention focus, associated with agitation-related affect (e.g., social physique anxiety) may be more strongly associated with avoidance of exercise settings, in order to prevent the presence of negative outcomes.

Further, discrepancies from different self-guides may be discriminately associated with different types of motivation. For example, in the context of self-determination theory (Ryan & Deci, 2000), the ideal self may be perceived as more autonomous and as such, more strongly associated with a greater degree of self-determination. In contrast, the ought self, particularly from the 'other' perspective, may be perceived as more controlling. As such, ought discrepancies may be associated with less self-determined motivation. Two recent studies have begun to examine such a proposal, investigating the mediating role of motivational regulations in the relationship between body self-discrepancies and exercise behaviour. In line with this proposal, Markland (2009) demonstrated that ideal discrepancies were negatively related to intrinsic and identified regulations, and positively related to external regulation, and that

these motivation regulations mediated the relationship between ideal discrepancies and physical activity behaviour.

However, Brunet, Sabiston, Castonguay, Ferguson and Bessette (2012) demonstrated that when in agreement; actual self and ideal self component ratings were positively associated with intrinsic motivation and physical activity behaviour. In contrast, when the ideal self was rated as higher than the actual self, intrinsic motivation and physical activity levels were lower, and external and introjected regulations were higher. Further, ought discrepancies were positively associated with introjected and external regulations. These findings suggest a particularly complex picture of the relationships between self-guide component scores, discrepancies, motivational regulation and physical activity behaviour. Thus, further research is necessary to examine the nature of these relationships and the consequences for behaviour. Such understanding may prove particularly fruitful for body image researchers and practitioners examining the underlying mechanisms of behaviour modification and adherence to diet and exercise programs.

Conclusions

In summary, this thesis presents a series of studies that demonstrate the validity of incorporating the feared self into Higgins' existing self-discrepancy theory, and utilising an interaction framework to examine the relationships between self-guides in predicting affect. Since its inception, self-discrepancy theory has generated extensive research interest across a range of contexts. Despite this, research examining more complex self-discrepancy relationships has only recently begun to gather momentum. With the exception of Woodman and Hemmings (2008), which provided part of the grounding for this thesis, the studies reported here are the first to systematically examine the ought and feared selves, and their interactions, within a body image

context. As such, the findings reported here are equally impactful in the field of body image research and the field of social physique anxiety research, as neither has given due consideration to the role that the feared self plays. The current thesis highlights and fills this substantial gap. It also provides impetus to both social physique anxiety and body self-discrepancy researchers to understand the underlying mechanisms and causes of social physique anxiety and related constructs such as eating and exercise motivation and behaviour.

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Appendix A

INFORMED CONSENT TO PARTICIPATE IN A RESEARCH PROJECT OR EXPERIMENT

The researcher conducting this project subscribes to the ethics conduct of research and to the protection at all times of the interests, comfort, and safety of participants. This form and the information it contains are given to you for your own protection and full understanding of the procedures. Your signature on this form will signify that you have received information which describes the procedures, possible risks, and benefits of this research project, that you have received an adequate opportunity to consider the information, and that you voluntarily agree to participate in the project.

Having been asked by **Rebecca Steer** of the School of Sport, Health and Exercise Sciences at the University of Wales Bangor to participate in a research project experiment, I have received information regarding the procedures of the experiment.

I understand the procedures to be used in this experiment and any possible personal risks to me in taking part.

I understand that I may withdraw my participation in this experiment at any time.

I also understand that I may register any complaint I might have about this experiment to Prof. Michael Khan, Head of the School of Sport Health and Exercise Sciences, and that I will be offered the opportunity of providing feedback on the experiment using standard report forms.

I may obtain copies of the results of this study, upon its completion, by contacting Rebecca Steer by email at: pep434@bangor.ac.uk or by post at:

**George Building,
Normal Site,
Holyhead Road,
Bangor,
Gwynedd,
LL57 2PZ**

I confirm that I have been given adequate opportunity to ask any questions and that these have been answered to my satisfaction.

I have been informed that the research material **will** be held confidential by the researcher.

I agree to participate in the study

NAME: (please type or print legibly) _____

ADDRESS: (Optional) _____

SIGNATURE: _____

DATE: _____

Appendix B

Body Fat Visual Analogue Scales

Please answer the following questions first. Thank You.

Age: _____

Height: _____

Weight: _____

Please read the following information before completing the questionnaires.

Your **Actual** body fatness and muscularity refers to how fat or muscular you feel you **actually** are at this point in time.

Your **Ideal** body fatness and muscularity refers to how fat or muscular you would **ideally like** to be.

Your **Ought** body fatness and muscularity refers to how fat or muscular you **feel obliged** to be, either by personal or outside pressures.

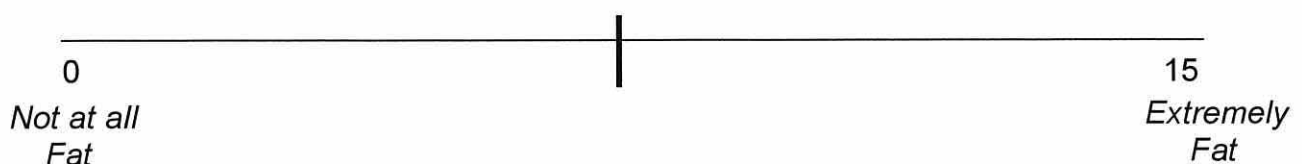
Your **Feared** body fatness and muscularity refers to how fat or muscular you **fear or worry** about being but that is possible in your eyes.

The following questions will ask you to indicate your response on a scale like the one shown below. Please indicate your response with a single vertical line through each scale (see example below).

Example

Actual body fatness

Please indicate on the scale below how fat you feel your body **actually** is:



Body Fatness

We would like to know how you feel about your body fatness. Please indicate your answers with a **single vertical line** through each scale.

If you are completing this questionnaire on a computer you may copy and paste the vertical line from the example on the previous page to indicate your response for each question.

1. Actual body fatness

Please indicate on the scale below how fat you feel your body **actually** is:

0		15
<i>Not at all Fat</i>		<i>Extremely Fat</i>

2. Ideal body fatness

Please indicate on the scale below how fat **ideally** you would like your body to be:

0		15
<i>Not at all Fat</i>		<i>Extremely Fat</i>

3. Ought body fatness

Please indicate on the scale below how fat you feel your body **ought** to be:

0		15
<i>Not at all Fat</i>		<i>Extremely Fat</i>

4. Feared body fatness

Please indicate on the scale below how fat you **fear** your body being:

0		15
<i>Not at all Fat</i>		<i>Extremely Fat</i>

Appendix C

Social Physique Anxiety Scale

We would like to know how you feel about your physique/figure. Please read each statement and **circle** the number that indicates the degree to which the statement is characteristic or true of you. Please answer all the questions. Remember, there are no right or wrong answers and all information is kept strictly confidential.

1 = not at all					
2 = slightly					
3 = moderately					
4 = very					
5 = extremely characteristic					
	Not at all	Slightly	Moderately	Very	Extremely
1. I wish I wasn't so uptight about my physique/figure	1	2	3	4	5
2. There are times when I am bothered by thoughts that other people are evaluating my weight or muscular development negatively	1	2	3	4	5
3. Unattractive features of my physique /figure make me nervous in certain social settings	1	2	3	4	5
4. In presence of others, I feel apprehensive about my physique/figure	1	2	3	4	5
5. I am comfortable with how fit my body appears to others	1	2	3	4	5
6. It would make me uncomfortable to know others were evaluating my physique/figure	1	2	3	4	5
7. When it comes to displaying my physique /figure to others, I am a shy person	1	2	3	4	5
8. I usually feel relaxed when it is obvious that others are looking at my physique/figure	1	2	3	4	5
9. When in a bathing suit, I often feel nervous about the shape of my body	1	2	3	4	5

Appendix D

Beck Depression Inventory – II

This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick one statement in each group that best describes the way you have been feeling during the past two weeks, including today. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including item 14 (changes in sleeping pattern) or item 18 (changes in appetite).

1. Sadness 0 I do not feel sad. 1 I feel sad much of the time. 2 I am sad all the time. 3 I am so sad or unhappy that I can't stand it.	7. Self-Dislike 0 I feel the same about myself as ever. 1 I have lost confidence in myself. 2 I am disappointed in myself. 3 I dislike myself.
2. Pessimism 0 I am not discouraged about my future. 1 I feel more discouraged about my future than I used to be. 2 I do not expect things to work out for me. 3 I feel my future is hopeless and will only get worse.	8. Self Criticalness 0 I don't criticise or blame myself more than usual. 1 I am more critical of myself than I used to be. 2 I criticise myself for all of my faults. 3 I blame myself for everything bad that happens.
3. Past Failure 0 I do not feel like a failure. 1 I have failed more than I should have. 2 As I look back, I see a lot of failures. 3 I feel I am a total failure as a person.	9. Suicidal thoughts or Wishes 0 I don't have any thoughts of killing myself. 1 I have thoughts of killing myself, but I would not carry them out. 2 I would like to kill myself. 3 I would kill myself if I had the chance.
4. Loss of Pleasure 0 I get as much pleasure as I ever did from the things I enjoy. 1 I don't enjoy things as much as I used to. 2 I get very little pleasure from the things I used to enjoy. 3 I can't get any pleasure from the things I used to enjoy.	10. Agitation 0 I am no more restless or wound up than usual. 1 I feel more restless or wound up than usual. 2 I am so restless or agitated that it's hard to stay still. 3 I am so restless or agitated that I have to keep moving or doing something.
5. Guilty Feelings 0 I don't feel particularly guilty. 1 I feel guilty over many things I have done or should have done. 2 I feel quite guilty most of the time. 3 I feel guilty all of the time.	11. Crying 0 I don't cry anymore than I used to. 1 I cry more than I used to. 2 I cry over every little thing. 3 I feel like crying, but I can't.
6. Punishment Feelings 0 I don't feel I am being punished. 1 I feel I may be punished. 2 I expect to be punished. 3 I feel I am being punished	12. Loss of Interest 0 I have not lost interest in other people or activities. 1 I am less interested in other people or things. 2 I have lost most of my interest in other people or things. 3 It's hard to get interested in anything.

<p>13. Indecisiveness</p> <p>0 I make decisions about as well as ever.</p> <p>1 I find it more difficult to make decisions than usual.</p> <p>2 I have much greater difficulty in making decisions than I used to.</p> <p>3 I have trouble making any decisions.</p>	<p>17. Irritability</p> <p>0 I am no more irritable than usual.</p> <p>1 I am more irritable than usual.</p> <p>2 I am much more irritable than usual.</p> <p>3 I am irritable all the time.</p>
<p>14. Changes in Sleeping Pattern</p> <p>0 I have not experienced any change in my sleeping pattern.</p> <hr/> <p>1a I sleep somewhat more than usual.</p> <p>1b I sleep somewhat less than usual.</p> <hr/> <p>2a I sleep a lot more than usual.</p> <p>2b I sleep a lot less than usual.</p> <hr/> <p>3a I sleep most of the day.</p> <p>3b I wake up 1-2 hours early and can't get back to sleep.</p>	<p>18. Changes in Appetite</p> <p>0 I have not experienced any change in my appetite.</p> <hr/> <p>1a My appetite is somewhat less than usual.</p> <p>1b My appetite somewhat greater than usual.</p> <hr/> <p>2a My appetite is much less than usual.</p> <p>2b My appetite is much greater than usual.</p> <hr/> <p>3a I have no appetite at all.</p> <p>3b I crave food all the time.</p>
<p>15. Worthlessness</p> <p>0 I do not feel I am worthless.</p> <p>1 I don't consider myself as worthwhile and useful as I used to.</p> <p>2 I feel more worthless as compared to other people.</p> <p>3 I feel utterly worthless.</p>	<p>19. Concentration Difficulty</p> <p>0 I can concentrate as well as ever.</p> <p>1 I can't concentrate as well as usual.</p> <p>2 It's hard to keep my mind on anything for very long.</p> <p>3 I find I can't concentrate on anything.</p>
<p>16. Loss of Energy</p> <p>0 I have as much energy as ever.</p> <p>1 I have less energy than I used to have.</p> <p>2 I don't have enough energy to do very much.</p> <p>3 I don't have enough energy to do anything.</p>	<p>20. Tiredness or Fatigue</p> <p>0 I am no more tired or fatigued than usual.</p> <p>1 I get more tired or fatigued more easily than usual.</p> <p>2 I am too tired or fatigued to do a lot of the things I used to do.</p> <p>3 I am too tired or fatigued to do most of the things I used to do.</p>
	<p>21. Loss of Interest in Sex</p> <p>0 I have not noticed any recent change in my interest in sex.</p> <p>1 I am less interested in sex than I used to be.</p> <p>2 I am much less interested in sex now.</p> <p>3 I have lost interest in sex completely.</p>

Appendix E

Eating Attitudes Test-26

This final questionnaire concerns your feelings about food and eating. Please answer these questions first.

Highest weight (excluding pregnancy): _____ Lowest Adult Weight: _____
Ideal Weight: _____

Now, please read each statement and choose **one** response that indicates the degree to which that statement is characteristic or true of you by marking a tick ✓ to the right:

	Always	Usually	Often	Sometimes	Rarely	Never
1. Am terrified about being overweight.	—	—	—	—	—	—
2. Avoid eating when I am hungry.	—	—	—	—	—	—
3. Find myself preoccupied with food.	—	—	—	—	—	—
4. Have gone on eating binges where I feel that I may not be able to stop.	—	—	—	—	—	—
5. Cut my food into small pieces.	—	—	—	—	—	—
6. Aware of the calorie content of foods that I eat.	—	—	—	—	—	—
7. Particularly avoid food with a high carbohydrate content (i.e. bread, rice, potatoes, etc.)	—	—	—	—	—	—
8. Feel that others would prefer if I ate more.	—	—	—	—	—	—
9. Vomit after I have eaten.	—	—	—	—	—	—
10. Feel extremely guilty after eating.	—	—	—	—	—	—
11. Am preoccupied with a desire to be thinner.	—	—	—	—	—	—
12. Think about burning up calories when I exercise.	—	—	—	—	—	—
13. Other people think that I am too thin.	—	—	—	—	—	—

14. Am preoccupied with the thought of having fat on my body.	—	—	—	—	—	—
15. Take longer than others to eat my meals.	—	—	—	—	—	—
16. Avoid foods with sugar in them.	—	—	—	—	—	—
17. Eat diet foods.	—	—	—	—	—	—
18. Feel that food controls my life.	—	—	—	—	—	—
19. Display self-control around food.	—	—	—	—	—	—
20. Feel that others pressure me to eat.	—	—	—	—	—	—
21. Give too much time and thought to food.	—	—	—	—	—	—
22. Feel uncomfortable after eating sweets.	—	—	—	—	—	—
23. Engage in dieting behaviour.	—	—	—	—	—	—
24. Like my stomach to be empty.	—	—	—	—	—	—
25. Have the impulse to vomit after meals.	—	—	—	—	—	—
26. Enjoy trying new rich foods.	—	—	—	—	—	—

In the past 6 months have you:

A. Gone on eating binges where you feel that you may not be able to stop?
(Eating much more than most people would eat under the same circumstances)
Yes/No (Delete as appropriate)

If you answered yes, how often during the worst week: _____

B. Ever made yourself sick (vomited) to control your weight or shape? Yes/No

If you answered yes, how often during the worst week: _____

C. Ever used laxatives, diet pills or diuretics (water pills) to control your weight or shape? Yes/No

If you answered yes, how often during the worst week? _____

D. Ever been treated for an eating disorder? Yes/No

If you answered yes, when? _____

Appendix F

Body Shape Questionnaire

We are interested in how you have been feeling about your appearance over the past two weeks. Please read each question and circle the appropriate number. Please answer all the questions.

	Never	Rarely	Some- times	Often	Very often	Always
1. Have you been so worried about your shape that you have been feeling that you ought to diet?	1	2	3	4	5	6
2. Has being with thin people made you feel self-conscious about your shape?	1	2	3	4	5	6
3. Have you ever noticed the shape of other people and felt that your own shape compared unfavourably?	1	2	3	4	5	6
4. Has being undressed, such as when taking a bath, made you feel fat?	1	2	3	4	5	6
5. Has eating sweets, cakes or other high calorie food made you feel fat?	1	2	3	4	5	6
6. Have you felt excessively large and rounded?	1	2	3	4	5	6
7. Have you felt ashamed of your body?	1	2	3	4	5	6
8. Has worry about your shape made you diet?	1	2	3	4	5	6
9. Have you thought that you are the shape you are because you lack self-control?	1	2	3	4	5	6
10. Have you worried about other people seeing rolls of fat around your waist and stomach?	1	2	3	4	5	6
11. Have you felt that it is not fair that other people are thinner than you?	1	2	3	4	5	6
12. Has seeing your reflection (e.g. in a mirror or shop window) made you feel bad about your shape?	1	2	3	4	5	6
13. Have you been particularly self-conscious about your shape when in the company of other people?	1	2	3	4	5	6
14. Has worry about your shape made you feel you ought to exercise?	1	2	3	4	5	6

Appendix G

The Integrated Self-Discrepancy Index

PLEASE READ THIS PAGE CAREFULLY BEFORE BEGINNING.

Directions:

This study is interested in **Body Image** and **Behaviour**. We are interested in the **physical qualities** and terms you might apply to yourself e.g. Fat, Muscular, etc.

You will be asked to list some **physical** qualities that you might apply to yourself. You will be asked to list these for three different types self:

- Your “**OUGHT** self:” Traits that you think you ought to possess; the type of person you have a **duty, obligation, or responsibility** to be; the traits you are **morally obligated** to possess
- Your “**IDEAL** self:” Traits that you would **IDEALLY** like to possess; the type of person you **wish, desire, or hope** to be
- Your “**FEARED** self:” Traits that, in general, you do **NOT** want to possess, traits that are **UNDESIRED**

How are the ought and ideal self different?

Here is an example of how the ideal and ought selves are different: I may hope to be rich someday, being rich may be a goal I have for myself, but I do not think I have a duty or a moral obligation to be rich. So, rich would be a word that describes the type of person I ideally want to be, but it is not a word that describes the type of person I think I ought to be.

Is the ought self just more realistic than the ideal self?

No, not necessarily. Everyone differs in how realistic the traits of the ideal and ought selves are, as well as how much they actually possess those traits. For you, just think about who you ideally want to be and who you think you ought to be, **not** about which one is more realistic.

For each list, please think carefully about your **physical attributes**, the different selves and about the type of qualities you are being asked to list. You may use any words you want to describe these different types of self.

Before continuing, please answer the following questions by putting an **X** next to the best answer:

1. The ought self refers to:

- ☐ what I am now
- ☐ what others want me to be
- ☐ my moral obligation

2. The ideal self is

- ☐ unattainable and perfect
- ☐ what I want, dream, or desire to be
- ☐ my normal, usual self

Please list the physical attributes of the type of person you would **IDEALLY** like to be; the type of person you wish, desire, or hope to be.

Later, you will be asked to write something in each of these boxes. Until then, please just ignore these boxes for now.

<input type="text"/>	Own Ideal 1:	_____
<input type="text"/>	Own Ideal 2:	_____
<input type="text"/>	Own Ideal 3:	_____
<input type="text"/>	Own Ideal 4:	_____
<input type="text"/>	Own Ideal 5:	_____

Please list the physical attributes of the type of person you believe you **SHOULD** or **OUGHT** to be; the traits you believe you are morally obligated to possess.

<input type="text"/>	Own Ought 1.	_____
<input type="text"/>	Own Ought 2.	_____
<input type="text"/>	Own Ought 3.	_____
<input type="text"/>	Own Ought 4.	_____
<input type="text"/>	Own Ought 5.	_____

Please list the physical attributes of the type of person you do NOT want to be; the traits that are FEARED or UNDESIRE.

<input type="text"/>	Own Feared 1.	_____
<input type="text"/>	Own Feared 2.	_____
<input type="text"/>	Own Feared 3.	_____
<input type="text"/>	Own Feared 4.	_____
<input type="text"/>	Own Feared 5.	_____

Directions: You should now have entered up to 5 physical qualities for each of the three categories on page 3. If you did not list 5 qualities for each category (i.e., if you don't have a total of 15 qualities written down), please look at the list of words below and choose other qualities to complete each of your lists. Add any additional words to your lists on that page. Also, if you would like to change any of the words that you previously listed, please do so by crossing out and writing in the new words. You do not need to limit yourself only to these words – if reading these words makes you think of other words you would like to list, please feel free to make any additions or changes you want. **Once you have something written in all 15 blanks, please go on to the next page.**

active	desirable	in-shape	pretty	tanned
apple-shaped	distinctive	lanky	rosy-cheeked	thin
attractive	energetic	large	rugged	thin-waist
athletic	fit	lazy	scrawny	toned
beautiful	fine	lean	sexy	tough
big	fat	long legs	short	unattractive
blemished	flabby	muscular	skinny	underweight
busty	flat-chested	natural	slender	undesirable
broad-shoulders	good-looking	obese	slight	ugly
bony	gorgeous	ordinary	slim	unhealthy
buxom	handsome	overweight	small	unfit
bland	hairy	pale	spotty	unique
chubby	heavy	pear-shaped	strapping	voluptuous
chunky	hefty	petite	stunning	weak
clear-skinned	healthy	plain	strong	wedge-shaped
cute	huge	plump	symmetrical	well-
curvy	hygienic	powerful	tall	proportioned

**BEFORE GOING ON, PLEASE BE SURE THAT YOU HAVE 15
QUALITIES LISTED ON PAGE 3**

Directions: We would now like you to answer some questions about each of the traits you have listed. Please **go back to page 3** and indicate how much you think each of the words **actually** describes or applies to you **at this time** by writing the appropriate number **IN THE BOX next to each word**:

DO NOT CIRCLE ANYTHING HERE.

Does not describe me at all	Describes me slightly	Describes me somewhat	Describes me well	Completely Describes me
1	2	3	4	5

Remember, DO NOT write anything here; go back and write a number in the box next to each word.